

Ellen Lindblom

Ice on midsummers day

- A qualitative study on national, regional and local level of the extreme weather years and following harvest failure in 1867-68 Sweden, with focus on Gävleborgs County.



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Abstract

Lindblom, Ellen (2015): Ice on midsummers day: - A qualitative study on national, regional and local level of the extreme weather years and following harvest failure in 1867-68 Sweden, with focus on Gävleborgs County.

This thesis focuses on two extreme weather years in 1867-1868 that led to crop failure and subsistence crisis in parts of Sweden. Specifically it focus on Gävleborgs County and one parish, Hanebo Parish, in south west Hälsingland. The study presents contemporary examples from original sources on the national, regional and local level and one secondary source. With a qualitative approach, the study investigates the social impacts of sudden extreme weather and following harvest failure and assess signs of a possible subsistence crisis on regional and local level in the years of 1867-68. The empirics are analyzed trough demographic methodology often used to evaluate "famine-like" situations, theories on famine and its causes and the three concepts: vulnerability, resilience and exchange entitlement. The result of the study shows a subsistence crisis in Gävleborg county and Hanebo Parish, in the years of 1867-68. These indications included poor harvest, demographic impact on parochial level and visible mitigating strategies for coping with the situation. Social hierarchies which are making impact on attitudes within the contemporary context of crisis are also discovered in the empiric material. The study also shows that state incentives and publically organised incentives can mitigate disaster both over short and long term.

Key words: Extreme weather, crop failure, poor harvest, agriculture, nineteen century Sweden, subsistence crisis, famine, resilience, exchange entitlements, Gävleborgs County, Hälsingland, Hanebo Parish

Master's thesis in Global Environmental History (60 credits), supervisor: Anneli Ekblom, Maths Isacson
Defended and approved spring 2015-06-15.

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Acknowledgments

A huge tanks to my two supportive and extremely competent supervisors Anneli Ekblom, lector in Archeology at Uppsala university and Maths Isacson, professor in Economic History at Uppsala University.

A dear thanks to my patient husband Alex who have worked full time, taken care of everything in the household and at the same time been a great dad and husband, while I have been tied to my computer writing this thesis.

Thanks to my mother in law Bodil, for babysitting.

Finally thanks to my college and close friend Michael Deflorian for being so supportive during the thesis project.

It would not have done this thesis without any of you!

Not to forget, a big thanks to Jan-Olov Nyström whom I got in contact with trough Hälsinglands museum and who told me about and sent me the picture of the painting by Albert Blombergsson. This picture has inspired the thesis and the very title of it!

Ellen Lindblom,
Uppsala, May 2015

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Introduction

“....the weather conditions during the year 1867 has overall been extremely cold, heavily windy and with rich precipitation..., but the winter came soon again and was so harsh it could not have been any winter harsher or more persistent in living memory...¹”

Extreme weather years and crop failure is an ancient issue for human societies. In other words different strategies for coping with those events are as ancient. Recent research speaks for that the world stands before a major environmental crisis due to climate change. The climate change will change the terms of life dramatically on the earth if we (the humans) do not act². The humans are a factor in environmental change but the ecosystems act on its own as well and react on human interference, with sometimes unforeseen consequences and threshold effects. It's important to understand how we can manage and maybe even diminish the impact on climate change on earth and its population of animals and humans. In investigating similar situations with extreme weather in the past³, and studying the social effects of extreme weather, we may be able to understand how to act or not act in future situations of crises. This thesis will investigate the situation around two extreme weather years and following subsistence crisis in 1867-68, Sweden. The investigation will be structured around three geographical levels, national, regional (county) and local (parochial), to discover eventual impacts of the extreme weather and poor harvests, and study how the situation was approached in contemporary sources. Specifically, the study will focus on the county of Gävleborg and Hanebo Parish, a place in south west in the province of Hälsingland.

The below painting (fig .1) depicts the Midsummers Day, 24th of June in 1867 in Stugsund in Söderhamn, a coastal town in Hälsingland. An icebreaker helps a food ship forward through the ice. At the back of the painting it says: “The first ship of the year, with help from an icebreaker is coming with commodities of food and is cheered with a salute in the joy over the present shortage in foodstuff is relieved.”⁴ (in Nylander 2008, 146, p.176). To some extent this picture verify an account from the Health Collegium Report (quoted as an introduction to this chapter) from 1867 which describes how passengers on a steamboat in Sundsvall was putting chairs and tables on the ice and celebrated midsummer there. Though this description refers to a region further north in Sweden, it still shows how extreme the weather was for the season. Something more to add is the artist in the picture, Albert Blombergsson, himself skating on the ice, he seems in a good shape and proud and not destitute. Of course this can be how Blombergsson wants to picture himself, but it can also say something about the situation. Nobody in the picture seems destitute and you can help but wonder; how was the social hierarchy during the extreme weather and crop failure years in 1867-68 and did it make any impact on the effect of the crisis?

¹ National Health collegium report, 1867, p.15

² <http://www.naturvardsverket.se/IPCC/2013-10-15>, 11.53

³ The extreme weather years of 1867-68 must not be mixed up with a longterm developing climate change, still some aspects and impact on society can be similar and comparable.

⁴ I have not been able to see this inscription, it is based on a secondary source and Nylander 2008.



Fig 1. The picture is in private ownership (Nylander, 2008).

Introducing the year 1867-1868

The crop failure years 1867-68 occur in a transition period in Northern Sweden at the break of industrialization. The population in the counties of Västerbotten and Norrbotten, seems to have been hit the hardest by crop failure and have been studied before in relation to these years⁵. This study focus on the county of Gävleborg in southern Norrland. Gävleborgs County was also affected by the crop failure but not to the same extent as Västerbotten.

At the time around 1867-68 peoples livelihood was mainly dependent on farming and livestock. Flax was an additional income source in Hälsingland, something Hälsingland is famous for into present day. Forest industry was important in the province, but the production of charcoal from the forest was now in decline according to the Gävleborg County Governors Five Year Report⁶. Iron industry and fishing were some of the additional income sources in Gävleborgs County. The towns were mainly dependent on the country side for providing them. At the same time the industrialization of Norrland was at its dawn and the railroad were to reach the south of Hälsingland in only a few years time, with a building start of the railway in 1869 (Hovanta, 2008). In 1863 a municipality reform was implemented in Sweden dividing responsibilities between the parish and

⁵ See Nelson, Marie C. (1988). Bitter bread: the famine in Norrbotten 1867-1868. Diss. Uppsala : Univ. and the popular scientific study Häger, Olle, Torell, Carl & Villius, Hans (1978). Ett satans år: Norrland 1867. Stockholm: Sveriges radio.

⁶ This is possibly only a temporary decline since the industrialization of Norrland was at its beginning.

the new municipality⁷ and Hanebo (the place studied on the local level in this study) became a municipality. There were also an ongoing process of shift of lands since 1827 with a new act in 1868. In Gävleborgs County the land reforms had its culmination after the 1860. (Utterström, 1957, p.450). The process of shift of lands forever changed the characteristics of the Swedish village and agricultural landscape.

The way to transport oneself and commodities was on more or less entertained roads by foot or horse and carriage. In the Hinterland, lakes were important communication routes. On the waters (coast or hinterland) transportation of people and stuff were made by steamboats. The only reasonable way to help people in times of need, was to ship foodstuff by boat or on country side roads by horse and carriage, or sledge during winter times. Shipping food by boats worked as long as the boats were not hindered by ice. Accessibility is one crucial aspect of how fast people can get aid in crisis. Snow cover also impacted transportation possibilities. Some income sources in the countryside, such as forestry or iron works, were dependent on transportation possibilities on snow or ice covered lakes and a winter of bare ground could be an economic disaster⁹.

According to the agricultural statistics for Gävleborgs County, which Hälsingland is part of, there was crop failure in more or less the whole county the year 1867 (Statistics for Gävleborgs County 1867, p.10). The crop failure years affected income levels and increased unemployment in the county and society needed to help out in different ways. Around Sweden aid committees were formed and loans were granted as a strategy to alleviate the impacts of crop failure. Thus this was nothing new and as late as the 1840s different parts of the country were hit by famine.

Sweden was of course not unique in the sense that in pre-industrial Europe a majority of the people were used to hunger, not least in the springtime. The "spring hunger", was a seasonal event, especially in northern Europe, when the stored food for the winter was finished and no harvest yet ready. But what scared people was famine (Hunt, 2009). Poor harvests could be caused by multiple reasons such as crop diseases, bad weather and immerge ration of the soil and one or several poor harvests in a row could cause famine. Other reasons could be dramatic geological events as well as war¹⁰ and armies of soldiers passing by. Often, in history, the reason for famine or substance crisis is not monocausal, but can be explained by a mix of contingencies. Such complexities will be more closely dealt with further on in this study.

When the wheels of famine were turning, it put other events in motion such as migration to urban areas, diseases spreading when people come closer together, prices rising on food commodities due to an imbalance of demand and supply (Hunt 2009). Famine is thus not a single event, rather a growing process of different things happening one after another (Arnold 1988, p. 26). One or even two bad harvests is often calculated for in a rural society with help of grain storages for example, but when bad harvest comes season after season all food and seeds gets consumed at a point. An approach and issue when investigating famine is to know "the full extent of famine's impact", not only recognize the immediate crisis of hunger but also the impact spread over several years. The view of the duration of famine can differ between the official views and the actual subjects of the famine. (Arnold 1988)

⁷<http://www.ne.se>. Search word: landskommun

⁸ <http://www.ne.se>. Search word: laga-skifte, accessed, 2015-02-21

⁹ Isacson et al. 2013.

¹⁰ War or social instability are coming up in the famine and crisis literature as one cause to famine, however, the factor of war are not one to take in account for the years 1867-68 crisis , in Sweden, addressed in this study.

Purpose and question

As introduced above this thesis focuses on two extreme weather years in 1867-1868 that led to crop failure and subsistence crisis in parts of Sweden. Gävleborgs County, the province of Hälsingland and one parish, Hanebo Parish, in south west Hälsingland are focused upon. The study presents contemporary examples from original sources on the national, regional and local level and one secondary source. The study will investigate impacts of sudden extreme weather and crop failure and look for signs of a subsistence crisis on regional and local level in the years 1867-68. The empirics will be analyzed through demographic methodology often used to evaluate "famine-like" situations, theories on famine and its causes and the three concepts: vulnerability, resilience and exchange entitlement.

The main questions in this study are as follows:

- What kind of immediate impact had the two extreme weather years and following harvest failures on a county and local level and are there signs of a subsistence crisis?
- How where the coping strategies and discussion formed around the event of extreme weather and following harvest failure in 1867-68, on a national, regional and local level?

Limitations

My interest in the subject came from the changing weathers of our own time and the present survival question in relation to on-going global warming. I have a personal interest in the region studied and while reading background literature I realized that this region had not been investigated in earlier research related to "the last" subsistence crisis years in Sweden. To narrow the study down I chose the locality of Hanebo Parish and made a short pre-study in the church records to asses if there were any indications of crisis in the parish during these particular years. I found an outbreak of "Nerve fever" in the accounts on deaths in the parish church records. This made me decide go further with Hanebo Parish because "Nerve fever", was the name used for typhoid, a disease that can be associated with famine as will be discussed below.

As the topic itself is very large I decided to limit the study further to focus on population, disease, marriage and births and to leave out an analysis of possible rise in grain prices, crime, bankruptcies, emigration or migration. These features are otherwise interesting and may also be indicative of a society in times of crisis as I will discuss further below, but I will only discuss them indirectly here in my study.

Some sources have been hard to get hold of, or locating, and others have shown to have no relevance for this study, something which has shaped the thesis along the way. This have made impact specifically on parochial level. I initially set out to include personal accounts of the two years, but due to the lack of sources, I will focus here mainly on demographic and social issues. Therefore one secondary source is added on the parochial level to fill the gap between demographic data and personal accounts and broaden the picture to some extent. Hence a new methodology is adapted here for the parochial level to do the demographic analysis. This study will not be able, due to the availability of data, to conclude whether or not this particular event should be classified as a famine. Even so, general research and theories on famine has a great relevance for this type of situation and will be used in the study. Possible long-term impact of the years 1867-68, will also not be dealt with in this study. That would need a much more extensive research project than a master thesis. A social group that is not specifically addressed in this study, but could have been, are people without their own land such as crofters, agricultural workers and servants, maids and farmhands. These groups represent a large part of society, as being a domestic servant was a part of

the life cycle a learning period, before you hopefully got married and inherited you own land. Crofters and domestic servants and other groups without land, are a part of the social landscape of an agricultural society, but due to limitations in this study they will not be targeted as a social group and therefore will only be mentioned in passing in the forthcoming analysis.

Doing environmental history on climate

In doing environmental history both "natural" events and natural events reinforced by human action has to be considered. Environmental history is a study of complex relationships between human social, political and economic processes and nature¹¹. Especially when it comes to analyses of subsistence crisis, the matter is multifaceted, as one has to ask when is the climate to blame and when are human actions the main reason for the crisis, or alternatively, how do they combine to shape the subsistence crisis? The awareness that correlations are complex in the "human-nature relationship", and that it is therefore a hard to sort out web of causal factors, is crucial in doing environmental historical research.

It is ideal to use different types of archives and sources in environmental history research, natural and human. A natural archive could be ice-cores, dendrochronology, pollen records, or geology. A human archive is for instance a written account or a picture (as in the beginning of this thesis), temperature measurements and archeological evidence¹². One intricate issue is diseases, often spread more easily through certain human behavior but also through microbes in the water or through flies or other animals.

Nowadays historians has access to natural archives they did not have in a large part of the twentieth century and can make more precise research on integrating climate with social, political and economic change, in using sources from the two categories of archive (Parker, 2013, Prologue). In the book on Global crisis in the 1700-century Parker tries to connect the historians "General crisis" with the "climatologists" notion "The Little Ice Age". In addition, Parker argues it is important for the researcher to not become a climate determinist when with all the new scientific data available. Parker also addresses the issue of "infrastructure and contingency" within a society. Adaptation, preparations and trade connections can help to avoid a crisis due to bad weather. On the other hand, famine can be created by humans even in a "good" weather year, e.g. through war. In climatic zones where the growing season is shorter the crops are more vulnerable to weather changes. Parker (2013, p.18) uses the example of Finland that has a growing season that is very short for an "adequate harvest", one frost night in the summer can destroy the whole harvest. Cold weather increases the risk of harvest failure in Northern latitudes. This is particularly interesting in relation to this study on the extreme weather years in 1867-68, addressing northern Sweden and events of early frost.

Campbell (2009) address the new scientific possibilities and insight in Holocene environmental conditions as a "double challenge" to historians. Climate data as empirical data is new to the discipline of history and historians now need to take climate data into account, for instance by revealing how climatic shocks in history affecting humans and other living species. The historian needs to incorporate climatic information into the traditional narrative of history and then contextualize it with other historical evidence to explain social change and environmental change. Campbell (ibid.) argues that the environmental information can be fruitful in critical investigations of socio-

¹¹ Due to limitations of this thesis project a discussion of the notion "nature", are not totally necessary and therefore not prioritized.

¹² See Parker (2013) Prologue on a discussion to incorporate natural and human archive in Historical research incorporating climate issue

economic stress or development in history, before the industrialization and rapid growth that, according to Campbell, changed the "organic and animate relationship between humans and their environment".

The society I am studying is in a transition phase. In the 1860:s Sweden is about to leave the peasant and agricultural based society behind and is moving towards a broader industrialization and market based economy, whereby, as argued by Campbell, the relationship between environment and society is altered, in the study presented here I have therefore studied several variables and scales as will be presented in chapter 2. Due to the socio-economic transition phase which, according to Campbell, will alter the relationship between environment and society, the research approach has to be adjusted to this type of society.

This study is an environmental history within the humanities. It has by necessity, due to the character of the task and its limitations, its focus on human archives and qualitative approach on the empirical sources. Therefore I will not speculate on "natural" causes for the two sudden extreme weather years in 1867-68. It is not of relevance for the out coming result of this particular study. This study deal with "human archives" as specified in the classification of Parker (2013, Prologue). I would prefer to call the historical temperature measurements (which are used in this study) a semi-natural archive. Obviously the methods of measuring temperature have improved since the eighteenth century, but I argue that the historical measurements, in combination with the empirical sources presented in this thesis, creates a holistic context for the two "weather years" of 1867-68 based on human experience, than what an instrumental climate record can illustrate.

In a study of high relevance for this thesis by Edvinsson et al, (2009), correlations between weather, harvest and grain prices from the sixteenth-century Sweden to late nineteenth-century are examined. The study shows that the pattern of crop failure and weather conditions has changed during the centuries. In the seventeenth-century cold and rainy weather caused multiple crop failure. In the eighteenth-century hot and dry summer was the weather causing harvest failure. Hence different climate regimes caused different harvest outcomes according to the authors. Generally cultivations in northern Sweden were more vulnerable to cold weather whereas south of Sweden were sensible to drought. Hälsingland and Hanebo, lying in south Norrland should then, according to the results of Edvinsson et al (2009), be more affected by a cold extreme weather year than a dry and warm one. In a place with a relatively short growing season there is little room for a shortening of the season, with frost and cold. However, the major findings of the Edvinsson et al. (2009) study are that the relation between weather and harvest outcome are surprisingly weak, instead in pre-industrial Sweden connection between harvest and grain prices were stronger than the relation between weather and harvest. One explanation given by the authors is that small and short weather events, for example hail storms or early frost nights, that all can damage the harvest are not registered in the archives¹³. In addition crops have differential sensitivities to climate and growth conditions. Then there is the human variable, farmers have multiple methods for to avoiding poor harvests. Some theories stress the idea that low harvest assessment figures are in relation to scarce situations. Sweden has a relatively low harvest assessment figures and when people starve they eat the seeds for the next sowing season and thus have less seeds to plant. Despite an improved weather it will be a poor harvest the next year to come, because of less seeds to plant and a vicious spiral is started.

Utterström (1957, p.107) also recognize how north and south of Sweden have different vulnerabilities when it comes to weather fluctuations in relation to harvest outcome. In general, Utterström claim, south of Sweden's agriculture are sensitive for perpetuation and northern Sweden's agriculture more temperature dependent. Whereas a hot summer can be a disaster for the harvest in the

¹³ See earlier discussion on natural and human archives.

south, the same temperature can lead to a great harvest in northern Sweden. In addition grain and natural meadows have different weather condition needs and one bad year for grain can be good for the harvest from natural meadows. This will also be seen, further below, in the harvest statistics from Hanebo 1867. The timing of rain or no rain in a year, geographic "rain shadows", moisture in the ground from last year etc., have all impact on harvest outcome. The depending factors on harvest outcome are a complex web of different weather, and when during growing season, geography, soil, quality of seeds, type of crops and human impacts. Spring and autumn harvest also crave different weather conditions, hence in the same year there can be a good spring harvest and a bad outcome of the autumn harvest (idem.).

According to Utterström (1957, p.200) the situation during the nineteenth-century, got continuously better in Sweden when it comes mitigating impact of harvest failure. For instance diversified crops demanding different conditions where cultivated to a greater extent, one of them was the potato. Also the national trade increased mitigating the impact of crop failure. The trend seems to be similar in England according to Campbell (2009). In the late eighteen century England extreme harvest failure did not increase mortality in the same way as in earlier centuries. It was a breakpoint where crisis could lower the wages as much as before but not bring mortality in the same extent. Poverty was not extinct but famine due to harvest related issues was not to fear. (Campbell, 2009).

In Swedish history low harvests of fodder also have competed with human food security as low fodder availability affects livestock health and the livestock could instead been given food from human food supplies. A long and cold winter also drained the fodder supplies because the animals could not be let out to graze. (Utterström, 1957, p.114-117). A strategy to mitigate subsistence crisis can otherwise be to slaughter livestock (Isacson et al. 2013) especially with a bad harvest of hay (Utterström, p, 119). The harvest of hay in Hanebo Parish in the year 1867, will be addressed in the empiric analysis on local level.

In 1812¹⁴, there was harvest failure in a greater part of Sweden (Utterström, 1957, p.112). The counties of Norrland, Dalarna and Jönköping was hit the hardest due to some frost nights already in August and the beginning of September. The rainy autumn gave no good conditions for the grain to mature combined with an unfortunate harvesting weather. The year of 1812, in Utterströms descriptions, seem to be very similar to the weather conditions described by other sources in 1867. Except from the hot year of 1868 the 1860:s was overall a cold period, and crop failures occurred in different parts of Sweden during several years. Especially the region Norrland, had a hard time with cold and dry springs and cold and rainy summers and early frost. In addition the year 1868 was very hard for many places in Sweden, a poor autumn harvest in 1867 meant that seed quality from that year was low, and this was made worse by spring and summer droughts. Especially Gotland, Småland and the west of Sweden suffered this time, which co-occurred with the emigration from these regions to North America (Utterström, 1957, p.119).

The above information confirms the other sources stating that cold weather and early frost are more of a danger for crops in the north. Utterström (1957, p.119) argues that for instance England and Sweden show many similarities between harvest failure in the eighteenth-nineteenth-century and that the harvest failure during the period were due to general climatic conditions. This is not the same reasoning that Edvinsson (et al. 2009) makes, who found a weak connection between harvest and weather in their research. Lilja (2009), meanwhile ascribe the crisis years of 1690:s within the Swedish supremacy to "natural causes" while he interprets the early eighteenth-century crisis as having both social and natural causes to it, as the crises can be explained partly due to war. The complexity of the crises in the Scando-baltic region of the late seventeenth-century and early eighteenth-century is addressed by Lilja (2009, p.65) as follows:

¹⁴ Utterström (1957) addresses several crop failures in the eighteenth- to the middle of the nineteenth-century Sweden, in his dissertation paper, and not only the one in 1812 and the end of the 1860:s.

”It was not so simple that lack of food led to increased mortality. If we want to discuss the climatic factors part in social and historical events and processes the long span of events from direct cause to the end effect must be considered.”

Sometimes it is difficult to trace back an exact beginning and end to a certain event such as famine or subsistence crisis. It comes down to the interpreter of the event and that particular person’s position and knowledge as well. But, what the account by Lilja (*ibid.*) suggests is that it is still important to sort out the different factors, to know what is causing what, in face of the complexity of historical change.

Theory and methods

“An historical approach to famine obviously needs to examine the importance of long-term and structural determinants and to be able to fit a specific famine within the wider historical context. But at the same time it should not lose sight of the famines distinctive character as a distinctive episode, charged with political and cultural meaning, and itself capable of quickening the space or altering the direction of historical change.”¹⁵

The citation above from Arnold (1988) is relevant for the examination and study of multiple kinds of crisis. For this particular study even though the years of need in 1867-68 was not the greatest famine in history it still deserves to be examined as an event acknowledging the extraordinary experience this constituted for the people in that time. Unfortunately, I have not been able to extend my study over a longer time period to address possible societal and political changes due to the years of 1867-68. The long-term structural context of the situation therefore only have fragmentary place in this study.

The climate record

Below the yearly average temperatures for Uppsala between 1720-2012 are shown to contextualise the temperature anomaly in 1867-68. The temperature series presented below has been compiled by the Swedish institute for metrology and hydrology (SMHI). Uppsala was the earliest place in Sweden where temperature measurement was made, even though the very first measurements in the eighteenth-century had its flaws¹⁶. The city of Uppsala lies in Uppsala County, a neighboring county to a Gävleborgs County and are located south of Gävleborg. The Uppsala record is the longest and closest, geographically speaking, temperature series available¹⁷. The year of 1867 stand out as the coldest year of all 298 years in the record while 1868 was a quite warm year (fig 2). This data goes well with the qualitative accounts of the weather in Gävleborgs County: One extremely cold year in 1867 and then a warm year in 1868. These accounts will be presented later on in the section empirics on county level. To remember (as mentioned earlier on) the short growing seasons in the North makes crops sensitive in particular to early cold weather in the late summer or early autumn.

¹⁵ Arnold (1988, p.11)

¹⁶ <http://www.smhi.se/kunskapsbanken/meteorologi/meteorologiska-stationsnatets-historia-1.5248> (2014-04-09, 20:57).

¹⁷ <http://www.smhi.se/klimatdata/meteorologi/temperatur/1.2855>, (2013-10-17, 10:26.)

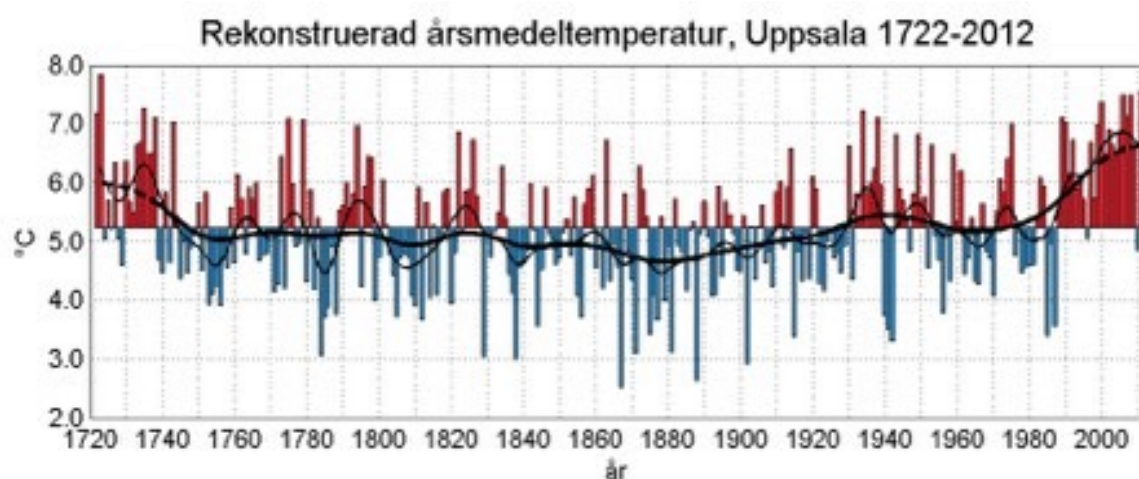


Fig.2 Reconstructed annual average temperature, Uppsala 1722-2012¹⁸

Crisis in relation to climatic events in the literature

The extreme weather years in 1867-68 has its predecessors in the past. Gräslund (2007) discusses the "Fimbulwinter" and argues the "Fimbulwinter" are not a mere mythological construction but a memory of a real climate event occurring in the middle of the sixth century. At this time settlements were abandoned and moved, the agricultural landscape diminished and the forest spread in middle and northern Europe. Gräslund (2007) argues these changes were due to a climatic event caused by an asteroid or an extreme volcanic eruption which made a large aerosol cloud, darkened the sun and caused winter in two summers. Except from written sources, myths and written contemporary accounts Gräslund uses research on natural archive such as dendrochronology, paleobotanical and archeologic material from the time period to put the written sources in context and validate them. The conclusion he makes is that the ancient Nordic myth about the Fimbulwinter has a basis in a climatic crisis with lower temperatures and higher air moisture. This affected the population not only through crop failure and linked changes. The "Fimbulwinter" also had impact on the society as a whole as it brought changes to organization, economy and politics for generations.

As is argued by Gräslund for people in the North, harsh and extremely cold winters are not a problem. It is the lack of summer and growing season that can take its toll. The cooling that happened in the middle of the sixth century scenario is similar to what happened in places of Sweden in the year of 1867. However, Gräslund (2007) also points out that in the sixth century there were regional differences; when the agriculture where in crisis in Northern Sweden it was not the same in northern Norway. The reason for this according to Gräslund is that the agriculture in Northern Norway at this time was an ancillary industry to fishing, the main livelihood in the region. Fish are not dependent on the temperature and sun as crops are. The discussion is of importance as fishing was also a livelihood and fish a large part of the diet in the 1860:s Hälsingland. Possibly something to fall back on during crop failure to alleviate the worst food crisis. This will be addressed further on in the study.

An article relevant for this thesis, in comparison in sense of methodology, subject and region is "Climate, death and power" by Lilja (2009¹⁹). Lilja (ibid.) summarize his own and others research

¹⁸ Source for fig.2: <http://www.smhi.se/klimatdata/meteorologi/temperatur/1.2855> (Accessed 2013-10-17, 10:26.)

¹⁹The article have already been brought up in previous chapter.

on a climate crisis in the 1690:s affecting, amongst other places, the Scando-baltic region. I will expand on some points in Liljas article as it presents different methods and expertise that will be drawn upon in this work. Finlands population suffered from high mortality rates, the state was unable to meet the need of the population²⁰ and there were problem with shipping commodities over a frozen sea. The climate crisis developed into a hunger crisis and a demographic crisis as several years of poor harvest or crop failure led to food shortage. People migrated and the city of Helsinki was invaded by hungry and poor people and grain prices rose in 1698. In a study of the region Ösel in Estland, Lilja uses parochial records as an estimation of the mortality crisis. There was an increase in mortality in 1696 mainly because of epidemics spread by migrating people and vulnerability to infections caused by hunger. Depopulation was also caused by abandonment of settlements in rural areas. Despite better conditions in 1697 there was a lack of seed when the sowing period started. Sweden was also hit by multiple crises in the 1690 to 1720 and the descriptions of this events in Liljas article, are similar to the situation in 1867-68 described in this thesis, including poor harvest and crop failure, late springs and early frosts, hot weather and epidemics. An additional factor in the eighteenth-century crisis, but not in the 1860:s, was that Sweden and Finland was engaged in war (though, as discussed, this cannot explain the 1690:s crises according to Lilja).

In the 1860:s Sweden had not been in war since 1809, hence war and subscription to war, as a factor to social instability and subsistence crisis cannot be counted for in studying the 1860:s crisis years in Sweden. Lilja (2009) adress cycles and clusters of good and poor harvest which can be seen in the data during the period 1690-1720, where the years 1695-98 are the most extended crisis in time. Lilja (ibid.) speculates the different crisis periods was due to both climatic and economic reasons, since price data relies heavily on the the harvest index used by Lilja. All though Lilja, in the end, does not make any firm conclusions about price data²¹. Before the year 1709 Lilja (ibid.) leans toward climate as the main explanation for crop failure and then a period of socioeconomic and demographic imbalance followed after 1709. Sweden was at war and the pest broke out in 1710-11. One year of poor harvest can lead to a situation hard to balance if the society is soon hit again by another crisis. As stated by Lilja (2009, p.61): "By this time you can't keep the climate factor apart from the social factors when looking at the fluctuation in harvest index". In conclusion, in the 1690s we have a crisis induced by climate and in the early eighteenth-century a multiple caused induced crisis.

What constitutes a crisis can be different in different societies. In famine literature, crisis spoken of are often mortality crisis. On the 1867 crisis in Norrbotten Nelson (1988, p.57) write as follows:

"Food scarcity was a fact and, it was generally acknowledged that help was needed to hold the welfare of the population at an acceptable level and to prevent greater hunger. The goal appears to have been to maintain the populace, not merely above the threshold of death, but above a certain threshold of well being".

This is the context in which I would like to place my own study. In nineteenth-century Sweden we cannot expect an extensive mortality crisis even though the event has similarities with or in some regions even might be classified as famine. Lilja (2009) mention how different kinds of crisis and crises events can overlap each other or develop into new kinds of crises in a vicious spiral of events. A climate crisis can develop into a social and demographic crisis, then a production break and poor harvest might follow even when the weather conditions improve because of low maintenance of fields and lack of seeds in the wake of the crisis.

²⁰ Finland was part of Sweden until 1809 and Sweden was at this time a supremacy in Europe.

²¹ Both Campbell (2009) and Edvinsson et.al (2009) does a connection between grain prices and poor harvests.

If the extreme weather in the 1860:s caused major crop failure then it was a risk that the climate crisis could develop to a hunger crisis and famine, if not correct actions were taken to prevent a "spiral effect". I would call such a situation an emergency situations. Nelson (1988) disregard the concept of mortality crisis as relevant for her study of Norrbotten in 1867-68, and states that subsistence crisis is more correct as a term to use in this context. Nelson argues that a crisis exist, especially in the European context of the nineteenth-century, wherever out of the ordinary efforts is needed to prevent the spreading of hunger or breakdown of the social order. Evidently this reasoning is also applicable on the study of 1867-68 Gävleborgs County presented in this thesis and I will therefor adopt the concept of subsistence crisis following Nelsons reasoning. Mortality rates might not have risen to a striking level during the bad weather years in the 1860:s Sweden, they rarely did in nineteenth-century Europe (Nelson 1988, p.31). But crop failures still made people suffer in an agricultural dependent or even pre-industrial society such as Sweden still was at this particular time period.

Crisis can be quite a fuzzy concept used differently by researchers, so for the purpose of the study I will (inspired by above reasoning) define crisis as; *something negative out of the ordinary life which without preemptive action will turn into an acute unsustainable situation with risk of "out of control effects" for humans, nature, economy or any other part of a functional world.*

Theories of Crises and Famine

Famine

When I thought of famine before I began this study I saw hunger, starvation and death before my eyes. I thought of children with their bellies bloated due to lack of food. I never thought about all the layers famine as a phenomenon has to it and what a multi casual issue "famine" is, where both natural and human factors come into play, on societal micro- as well as macro level. Famine is a really broad issue and concept that must be defined. Famine is both an ancient problem and a present problem as it is still a reality for people in parts of the world with social instability or places hit by severe natural disasters. Therefore it is an intriguing subject, and a subject of acute relevance that has of course been well-researched from different angles, scales, time and space. So what stipulates famine then? Arnold writes as follows, on the concept of famine (Arnold, 1988, p.5):

"Famine is one of the most powerful, pervasive, and arguably most emotive, words in our historical vocabulary, and that itself makes it all the more difficult to isolate its meaning and wider significance".²²

If you look up the word famine, in Oxford dictionary online 23, it reads: Famine is defined as "extreme scarcity of food", a shortage or hunger. As has been touched upon above, famine is a universal and returning experience and it has been a force for change in societies throughout history. Subsistence crisis is a returning pattern as many other things in history. Arnold (1988, 9) points out that famine as a concept and a historical phenomenon is a paradox: It is both an event and structure. It is an event in the sense that it has a beginning and an end. Famine puts everything that is normal upside down and as, stated by Arnold (1988, 6-7) famine is a "collective crisis exceptional in its scale and intensity". It causes social and economic dislocation, altering social behavior. Famine is not a concept that easily can be objectively observed, it comes down to definition and position of the observer. It can be in the hands of decision makers if a crises should be

²²Arnold (1988, p. 5)

²³ Oxford dictionaries online (2015-03-05)

called a famine or not. Nowadays according to a classifying system of the “magnitude” and “severity” of food insecurity, famine is classified as human catastrophe²⁴. If famine is found and declared, media will react to a crisis differently; this also have impact on humanitarian help and donations²⁵. In other words, politics such as stately interference or not, power relation and organization of resources can be one reason behind starvation as I will discuss further below.

To study famine or subsistence crisis, recognition of the whole span of events is important including the onset, duration and conclusion of the crisis. When does a famine start? Is it when the state is recognizing the severe situation or when the farmer noticed a shift in the weather? Does the famine end when relief programs have done its task or when the last famine related infection has mended? Does it end when the last migrated returners are back on their farm or when the food prices decreases again²⁶? Several aspects has to be considered and subjective narratives of the experience of famine can be important in defining where to place the beginning and end of subsistence crisis “event”. In nineteenth-century Europe, where mortality no longer can be regarded as the most important indicator to evaluate famines, other aspects such as disease has to be focused upon (Nelson 1988, p.76) . The deeper the crisis the more the normal order is turned upside down. Famine is not only about hunger, it is a crisis of subsistence and survival and a crisis of mortality and separate things which occur within a famine, emigration or crime for instance, can be a part of a society not hit by famine or even another crisis. Despite the exceptional characteristics of famine, it can often not be separated from social, economic and political structures of a certain society, as famine often have structural causes to it (Arnold 1988, p.7). Were natural events and war can expose and enhance the weakness within a society, sometimes a long-term imbalance between “nature” and society such as over use of natural resources act as condition or constraint shaping the events.

Resilience and vulnerability

I would like to link Arnold’s thought to, and rephrase them within the two concepts, *resilience* and *vulnerability* within a society. The first concept, resilience, focusing on strength and robustness to disturbances and the latter concept vulnerability tries to identify weaknesses in systems which reduce possibilities to act, adjust and mitigate disturbances²⁷. Both resilience and vulnerability are useful in the research on Human-Environment relations or social-ecological systems. The structural causes to famine can thus be rephrased in terms of degrees of vulnerability were one society may have a built in resilience to respond to crises and will not be affected in any extreme way by the stress of a sudden climatic event. Shock absorbing mechanisms of each system come into play here; human systems can be put under stress from environmental as well as social change (See Adger 2006, Turner, 2010 for discussion). Let us take one hypothetical scenario: If an early frost destroys the autumn harvest, the already short growing season becomes even shorter. As a result there is not much food to put in store for the winter and the seeds for next year are eaten by necessity. Hence people leave the land and move in to urban areas where food is still scarce, living and housing conditions is poor and crowded, causing epidemics to spread. Here we have both natural (a sensitive growing season) and human systemic vulnerability causes (lack of functioning poor relief system or social networks), which in the end lead to an outcome of illness and abandonment of land. The next step would be that there are no available seeds for sowing in the coming spring

²⁴ <http://www.ipcinfo.org/> and <http://www.ipcinfo.org/ipcinfo-about/what-is-the-added-value-of-ipc/en/>. Accessed 2014-10-06

²⁵ Jeffery, Davina, The F-word: when can we call what's happening in South Sudan a famine?, .Guardian Professional, Monday 4 August 2014 12.07 BST, <http://www.theguardian.com/global-development-professionals-network/2014/aug/04/south-sudan-famine-malnutrition>

²⁶ With inspiration from Arnold, 1988.

²⁷ See eg. Adger, 2006 and Turner, 2010, for a developed discussion of the concepts of vulnerability and resilience and also in relation to research.

and less people present or alive to manage the fields, hence a new harvest failure is likely but at the same time there are also less mouths to feed. A resilient society and resilient ecosystems on the contrary would cope better with pressures from biological and bio-physical processes or social-political pressure, this includes inherited knowledge within a society in how to handle certain re-occurring situations such as harvest failures.

The above reasoning is obviously very simplified and there are many layers and interpretations of the two concepts of resilience and vulnerability, but in this context it is not necessary to develop the concepts further. For this study it is important to understand responses and solutions to crises and that knowledge is required about the long-term structural contributory factors for managing and adapting or maladapting to a forthcoming crisis. Also, it is of importance to be aware that there is a dependency relation between ecosystems services and human social systems and that the lack of resilience within both or one of them can create tipping points for inducing famine crises. Hence in this specific context I view the two concepts of resilience and vulnerability, even though they have two different scientific backgrounds²⁸, as two sides of the same coin.

Going back to Arnolds (1988) thoughts on famine and food shortage; I interpret Arnolds definition of famine (simplified) as being a two-way caused event, where a natural phenomenon can be the tipping point within an already dysfunctional situation. In another society or structural system we might find the same kind of "natural event" not causing famine, hence here we see the human-environment systems interdependency (as in the concepts resilience or vulnerability discussed above). Arnold (1988, p.8) also discusses how cultural parameters can be part of the complexity of a famine situation, for instance cultural food preferences can still exist during situations of food insecurity. Further on in the empiric analysis we will see how efforts were made in 1867 and 1868 to introduce people to new kinds of food to prevent hunger when crop failure struck.

Farmers, livelihoods and the state

Starvation is the characteristics of some people not having enough food to eat. It is not the characteristics of there being not enough food to eat²⁹.

Official recognition of famine can come in time, or long after famine has occurred. Below I will very briefly paint the Swedish historical context of state decisions in relation to harvest failure and food crisis, before the subsistence crisis of 1867-68. In history the Swedish state has taken decisions on mitigating actions, to prevent hunger among the population. These state decisions reveal how commonly occurring events of poor harvest were in pre-modern Sweden. Some examples of governmental mitigating strategies through the centuries are, reduction of customs on grain from abroad (middle of the seventeenth-century) and restrictions on *brännvin*³⁰ production in places with grain shortage (late eighteenth-century), the establishment of parish grain storage (middle of the eighteenth-century) and relief in repayments of relief loans for multiple counties after crop failure (early nineteenth-century). In the eighteenth-century research was also made aiming at mapping the crop failures.³¹

²⁸ See discussion in Adger, 2006.

²⁹ Sen & Dreze, 1999, p.1.

³⁰ *Brännvin* is a snaps made of grain.

³¹ See; -Wij Christina medh Gudz Nåde, Sweriges, Göthes ... at emedan Wij vthaf åthskillige inkomne Relationer och Berättelser, fast ogärna hafwe förstådt, huruledes på någre orter här i Rijket skall wara någon brist och mangel på Spannemåhl ibland Wåre Vndersåtare (1650). [Stockholm]: [Kongl. tryckeriet], -Kongl. maj:ts nådige Bref Til Samtelige Landshöfdingarne, Med Nödige Exemplar af Projectet til Sokne- Magasiners inrättande. Gifwit Stockholm i Råd-Cammaren then 9 Februarii 1757.. (1757). Stockholm, tryckt uti Kongl. tryckeriet, hos directeuren Pet. Momma.);

In the 1860:s crisis years in Norrbotten monetary help was given as loans and grants for public work projects such as drainage projects aimed at reducing risk of frost in water prone agricultural soil. The governmental famine relief was scattered amongst several parishes. Before the subsistence crisis the projects were more concentrated within the province. (Nelson 1988). The scope for doing the public work project was twofold: to alleviate unemployment and poverty and to improve agriculture (Nelson 1988, 126-130). As will be addressed further on in the empiric analysis governmental funded drainage projects also took place in Hälsingland during the current period (Gävleborgs County Governor five-year report, 1865-1870).

State and peasantry has a relationship of dependence on each other. The state need taxes and food for support and not a population who is unable to pay taxes. The state cannot risk revolt against the power from a hungry and unsatisfied population. In addition the state can provide famine relief and be an "agency of famine control", but there are also examples in history where the central power have been one of the causes of famine through neglect or disciplinary policies (Arnold, 1988)³². Liljas (2009) study of the late seventeenth-century Swedish state also shows the state impact on its population in crisis situations. Stately rules defined the distribution of grains and entitlements connected to them. According to Lilja the grains could be purchased and borrowed but some destitute groups of the population where not reached by the help. Grain credits and relief in taxes were well supervised at the same time actions to alleviate suffering were taken. Hence, through this reasoning, both people and state are put under stress during famine.

Arnold (1988, p.50) defines peasants as "small, usually family oriented, agricultural producers, who own, rent, or hold through contract, the land they cultivate". Arnold (ibid.) stretches it so far that peasant societies are extra exposed to famine and call it almost an endemic disease within most of those societies. He present three roughly generalized types of peasants; the ones who are rich and can provide for themselves from a sufficient land and might even produce a surplus for a market and hire workers. The second type of peasant has land enough only to produce their own livelihood. The third type of peasant cannot support themselves through what they grow on their lands³³ and need to take seasonal employment. Within this hierarchy there are the agricultural workers without land to cultivate and craftsmen or others with close relationship to the peasantry in the village. This social group, despite its domination in number, is still subordinated in a political and social sense within the social hierarchy. (Arnold, 1988, p.51-56). Of course we have to look at the "three types of peasants" as a simplified model and not think of it as a general truth. National and regional differences in the social landscape is to be expected but "the peasantry model" is useful to keep in mind just as a general model for this study.

If we turn our eyes towards the 1860:s, on Sweden in general and Hälsingland in particular and keep the peasant society as described by Arnold (ibid.) in mind, a relevant question is: were there differences between people and agricultural regions in the subsistence crisis of the 1867-68:s Sweden? Arnold argues we can only talk about a "peasantry" where there is as state that has a power

-Celsing, Gustaf (red.) (1786). Wi, Friherre Gustaf Celsing, Président i Kongl. Maj:ts och Rikets Commerce- Collegio ... låta dels inskränka och dels på sina ställen, ther spanmåls bristen thet fordrar, aldeles inställa bränwins-tilwerkningen wid thes och Kronans brännerier [Stockholm]: [Kongl. Tryckeriet].

-Bihang till samtliga riks-ståndens protocoll, vid lagtima riksdagen i Stockholm åren 1828 och 1829.

=Stockholm. 1-255. 1829.=, [Del 86], (7:de häftet.) N:o 91. ... Utlåtande ... om lindring för åtskilliga län i vilkoren för betalandet af undsättnings-skulderna efter 1826 års missväxt. =(Rubr.)= (Stockholm, tryckt i Ecksteinska tryckeriet, 1829.) 44 s.. (1826). Stockholm:.

-Leche, Johan (1764). Tankar om sättet at förekomma den missväxt, som förorsakas af väta i sånings-tiden.. [Stockholm]

- Ekman, Emanuel (1783). Undersökning om årsväxtens förhållande, och i synerhet missväxt-åren i Sverige, från år 1523 til år 1781. [Elektronisk resurs]. [Stockholm]:

³²For an example of stately and power neglect and additional natural event causing famine se, Davis, Mike (2001). Late Victorian holocausts: El Niño famines and the making of the third world. London: Verso

³³ Livestock and products from the animals are not to be forgotten in this context as it may provide extra security though livestock also demands grazing rights.

relationship of demand and sanctions over the peasant. In such an organization of unequal power division the peasants economic surplus can be decided over by the state.

At the same time, as a peasant society can support a large and increasing population, there are also built in vulnerabilities to famine in such a society. Within the society it exist crop diseases with harvest failure as an outcome, water can easily get contaminated and epidemics occur amongst both human and livestock spreading through the air or trough rats and flies. Sometimes malnutrition occurs due to uniform diets and in some cases cultivation of unforgiving soil also plays a part in forming vulnerabilities in the peasant society. Thus the peasant society is always on the margins of vulnerability according to Arnold, but despite this, it is a long-lasting type of organization in history. Peasants are risking to "die in millions"³⁴ and not only in "thousands" as nomads or hunter-gatherers, who lives in smaller communities and often have a more diverse diet to sustain them. (Arnold 1988). In addition, as will be discussed further in this study peasant societies with more diversified income possibilities can be more resilient against subsistence crisis (Eg. Isacson et al. 2013). In peasant societies there is also the spring hunger (as mentioned earlier), a returning event, where the food storages are more or less empty after the winter and new crops not yet grown. It is a gap of hunger and low energy in the time when hard work is necessary for getting next seasons harvest in the ground. The situations of the peasant, who are tied to their land for providing the livelihood, make them accept exploitation by authorities more than other groups such as pastoralists, who are more flexible to move (Arnold 1988 p.56).

According to Arnold (ibid.) a shift in the attitude towards the peasantry developed amongst the city based middle class in nineteenth-century Europe. The peasants became the representative of the opposite to the transformation Europe were in at this time. The discourse viewed the peasant as lazy by nature and became increasingly negative and tipped over onto the famine discussion, blaming the peasant for inefficiency rather than seeing other cause of famine such as climatically induced. Examples of a similar negative discourse, towards the peasants also in Sweden at the same time period, a finding in an almanac from 1868, will be dealt with later on in the empiric analysis.

Granaries or emergency funds existed already as a system of emergency relief in Sweden when the 1860:s crisis hit (Nelson, 1988, p.149). In the middle and northern parts of Sweden the parish granaries were founded in the middle of the eighteenth-century. They functioned as loan institutions where peasants could get grain for an interest, but in times when the crop failures were severe, people could not pay back their loans. The decision to keep parish granaries was a collective decision made on parish level and not a state initiative. The collective usefulness of the granaries was very well developed in Gävleborgs County. In other parts of Sweden where the systems of parish granaries were not as well developed, the state gave more relief in case of bad harvests. (Söderberg 1993, pp. 169-171).

Entitlements

One often referred theory in famine literature are Sen's theory (Sen & Dréze, 1999) on different kinds of *entitlements*³⁵. It is especially the concept *exchange entitlements* I find relevant for this particular study. A person's entitlement within a society has legitimacy within that same context. A person's exchange entitlement stands in relation to his or hers so called ownership bundle. Here I will use my own interpretation of the concept *exchange entitlements*, to explain how I see it as

³⁴ This a very generalized picture of "the peasant society" and not every aspects of the description of "the peasant society" is applicable anywhere.

³⁵ In this study I will use entitlement as concept and not as a fully developed theory.

relevant for the forthcoming analysis. I regard it as an action space in relation to a social order where the individual can act and make choices. Though the individual have no direct access to food she or he can use their exchange entitlements to get access to food. Sen's theories came in the early 80:s and got huge response as an alternative to the preexisting and predominant Malthusian theories on famine, explained as caused by over population and lack of food. The entitlement approach is suggesting that famine is not only about if there is food, but also about distribution. Distribution is regulated by entitlements and endowments within your context of social relations.

In a modern industrialized society, for instance, a person such as myself can use my endowment to get salary through an employment. Me and my neighbors do not grow food or keep livestock, in fact very few in my country does, but through my salary, my ownership bundle (of money), I can purchase food from the store.

Put in other words the entitlements of exchange give possibilities or opportunities of negotiation and trade. To give another example I may have a endowment you need and you have money, the endowment is my entitlement and then I get money for using my endowment in your service. Money is then my ownership bundle and with entitlement I can purchase food even if I don't have the ownership bundle of land to grow my own food on. Of course there are hierarchies and power relations within the entitlement of exchange as well. I argue that these power structures can also be connected to an "hierarchy of suffering" in a society hit by subsistence crisis as will be discussed below. Let's take one more hypothetical example: In the context of a pre-modern rural society, I might not have any exchange entitlements but the possibility to beg (my endowment), but according to the local law I am only entitled to beg within my own parish. In my own parish I have the entitlement of begging but it is not legitimated if I cross the border and beg in the neighboring parish. Hence, in the neighboring parish I lose my only entitlement of exchange, I have no endowment or ownership bundle in this context.

I will look for different "entitlements of exchange" in the empirics as a complement to other methods and concepts presented. There have been critique to Sen's approach to famine, one being that the theory does not take into account that the mortality in famines are mostly due to epidemics and not starvation. As written by Devereux (2001, p.525, see also figure 3):

"... famine mortality is a consequence of the social process of famine, rather than the economic process (entitlement collapse)—lack of food or poverty at the individual level".

Another issue of critique is that the entitlement approach is not concerned with human- environment systems interdependency as in the concepts of vulnerability and resilience. For this reason Adger (2006, p.4) writes in this context that :

"The advantage of the entitlements approach to famine is that it can be used to explain situations where populations have been vulnerable to famine even where there are no absolute shortages of food or obvious environmental drivers at work. Famines and other crises occur when entitlements fail "

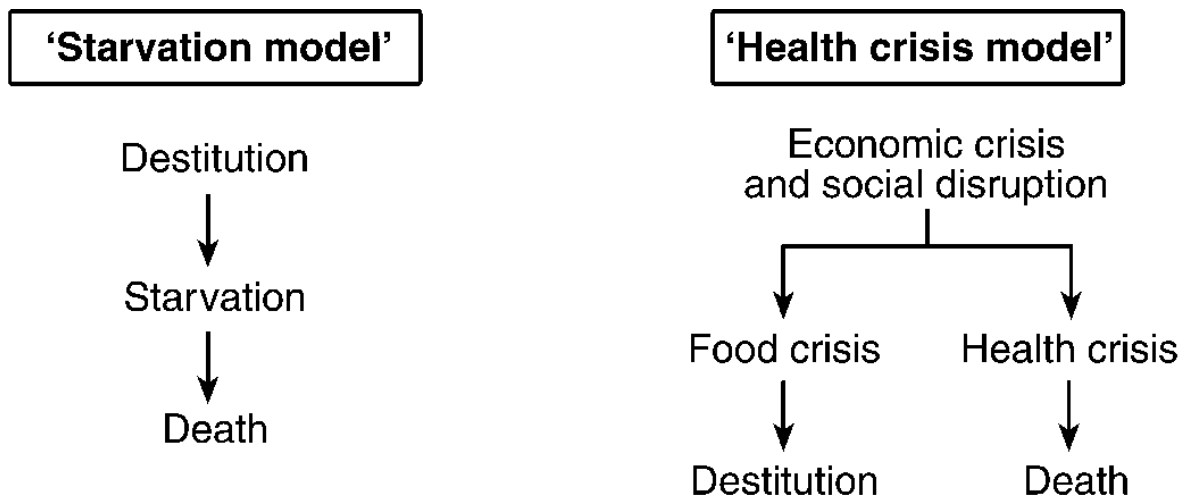


Fig.3 "Starvation model" vs. "Health crisis model". Source, Deveroux, 2001, p.252 (taken from De Waal, 1989, pp.187-89).

As we see in figure 3, "the health crisis model" as defined by Deveroux (2001) adds more dimensions to the "starvation model" presented by Sen (see above). The "Health crisis model" I believe is more suitable for applying on the crisis of 1867-68. But still the "Health crisis model" lack the environmental aspect of crisis and I would add environmental disturbances at the top of fig.3. I also think that food and health crisis can reinforce each other thus they may be part of the same phenomena .

Mitigation

As mentioned geography and climate can be contributing factors forming a society's vulnerability to famine, in combination with other factors such as structural and long-term causes; politics and war amongst them. However modern industrial society with finances, a well developed infrastructure and adjustment to an international market where fluctuation in harvest can be compensated by import from other parts of the world, has a better protection against famine and are far less likely to be affected by crop failure due to natural causes. Poorer countries with a high percentage of the population in agricultural business, depending on their own harvest and livestock for food and a less developed infrastructure and low accessibility to markets are much more sensitive to famine from natural causes (Arnold 1988, p.47). In a comparison between 1860:s Finland and Sweden. Nelson (1988, p.148-149) writes that in Sweden 25% of the male working force was employed outside the agricultural sector, whereas in Finland 90% of the male working force was engaged as farmers. Sweden was therefore less dependent on farming than Finland, though both societies were dependent on agriculture. This factor, intermingled with many other factors, contributed to Sweden's population coping better through the years of subsistence crisis than Finland's population did. But what were the mitigation strategies for coping with subsistence crisis on a household level in nineteenth-century Sweden? This is investigated in a paper written by Isacson et al. (2013) where two periods of weather and harvest failure in nineteenth-century Sweden are studied through individual household diaries. One of the periods examined in the paper is 1867-68 (- 69). The two regions studied Folkare hundred in southern Dalarna and Torsunda hundred Västmanland-Uppland have different geographies, hence different economic characters. In the plain (Torsunda) dependency was on cereal production whereas the wet- and woodland region (Folkare) depended on more diversified income sources such as iron, forestry and textile production, in addition to cultivation and livestock. Folkares diversified landscape (I would say) are similar to the geography of Hanebo. In a place such as Folkare a winter without snow or ice on lakes,

could be a disaster for the production, making transportation of goods much more difficult³⁶. The study of Folkare and Torsunda by Isacson et al. (2013) analyses if and how the peasant households were affected by the disturbance of the two crisis periods and how the people tried to mitigate the impact of the same. Through the resilience and social-ecological system approach the authors investigate how the peasant households acted in relation to labour, land, livestock, market and welfare institutions. A list of theoretic scenarios of action from the peasant households to mitigate the situation of crisis in saving resources are developed by the authors. Many of the points are of relevance for this study and I therefore list them here:

- Reduction of the labour force
- Cattle reduction through selling or slaughter
- Collect foodstuff from the nature both for fodder for the livestock or for human use
- Increase market activities with more differentiated tasks.
- Sell or lease out land
- Reclaim more arable land or the opposite. Change and adjust the cultivation to the situation in some way (a long-term project and not with direct effects).
- Get help from institutions or social networks. Group actions and ask decision makers for help.

What Isacson et al. (2013) found in the farmers diaries, was that a way of coping with the diminishing resources during the crisis years, was to increase time in other activities than before, including market activities such as transportation for iron works, municipality engagement and charcoal production. Another tactic was to reduce costs where it was possible and for instance blend out the livestock ordinary fodder with collected leafs.

However, such an increase in supplementary activities will be hard to prove only through the empiric material that will be presented later on in this study. But at least some accounts are mentioning similar coping strategies that were found in Torsunda and Folkare, existing in Gävleborgs County during the crisis years of 1867-68.

Towards a methodology demographic impact

As we have seen there are in combination several ways of evaluating subsistence crisis or famine: Record on death, birth, and marriage, grain prices in correlation with harvest, wage levels, migration, abandonment of land, tax relief and type of state interference or the lack of. This study is inspired by the methodology of traditional demographic approaches to survey famine-like crisis. A common strategy for evaluating subsistence crises and famine is to study mortality, birth-rates and marriage rates (e.g. Campbell 2009). Marriages get postponed or canceled in a larger extent in times of need than during "normal" conditions. Malnutrition can temporarily decrease fertility in women. Change in sexuality patterns, abortions and infanticide can also take place during famines or other harsh circumstances. As have been discussed above, mortality crisis can occur in relation to famine but are usually not directly caused by hunger and more often caused by epidemics more contagious when people are weak and social pattern change and diseases are more easily spread (e.g. Arnold 1988, 22-25).

Lilja (2009) address some issues related to doing demographic research on church accounts. Under representation of deaths in the church book is one issue. For instance children dying before

³⁶ On the importance of transportation during winter: In 1867 heavy machines for the new wool mill, where individuals could hand in their own wool for spinning, in Västansjö, Hanebo parish, could finally be transported to the new factory when the snow came. The machinery had been waiting a few years and now the business could get started. Nowadays the wool mill is a protected industrial memory. (http://www.lansstyrelsen.se/gavleborg/Sv/samhallsplanering-och-kulturmiljo/skyddad-bebyggelse/Pages/vastansjo_ullspinneri.aspx, Accessed 2013-10-30,19:41)

baptism are often not reported in the church books. However this point might not be valid in the case of Hanebo Parish since stillborns are sometimes mentioned in the accounts as well as babies dying within a few days after delivery. In this thesis on the local parochial level, deaths, marriage and birth accounts are used. Arnold (1988, p.21-23) also address the issue on mortality statistics from the past, stating that it is a rough estimation from what researchers can get from parochial records or accounts on taxes. In addition, Arnold (ibid.) argues that famine deaths are often under reported, famine make people migrate and die elsewhere, people in administration fall ill, generally things are put out of order. For this thesis it is important to be aware of these problems in the analysis of the empiric data.

An example of the complexity of such data is Liljas (2009) study of Ösel. Lilja does a monthly comparison on burials and baptism, between three parishes in Ösel in the 1690:s and discovers demographic imbalances. The small sample numbers in question can perhaps explain the demographic imbalance but Lilja (ibid.) also discovers a mortality crisis in relation to the climate events, that is confirmed, when comparing years and not months. Still Ösel seem too have been less affected when it comes to mortality then Finland and other parts of Estonia at the time. One answer to this could be Ösel had a greater resistance then other areas, as it was usually a surplus region for exporting grains to other places within the Swedish realm. Liljas investigation also contains fiscal accounts on abandonment of ground areas within manors and villages. The conclusion is that some local places had a high frequency of abandonment and other none, as "Even a substantial climate crisis leaves it seems some space for normal, or at least enough harvest outcome." (Lilja 2009, p. 51). The existences of regional or even local differences are clear both in Liljas and also Nelsons (1988) research (see above). In relation to my study this means for instance that I cannot know about the neighboring parishes and the impact of the subsistence crisis in 1867-68 on the basis of the Hanebo parish accounts, even if they are geographically close.

Crop failure are both a concern for the individual farmer and the crown. The abandonment rate found, by Lilja (2009), within some manors is more likely to be due to tax relief than an actual demographic abandonment. Lilja (ibid.) interpret this information as mirroring a severe situation and negotiation, where the one in power had to accept diminishing income. This acceptance of lower incomes would not have happened if the situation was not really serious.

Mortality rise and birth decline

Nelsons Ph D study of the famine in Norrbotten 1867-68 notices that the crude death rates on the aggregate levels in Norrbotten only shows a slight increase (Nelson 1988, 115). In famine crisis the long-term demographic impacts are caused by migration and mortality (Arnold 1988, p. 22). Nelson (1988, pp.172-3) points out that the harsh years in Norrbotten was not a famine of an "ancient type" meaning it was not a mortality crisis with high death rates due to famine related diseases or any deaths due to hunger, but people were suffering and indigent. In line with the above reasoning from Nelson and also Campbell (2009) an extreme raise in mortality due to crop failure in nineteenth-century Sweden is not to be expected. It should be remembered also, and as mentioned before, that the studied period, 1860:s Sweden, was in a transition period, a nation in the wake of industrialization and authority intervention alleviating some part of a severe hunger crisis.

Nelsons (1988) study of the famine in Norrbotten 1867-68 show that births and marriages fell in most parishes even the ones with no increase in death rates. Generally in Sweden birth and marriage rates went down in relation to harvest failure 1867 (Nelson 1988, p.115), this impact is examined in this study through a ten years review of birth records in Hanebo parish. Fertility can drop during famine because of drop in marriages rates, amenorrhoea related to famine, prenatal abortions and increase in stillborns (Hunt, 2009). Marriage rates will also be reviewed through ten years in Hanebo and compared with the birth rates. Thus both Arnold (1988) and Lilja (2009) recognize decline in birth-rates is often a short term impact of famine and when everything is back

to "normal" again more children tend to get born as a response to the former situation. This increase in babies born after a crisis is a well known demographic effect, in the wake of a crisis, as compensation for child mortality and decline of marriages (Lilja 2009, Arnold 1988). This pattern is discovered by Lilja, after the crisis in 1697-98 and will also be studied in this thesis on the local level of Hanebo Parish, during a ten years period.

Famine and Epidemics

Famine and diseases has an intricate relationship. According to Hunt (2009, p.135) people mainly died of infectious diseases during famine in the 1800-century and not directly by starvation at first. Typhus, smallpox and dysentery are all diseases that spread within crowds. There is also "The hierarchy of suffering" within society hit by famine. The poor, the landless or the ones with small patches of land dies first and in a greater extent than others. Famines in the nineteenth- and twentieth-century were generally characterized by a high mortality of young and old. Especially children one to nine had a high increase in mortality.

Epidemics are often the major killer in famine-like situations (not only in the eighteenth-century Europe). Two of the reasons for this is that epidemics spread easily during famine due to change in social patterns and already weak part of the population is extra vulnerable during food scarcity (Hunt 2009). Epidemics can also precede famine and make the famine more severe hitting an already less resistant population (Arnold 1988). Hunger and malnutrition in addition have a bad impact on the immune system (eg. Parker 2013, p.21). As we have seen, migration patterns, change in diet and social behavior can all make diseases spread in a more intense way. One factor confounding the study of disease and the causal relationship to crisis and famine is that mortality figures can not be trusted as accurate numbers, as discussed above. The numbers in historical famines before today's technology are often underestimated and depended on reporting systems, organization of administration, politics and power and estimation (Arnold 1988, p.19-26). These systems can all be even more dysfunctional during a crisis. Nelson (1988) also problematize the demographic sources accuracy in relation to reported diseases, both in relation to knowledge in telling different diseases apart as well as under- or over reporting depending on different causalities.

An epidemic disease Nelson (1988) acknowledges in her PhD study on the crisis years of 1867-68 in Northern Norrland, is "nerve fever". "Nerve fever" can be different types of typhoid, a disease which often is associated with famine (Ibid, p.104). This is particularly interesting for the study of Hanebo Parish in 1867-1868, since I have found an outbreak of "nerve fever" in the years of 1868 and onwards. The connection between malnutrition and typhoid is however not totally clear (Nelson 1988, p.104). Thus Arnold (1988, p.25) mentions typhoid being called "famine fever" and Lilja (2009) associate typhoid with malnutrition and the disease spread through food, flies and water or from human to human. Typhoid was often hidden under different names in accounts and can therefore be hard to discover, but according to my findings in Hanebo parochial church records they seem to have been consistent with the notion "nerve fever".

Grain prices, unemployment and migration

Except from the three indicators discussed above: lower birth and marriage and higher numbers of deaths, the "tell-tale demographic symptoms of subsistence crisis", Campbell (2009) also uses increases in grain prices to evaluate famine. Increases in grain prices are connected to harvest crisis in a pre-industrial society, as also to tithe and yields. This connection between harvest and grain prices are applicable on Sweden as well. The same correlation was found in the survey on "weather, harvest and prices" by Edvinsson et al. in the sixteenth-century Sweden to late nineteenth-century Sweden (presented earlier). When there was no harvest to work with during low

harvest years, unemployment is related to famine and could with other social strategies such as migration and emigration change the existing social landscape. As discussed above, migrations may be one strategy for people to mitigate crises and increased migration may thus be an impact of famine, as when people are searching for better life in urban areas, such for instance in the seventeenth-century Helsinki, Finland (Lilja, 2009). Sometimes emigration is a feature of famine or other crisis. In late nineteenth-century Sweden there was an extensive emigration to the US. People left their land and farms in hope for a better life across the Atlantic.

Within the frames of this study there have been no possibilities in mapping migration patterns or grain prices since it has not been the scope of the study, still in the empirics there are some indications of such social changes in the years 1867-1868. Still social impacts of famine or subsistence crisis can't only be neglected and aspects of social hierarchies in relation to the subsistence crisis in the years of 1867-68 will be addressed within parts of the empiric analysis below.

Empirics

Methodology

The empirics of this study consist of original sources on three geographical levels: National, regional and local. All levels are studied in a qualitative way, narrating a micro perspective on the extreme weather and crop failure in 1867-68. The sources on national and regional level include accounts from contemporary governance or authority- and statistical reports on health, husbandry and agriculture, all submitted to the Statistical central bureau of Sweden (SCB). One almanac from 1868 and two guides on how to use mushrooms and lichen for food during the years of food shortage are also studied. Economic accounts from a private poor relief initiative in Stockholm are also used. On the local level parochial church records on burials, marriages and baptism is studied for the parish of Hanebo in Hälsingland and also minutes of meetings between 1867-69. Harvest figures from the statistical reports submitted to SCB are also dealt with on the local level. One secondary source will, due to necessity be addressed as well.

The parochial church accounts are used to obtain an estimation of and to evaluate an eventual demographic impact from the climatic event and poor harvest in the 1867-68. To put this method in context I refer to my discussion in previous chapter and also to the study of Lilja (2009). In his own research Lilja studies demographical impacts of the 1690:s climate crisis through church accounts on burials and baptism in three parishes in Ösel. Liljas study is of special interest because it focuses on local, parochial level and also focuses on one region with not as clear impacts of the climate crisis as other regions at the same time, within the Swedish realm. Hence the study has some similarities with what is presented in this thesis regarding method and subject of focus. Lilja (ibid.) also take the governmental power, the Swedish crown, into account. Stately governance is to some extent approached in this study as well.

In the previous chapter, a number of potential indicators of famine and/or subsistence crisis has been listed and reviewed. This study will address specifically *mortality*, *birth*- and *marriage* rates on the local, parochial level through ten years of church records on burials, baptism and marriages, 1865-1875 in Hanebo³⁷. The choice of these variables are motivated in previous chapter.

On the National and regional level the earlier presented concept of *resilience*, *vulnerability*, *entitlements of exchange* and *mitigation* actions will frame the analysis of qualitative accounts mainly from official statistical reports. One issue addressed is the discussion on the agricultural statistics in the period in relation to information content when it comes to bad weather and crop failure. As an outcome of the theory section above other aspects that will be kept in mind for the empiric analysis are; societal power relations and "the hierarchy of suffering" as was discussed in previous chapter, returning to attitudes and narrative in the sources. Structural and long-term causes making a society more or less resilient to upcoming crisis are also considered to some extent. As an example of structural causes, we can expect other impacts of bad weather and crop failure in the nineteenth-century Europe than earlier in the history of pre-modern Europe. At the same time everything has to be considered in the light of the complex web of "natural" and "human made" causes to the specific situation or crisis "event" as Arnold (1988) would have put it. All these aspects are

³⁷ The material has been accessed through SVAR, the digitalized national archives. <http://sok.riksarkivet.se/svar-digitala-forskarsalen>

taken into account in the analysis, in the extent it is possible, within this study. In addition the regional differences in impacts that can occur in a society hit by crisis must be considered as well.

Collection of statistics, a brief history

Since much of the empirics in this study are qualitative accounts from the Husbandry Society's collection of agricultural statistics, it is necessary to go into a bit of the history of collecting agricultural statistics in Sweden. As early as in the sixteenth-century efforts to keep agricultural records were made in Sweden by the state authorities, due to tax interests. The first kind of statistics, collected in the early eighteenth-century, were based on a stately interest in industry and commerce after a stately decision in 1735. Cultivation and harvest reports were also made from the sixteenth-century and more frequently used from the eighteenth-century to the present. The purpose of these yearly reports was to be able to make quick harvest prognosis and evaluate harvests. One use for these records were to be able to plan export and import. In older times the reports were also a support in planning (grain) relief in case of harvest failure in parts of the land. The reports contained general reflections on the harvest prognosis and qualified accounts on the harvest outcome. In 1865 the Husbandry Society is commissioned by the Royal Majesty to collect agricultural statistics in each region on a yearly basis. The commission was a reorganization of how and when the agricultural statistics should be collected and handled, but the reform was not implemented until 1874. Already in 1819 it was decided that the weather impact on the harvest should be acknowledged in the reports and it was also specified which type of crops should be mentioned and reported in a quantitative way. The harvest estimates should be made according to a seven numbered scale: Plentiful, propitious, moderate, below moderate, close to crop failure and obvious crop failure. A moderate harvest in southern Sweden could be a propitious harvest in Northern Sweden. (Hence there is a source problem to only rely on these general judgments.) The Husbandry Society Reports were often published with 18 months delay. After 1874 the quality of reporting were improved with publications released the same year. Even though contemporary people did not fully trust the statistics, it gave some estimations and comparisons. (Hedquist, 1999)

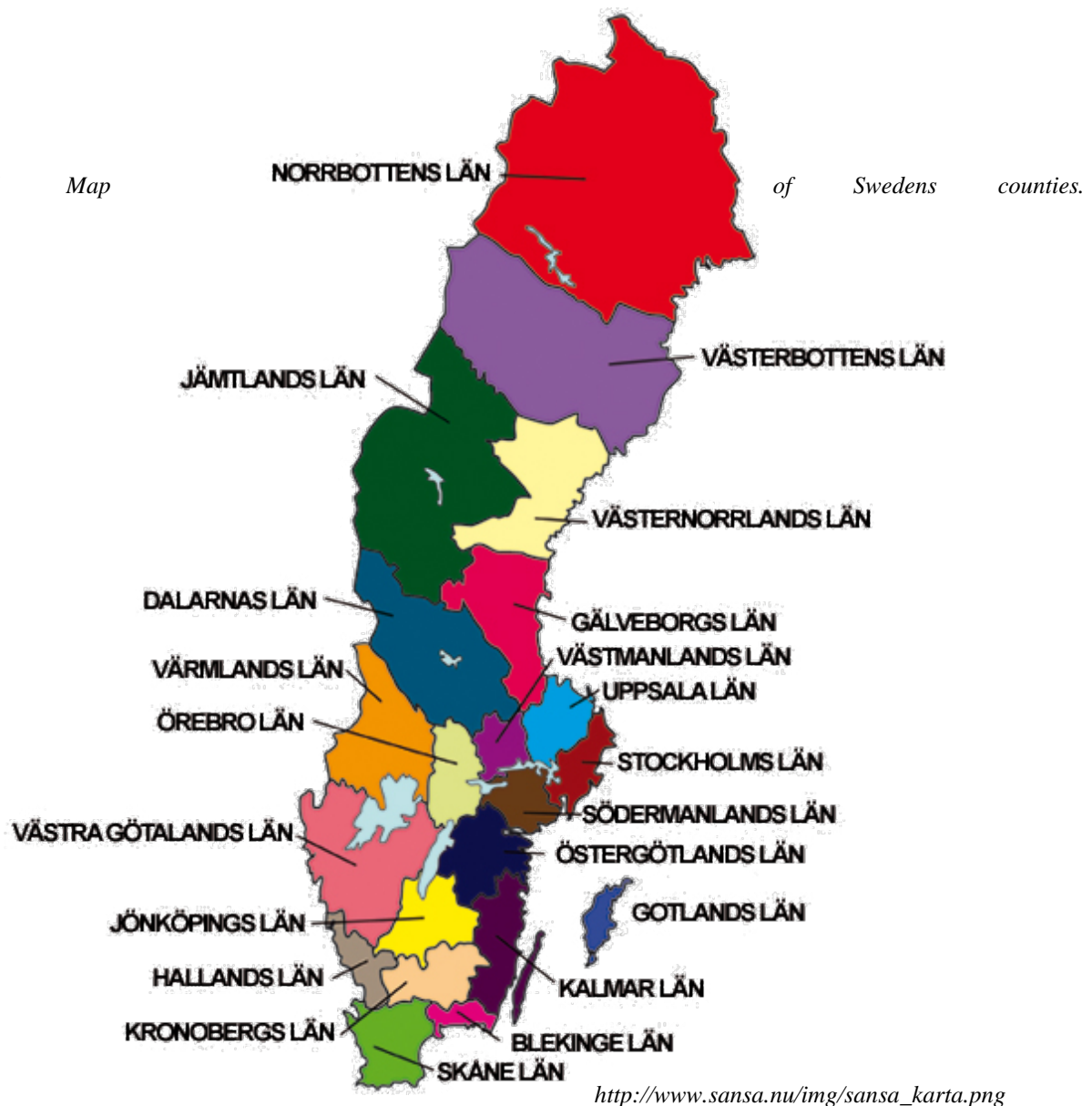
It is in the sense, as estimation and comparison that reports from the Husbandry Society are used as empirics in this study. Even in these contemporary official statistical reports there are discussions and problematization as to their accuracy³⁸. I therefore do not view quantitative numbers as accurate in this study, but I think they can work as an comparison in-between years. The harvest numbers can be used as an estimation of change and fluctuation, as long as not used as exact numbers. It needs to be pointed out however that the general estimations from the contemporary statistic reports made on harvest, which are used in this study, are made for one county and is only an estimation of one year in relation to average years within approximately the same growing and climatic conditions, as well as standards of living. It would have been different and not trustworthy in the same extent, if the estimations where made for a whole country with totally different conditions and standards. As mentioned above and according to Hedqvist (1999) the existing qualitative harvest scales were estimated- and used differently in different parts of Sweden.

³⁸ See the Husbandry society report on agriculture and cattle, for the year 1869. Also addressed further on in the thesis.

Empirical analysis

Before I embark on presenting and analyzing the empirics in the section below a map of Sweden's counties to orientate the reader are in its place. Gävleborgs County (Gävleborgs län in the map) is placed in east central part of Sweden. In the very north you have Västerbottens County and Norrbottens County, the counties with the provinces that were hit the hardest by the subsistence crisis in the 1860:s. Dalarna and Jämtland will also be mentioned in passing in the empiric analysis as counties which got poor relief from the Stockholm Aid Committee in 1867-68.

Fig.4 Map



Below is a map of the province of Hälsingland, lying in the north of Gävleborgs County. Söderhamn town is lying by the coast. This is the place (according to the painting by A. Blomergsson (Fig.1) were the ice breaker and food ship came on midsummer's day in the year

1867. The place Kilafors located in south west of Hälsingland is found within the boundaries of Hanebo Parish, and this is where the parish church lies. The map does not illustrate the hilly landscape and the forest, but below on the regional level there, will be a contemporary description of the landscape around Söderhamn, which I think gives a good representation of the diverse landscape of Hanebo as well.



Fig.5 Map of the province of Hälsingland.

National level

In this chapter accounts from original sources, dealing with the crop failure in Sweden, on the national level, will be presented and analyzed. The national level serve as a context for the study on county- and parochial level that will be presented in the following chapters.

Agricultural statistics in the cradle

In the Statistical Review from 1871 (Sweden's official statistics at the time) and specifically in the chapter on "The harvests in Sweden and their impacts", the issue of poor harvest and demographic impact are discussed, with comparisons starting in the mid eighteenth-century. The initial issue addressed in the Statistical Review is the present negative trend within the Swedish population; increased death rates, decline in births and marriages and emigration. The population decline is

explained partly by a very low nativity between 1826-41 but the discussion later focuses on :”the more or less harsh harvest failures, which during this years have haunted numerous parts of the kingdom” (Statistical Review 1871, p.77). The returning harvest failures are in other words seen as one of the causes for the present demographic problems. But Gävleborgs County is not mentioned in the review as amongst the worst suffering counties from harvest failures between the years 1864-1869. The conclusion on the demographic matter in the Statistical Review is that the correlation between harvest, emigration and fewer marriages during harvest failure year makes a negative impact on birthrates and deaths rates the next coming year, put in other words harvest failure have a negative impact on population number. In additions, as follows below it is also stated (interestingly enough) in the Statistical Review (1871, p.95) hat this correlation is diminishing in the 1800:s in Sweden:

”In our own century, and in particularly the closer we come to our own time, with its extended richness in different way outs to fill needs, one reasonably should not demand an exact correlation between population growth and the average harvest curves in the diagram”

Further the text states how since the reporting started, it is not a coincidence that the last decade (meaning 1860:s) is the only one where Sweden has exported more grains in quantity than imported, This is surprising since at least in the late 1860:s Sweden is, as we know, suffering from reoccurring harvest failures. On the other hand Utterström (1957 eg. p., 446), as mentioned above, is recognizing an overall improved situation in relation to crop failure in Sweden during the nineteenth century, confirming the account in from Statistical Review of 1871.

In the Statistical Review comments are also made on other possible impacts of bad harvest such as economical and political. Other impacts investigated in relation to harvest outcome and food availability are crimes and fluctuations of the stature and height amongst young men surveyed for military service.

The Statistical Review (1871, p.96) describes one particular scenario: In already sensitive subjects, crop failures and unemployment can be the spark which ignites the fire, causing social and political instability. All income sources is said to be harmed by high grain prices. It is stated, often people blame the governance and state for the contemporary wrongs and as stated ”industrial, social and political utopias are chanted ”. The report further elaborates that:

”only time and nature can mend the suffering and patience are needed to wait for its work. If one do not, then the political revolutions waits around the corner (ibid., p.96)”

In addition the Statistical Review (1871, p. 96-97) states that also in Sweden (meaning not only abroad) the great political changes the last century has been preceded by poor harvest conditions.

To sum up the above information; the agricultural official reporting and research for governance purposes are in the 1860:s interested in demographic issues in relation to harvest failure, trying by mapping impacts to get more knowledge of the situation and understand correlations of effects. According to the Statistical Review, the decade of the 1860:s was a hard period for cultivation in many parts of Sweden, with harvest failure in different regions and years during the same decade. It is stated that only the years of 1838 and 1868 can be compared by the low numbers of marriage within the population after the ”horrific harvest failures in 1771 and the coming years of crop failures”, where 68 marriages was said to be consummated in a population of 10,000 (Statistical Review (1871, p.68). In other words 1868 stand out in the Statistical Review (1871) as a hard year in Sweden in general when it comes to poor harvest and maybe also demographic impacts. Further down in the chapter on local level I will present a finding on lower marriages rates within Hanebo parish this exact year. What I also find important to underline from the 1871 Statistical Review is

the seemingly increasing better conditions for communication and mitigation actions in times of need during the nineteenth-century (mentioned in the citation above.) This is also correlating well with the literature presented in chapter 2, that states that the conditions during the nineteenth-century Europe seem to have changed the impacts of crop failure e.g through lower mortality in "famine-like" situations (e.g. Nelson, 1988, Campbell 2009).

The Statistical Review also reveals ,trough a described scenario, contemporary social hierarchies and attitudes within crisis situations. People with less *exchange entitlement* during crisis are indirectly blamed for social and political instability. The attitude shown in the text have a clear "we and them" aspect to it, where "we", the governance and state are wrongly blamed, and the political ideologies which "they" possess are more or less nonsense. "They" should instead do better calming down, be patient and wait for "nature" and "time" to have its way. This point of view is obviously easy to have if you are not suffering yourself. The writer of the text is not one of the sufferers from crop failure and unemployment. To be "patient" as a subject of a crisis is allot to ask from the sufferer and quite provocative for the same, to be asked to do. This reveals a social divided society in times of subsistence crisis.

In 1867 the routine for reporting agricultural statistics is still in its cradle after a decree from His Majesty the king in March 1865 on reorganization of the collecting of the statistics. In the introduction to the Agricultural statistics for Sweden of the year 1867, the possibilities and difficulties of doing national statistics on agricultural outcome each year is discussed³⁹. It is stated that agriculture is the largest industry, on which the whole of Sweden's population rely upon. If crop failure is once again threatening it is argued that accurate information on harvest is needed for knowing what gap need to be filled where and when, and to provide the best measurement for providing help. In The Agricultural and cattle statistic report for the whole of Sweden 1867 (p.4) , it is written that:

"Alike in our climate it is given that the sooner this information can be given, the more early and accurate the relief that can be given will be."

From the introduction text to The Husbandry society report on agricultural and cattle statistic report in 1867, it is clear, that Sweden was exporting agricultural products on the European market at this time and the statistics would provide other countries with information on Sweden's agricultural productivity (Ibid. p.5).

In the section above we see how important agriculture was as a supporting industry for the population and for the nation as a whole. In these accounts, taken from the report of 1867, it is evident that the poor harvest of the year (and later years) forms a backdrop for the reasoning made in the report. Here the one scope of having access to a qualitative, accurate and "on time" statics on agriculture is in order to prevent hunger in times of harvest failure with quick and accurate relief. Especially in "our climate" it is argued, it is more of an immediate or acute situation when these kind of crisis comes up. This points to an authority responsibility ,long term thinking towards the country's population.

The difficulties with collecting holistic and trustworthy statistics according to the new demands from His Majesty the king⁴⁰ in 1865 (also mentioned above), are maybe even more clearly expressed in the The The Husbandry society report from 1868, than in the report from 1867. The crop failures in 1867 and 1868 are also evident in the report for the year 1868. In 1868 especially the spring harvest of straw grains is said to be poor. The harvest of the last two years are said to

³⁹ To submit statistics each year was one of the things appointed in the decree from 1865.

⁴⁰ The decision probably came from the Swedish government but through the Kings approval.

be more or less close to total harvest failure in a large part of the country. It is also speculated that the in general seemingly good potato harvest of the year 1868 has served as substitute for poor harvest of straw grains (The The Husbandry society report 1868, p. 16). Hence in this account suggest the importance of cultivating multiple crops which are suitable for different conditions in order to have alternatives for food in case of crop failure. This is a cultivation system which is more resistant or resilient to harvest disturbances than depending on more or less one crop, and its specific conditions for cultivation. In addition the weather is said to have harmed the harvest of hay and straw and the livestock number has been reduced due to the situation. It is also stated (The The Husbandry society report 1868, p.14);

”It is known, that numerous kinds of lichens rich in starch, during the last years in a considerable increased number as nourishment has been introduced in general usage.”

Thus, the accounts from 1868:s report gives a clear impression of a subsistence crisis in Sweden in general during some years of the 1860:s.

Still, in the 1869 report from The Husbandry Society⁴¹ (the annual agricultural and cattle static report) they are not satisfied with the new statistical reporting order. In the summary introduction of the report, it is said to be hard to get the numbers in time, according to the new decision from March 1865, and to serve the business industry and the governance (which is the scope for the reporting). But the importance of accurate statistics in relation to relief actions is not an expressed topic this year. Some modification in the reporting systems as simplification improvements, seems to have been done after a request to the government. In addition the Husbandry Society Report from 1869 also have discussions on the general harvest grading scales such as ”moderate”, ”below or over moderate” etc. It is argued that these general estimations hardly say anything without the quantitative numbers, which are not available from all areas. In addition, this qualitative estimation may mean different things in different places hence a national summation of the 24 counties, it is argued, is misleading. The goal should instead be a meticulous quantitative statistics developed over time in smaller areas, in order to obtain over several years a more accurate estimation of what a , for instance, ”moderate” harvest means. There is also a suspicion of a general underestimation of figures and some counties do not submit any statistics, impacting the overall quality of the statistics. For instance potatoes are said to be underreported due to the small homestead plots they are usually cultivated on. An increase is seen the year of 1869 in relation to former years of crofts and cottager’s cottage within the country. The statistics on livestock are believed to be more accurate than the cultivation statistics, due to the character of this business area. The two years 1867 and 1868 with poor harvest even for fodder are said to have diminished the livestock, but in 1869 livestock numbers were rising again even reaching higher numbers than previous years, due to better weather conditions for the harvest. The Husbandry Society Report (1869) also state that it is complicated to have some standard on how many barrels of a certain crop are enough for each person each year, due to the different preconditions such as geography and climate in Sweden, having different crops as daily bread. (

The Husbandry Society Report 1869)

The impression, given from reading the 1869 Husbandry Society Report is that the worst subsistence crisis seems to be over in general. Whereas it was argued in the Husbandry Society Report of 1867 that a trustworthy agricultural statistic can be beneficial for the governance in times of need to be able to mitigate impacts of poor harvests. In the Husbandry Society Report of 1869, though it is said we need to know ”one selves” (meaning Sweden), the importance of how Sweden

⁴¹ From now on I will use the name ”the husbandry society report” on the agricultural and cattle statistics.

is presented internationally is emphasized instead. There are no contradictions in these two positions. The export possibilities seems to be very important and the relation to the foreign lands, markets that with increasing interest is following Sweden's harvest outcomes. The Husbandry Society Report of 1869 (p.23) states that England's government department, for several years, have demanded detailed reports about "our agricultural business". When the reports from the Husbandry Society underestimates crop yields, and do injustice to the present state of the agriculture in Sweden, the Static Central Bureau feels the obligation to adjust the figures as close to the reality as possible. This correction was made for the official accounts sent abroad. The regulation of the statistics is said to be important so low harvest figures do not as stated (The Husbandry Society Report of 1869, p.23) give the:

"...false idea that Sweden is not able to nurture its own population
and that the countries agriculturalists do not understand how to manage their craft"

It is stated that products from the cattle barn are winning in interest, with a good reason when you look at the need for importing these products from abroad. (ibid, 1869). What in conclusion can be said about the Husbandry Society Report from 1869 is that nothing is said about crop failure or poor harvest this year. Of course there are regional differences in the harvest outcome but in a national perspective it seems like a good harvest year for Sweden as a whole in relation to the two previous years focused upon in this study.

A private initiative: Stockholm Aid Committee for Norrland

Stockholm Aid Committee for Norrland a private initiative formed in Stockholm in September 1867, when the news about a forthcoming famine in Norrland reached the capital (Stockholm Aid Committees Conclusion Accountings 1869)⁴². In the Stockholm Aid Committee Accounting (1869) It is written that, frost had destroyed the harvest mainly in the northern most parts of Sweden; Norr- and Västerbotten. Poor harvest had also been haunting these provinces several years beforehand. The private initiative started in a small scale but grew as the widow queen Josefina gave a "greater donation" to the subscription for those in need. Soon thereafter, knowledge spread about the large severity of the hunger and more people opened their hearts for the "alike" suffering people in Norrland,. High and low, young and old, rich or poor gave donations to the Stockholm Aid Committee. In the accounting of Stockholm Aid Committee (1869) there are individual donors listed as well as some whole parishes. People created collections within the same profession, in the same work place or student organizations. Aid concerts were made for instance and newspapers spread information and appeals on the subject. (Stockholm Aid Committee accountings, 1869)

Money, grains and other commodities were donated and the donations came from all over Sweden, from south and north (even some donations came from people in the affected counties). Donations also came from abroad, from Norway, Denmark, Germany, England, France, the Netherlands, Russia, Italy, Spain, Portugal and America (mainly organizations consisting of Swedes). In communication with representatives from each by the famine affected provinces the donations were handed out directly as money or grain or later on as purchased commodities. (ibid.).

⁴² Redovisning för den insamling af penningar och lifsförmödenheter som egt rum åren 1867-1868 genom Stockholms undsättnings-kommitté för Norrland och blifvit såsom bidrag till lindrande af den genom missväxt uppkomna nöd fördelad på de af denna olycka hemsökta trakter. (1869) Stockholm.

In the Stockholm Aid Committees accountings, each county that was receiving aid from the committee is listed with specification on what was donated, but Gävleborgs County did not receive any food stuff or other commodities. Gävleborgs county got only cash and also the least amount of cash, 2000 Rmt Rdr in relation to Västerbottens county that, except for grains and other commodities, got 172148.35 Rmt Rdr (the highest amount of money that any county received from the committee).

This information suggest that Gävleborgs County was not affected by subsistence crisis in the same way as Västerbotten and other provinces in the northern Sweden were. It raises the question why that is? Can the fact that Gävleborg receive little aid be explained by harvest outcome in the latest years or do other factors come into play, such as how the information about the crisis was formed and spread? According to the additional table in the Stockholm Aid Committee Accountings (a foldable paper table in the end of the accountings), "over made shipping to the committee for aid to Norrland of collected, given and purchased grain, various foodstuff and so on.", there were no commodities shipped to Gävleborgs County. At the same time the provinces of Norrbottens, Västerbottens, Västernorrlands, Jämtlands and Dalarnas county got grain and other foodstuff.

How in detail the aid was divided onto parishes or villages is something which the committee account does not mention. One sentence in the committee accounts expresses gratitude towards the donors, writing that (Stockholm Aid Committee Accountings 1869, p.5):

"The committee is fruitlessly seeking for enough expressive words to interpret one from hunger, misfortune and distress saved population's deep gratitude."

The information from Stockholm relief committee adds to the picture of Västerbotten- and Norrland (studied by Nelson 1988) as the two counties hit the hardest from the crisis years in 1867-68, possibly due to several years of poor harvest before 1867 and other additional factors such as geographical isolation. According to the Stockholm Aid Committee Accountings (1869) Jämtland and the neighboring province of Dalarna is also getting more help resources than Gävleborgs County. Hence even though Gävleborg County did not receive much aid the mere existence of the Stockholm Aid Committee aid committee showcase the unusual situation in Norrland (including Gävleborgs County) the year of 1867. The low sum of aid money given to Gävleborg County opens up for the question if there were regional differences in the impacts of the contemporary crisis in 1867-68 as was for instance, discovered in the region studied by Isacson et.al (2013) or did a relatively well built regional infrastructure in Gävleborgs County with well working Parish granaries as has been addressed in chapter 2, play in?

Propaganda and educational campaigns

In the past there have been efforts done to alleviate and mitigate hunger through advice and educational campaigns. One example printed in the early nineteenth-century is the pamphlet "Well Intended Advice in Years of Harvest Failure" (1832).⁴³ The pamphlet gives "kind" advices on how you can change your diet towards "wild" plants and other "natural" products in case of harvest failure. Nelson (1988, p.31) argues that such "propaganda", was without success in making mushrooms, berries and lichens accepted as food in 18-19th century Sweden. Cultural and religious food preferences come into play even during times of starvation (Arnold 1988, 8). But still bark bread

⁴³ Schartau, Gustafva (1832). Wälmenta råd i misswext-år, eller underrättelse om inhemska, till större delen wilda wexter och andra natur-produkter, tjenliga till bröd och födo-ämne; medel att af skadad säd bereda godt och helsosamt bröd, jemte anvisning till beredande af några födande soppor, gryn, m.m. / Andra tillökta och förbättrade upplagan. Stockholm. Ecksteinska Boktryckeriet, 1832.:

and lichens are mentioned as food supplement during the 1860:s crisis year in the governance reports used in this study.

In the focus years of this study, the years of 1867 and 1868, two writings were published by the Patriotic Society in Stockholm, to be spread to the people affected by food shortage due to the harvest failure. The writings contain advice on how to recognize the mushroom or lichen as well as recipes, pictures, real specimens of lichens and information about lichens and mushrooms. Some examples of the pamphlets were handed out for free in *Folkskolorna* (The public schools) others were sold in bookstores⁴⁴.

In an almanac from 1868 published by The Science Academy in Stockholm, with privilege from his majesty the king⁴⁵, there is a glimpse of how important the harvest outcome in the country was for the national authorities (supporting the argument of importance of harvest outcome found in the discussion of the national agricultural statistics above). The almanac from 1868 was for sale in the whole of Sweden. It is evident that the almanac is aiming at a farming population. The almanacs are given out the very year after the harvest failure in 1867. The almanac contains information about the days and month according to the Christian calendar with name days and weather information plus times for the sun: dusk, midday and dawn. The dates and places for markets in Sweden and Norway during the year are also given. A table gives information on Danish, Finish and Norwegian silver coins and the larger planets position. There is only one longer written text in the almanac and it is about the importance of harvest techniques and advice on how to salvage the harvest in the best way during different conditions such as rain and wind. This particular piece is also what makes the almanac interesting for this study. The text also informs on how to protect against crop failure with storage of grains, and advice to purchase of seeds for the next coming years. The text to me underlines that the importance of a good outcome of the harvest is not only of concern for the individual farmer but also of concern for the whole country. This tells something about the official view on the dependence Sweden had on agriculture at this time in the 1860s.

The Science Academy Almanac (1868) concludes that after the previous year's experiences of rain harming the seeds, the agriculturalist should have learnt the importance of having good quality of seeds in store for the next year to come. The great danger with a rainy year is that it produces bad quality of seeds for the next years sowing and if the quality of the seeds cannot be guaranteed then failure of the harvest is almost unavoidable. Therefore the Science Academy Almanac states that the farmer should purchase good seed if not having good quality seeds it in full quantity from own harvests.

According to the Science Academy Almanac (1868) well dried and good seeds can be done with help from storing grains in a so called *ria*, a drying house for drying grains. The outcome of the quality of the seeds has a large part in the next years outcome of the harvest, hence a unfortunate harvesting weather is a risk for the seeds used for the next years sowing. *Eldrior* is drying houses that are heated with fire. *Eldrior* is recommended in the Science Academy Almanac, but larger farms can have difficulties to put all grain in the *ria* in time. To a large extent the outcome of the harvest depends on the individual farmer and even during unfortunate years one can save the harvest with good husbandry, caring and vigilance according to the text. The particular piece of text in the Science Academy Almanac (1868) puts, as I view it, a lot of weight on the individual peasant's shoulders even though it recognizes that the harvest weather is the initiate reason for a poor harvest.

⁴⁴ Andersson, Nils Johan (1867). Våra bästa mat-svampar, eller kortfattad anvisning till de i vårt land förekommande mest mat-nyttiga svamparnes igenkännande och användning. Stockholm and Andersson, Nils Johan (1868). Våra bästa mat-lafvar: kortfattad anvisning att igenkänna, insamla och till födoämne bereda några af våra allmännaste lafvar. Stockholm: Patriotiska sällskapet

⁴⁵ Almanac from 1868 given out by The science academia, Stockholm B. U. Nordstedt och söner.

Conclusion National level

The empirics presented above have a few things in common, they are all written by someone who were not a subject for the subsistence crisis in 1867-1868 or any other hard year during the 1860:s. The sources are mainly written by persons (men), active in the capital of Stockholm. Already we can sense a top-down, social hierarchy here. There is no doubt a *hierarchy of suffering* (e.g Hunt, 2009) within the nation in relation to the present crisis. The main focus in official reports is on "the nation", such as for instance in the reporting of agricultural statistics and not on suffering which to me creates a distance between the state and the local. This distance is also natural when the sources are written in the context of being statistical report for Sweden as a nation and as a tool for governance. The reports are also written in retrospective. Still, the focus upon export of agricultural products is interesting if one remembers that Sweden at the same time had a hard time in covering the own population's need for food.

What is also interesting to emphasize are attitudes toward the peasant or the farmer in the Science Academy Almanac from 1868. First of all it needs to be pointed out, the individual farming households are the ones direct suffering from food scarcity in case of crop failure, they are the subject of suffering from crisis. You would think the farmer already have the knowledge of the relationship between a poor harvest with bad quality and having enough seeds for the next growing season, without additional information from the Science Academy Almanac. The Science Academy Almanac information seems in a way unnecessary, when addressing people whose livelihood are dependent on that kind of knowledge. In addition not everybody could afford to purchase seed, in case of seed scarcity from their own lands, as suggested in the Science Academy Almanac. I guess the individual household would purchase seeds in times of scarcity if they could. This could even be interpreted as quite an offensive and ignorant suggestion for someone without monetary resources in a crisis of food scarcity. Maybe some of the techniques suggested for drying harvest in the Science Academy Almanac is new information for some, but overall I sense, in the Science Academy Almanac of blaming of the peasants, who are viewed as the one responsible for harvest failure in the end, bad harvesting weather or not. The nations wellbeing are put on the agriculturalists shoulders and no further analysis of the reason for "the last years crisis" are made, or any other suggestions for change given than to change drying methods to prevent crop failure. In the Science Academy Almanac I sense more of the paternalistic and moralistic attitude towards the farmers in terms of "they should know by now", due to the, as stated, last harsh years. The Science Academy Almanac also symbolizes a distance between the authors, probably based in the city Stockholm, and towards the public intended for the Almanac, the peasant.

This distance I want to connect to the discussion by Arnold (1988) (as presented in the chapter Theory and methods) where he argues for a shift in the famine discussion, a blaming discourse of the peasantry, developing in the nineteenth-century Europe amongst the city dwelling middle class. This is supported also by the accounts from the Statistical Review from 1871, that specifies how people suffering from subsistence crisis should wait for time and nature to heal the situation and not turn to ideologies as the solution for solving the present situation. This is not a blaming of the peasant for crop failure but a top-down blaming of people, a social and cultural distance in world-views, turning into an "us" and "them" discourse. The statement that people suffering in crisis times are drawn to wrong solutions and thereby blaming the government for the present state is as provocative as it the advice of recognizing the natural causes for the situation and wait for them to change. I cannot help but think how desperate suffering people would feel just to sit around and wait for time and nature to change the present crisis? Evidently people had, and also felt, different power in and over the situation of subsistence crisis.

All the contemporary sources dealt with on the national level, above, reveal unusual conditions out of the ordinary with crop failure and food scarcity, and ideas of solutions to similar long-term

situations or more direct relief actions. The reasons for harvest crisis according to the contemporary sources seem to be more or less explicit "bad weather" and also, as the official reports state the framing techniques of the individual farmer. There is no evident synergy thinking of human-nature relations, in the sources, inline with the concept of *resilience* and how this can be improved to avoid subsistence crisis in the future. No suggestions are made of any deeper long-term structural changes to get a more resilient society to meet this kind of crisis. Instead the suggestions made are improvement of the agriculture techniques or of statistical reporting systems in relation to crop failure in the future. The other strategies applied are more "put out fires" actions such as aid to the ones in need and suggestions to farmers how to change the diets in years with low harvest. Isacson et al. (2013) reviewed in chapter 2, expanded on possible strategies for the individual household to cope with subsistence crisis years. One of the strategies was long-term changes in cultivation strategies and this is in line with what is suggested in the Science Academy Almanac from 1868. But other possible strategies than what the individual farm could do are not specified in the almanac documents. This can probably be traced back to the narrow purpose of the empirical material being just an almanac.

Region: Gävleborgs County

Reading contemporary authority reports concerning the region Gävleborgs County you can sense how the landscape was used and how it looked in the period. You also get knowledge in peoples diet and what they did for a living. This sketches a picture of the context for this survey.

Through the provincial doctor Beskow (in Söderhamns provincial doctor district in Hälsingland) you learn about the general health of the people and food consumption and about geographical conditions in the Söderhamn region in the year off 1867 (Yearly National Health Care Accounts 1867, p.3). In some regard Beskows short text should be taken with a "pinch of salt" since it connects masturbation with epilepsy for instance. This particular example reveals how moral and social position can make impact on how a disease is thought to appear and also on social attitude within the contemporary society. Hence the knowledge and understanding of some diseases in this time period can be questioned. None the less some facts can be drawn from the account and I will summarize them below in a description of the county from the eyes of doctor Beskow as given in the Yearly National Health Care Accounts (1867).

There are creeks, small lakes, swamps, a river and coast in Söderhamn's doctoral district of eight parishes in south east of Hälsingland. The landscape is mountainous, but with low mountains. At places there are large areas of forest even though in general the forests are heavily affected by the forest industry. These landscape conditions are very similar to Hanebo Parish except from that the Söderhamn region also has a coast line. The soil is rocky so the farm fields are not large and a large amount of work is put into the "open" soil. Farming and stock-raising is mainly people's livelihood but also logging and other forest related works. Some of the parishes within Söderhamns doctoral districts are coastal and fishing of herring and especially salmon is an income. Ironworks and larger lumber mills also exist in the districts. Here Beskow adds that it is mainly seasonal workers from Värmland and Dalarna who works at these lumber mills (hence here there are evidence suggesting a seasonal migration within central Sweden). Why few people from Hälsingland are working at the lumber mills, Beskow does not say, but it implies the people of Hälsingland must have had enough income sources from other businesses. The smaller lumber works according to Beskow are owned by local farmers.

Beskows account give us a contemporary and general overview over conditions in south east Hälsingland at the exact time period for this survey. The text also reveals that diversified income sources existed within the region. The diversified income sources within the whole of Gävleborgs County are in addition evident in the Gävleborg County Governors Five Year Report for the period 1866-70 (1871). Iron mining and connected industry such as blast furnaces, are businesses mentioned in the report as well as steel works and connected business. What is produced in factories and crafting are stated to mainly be sold within the region and to some extent to the neighboring province of Dalarna. Only a wood thread factory in the town Gävle is exporting their products outside Sweden, according to the Gävleborg County Governors Five Year Report (1871). Otherwise additional income sources mentioned are charcoal and other forest related work, transportation of goods for the ironworks and the wood product companies. There are also some boat transportation enterprises along the coast. Hunting is explicitly stated to be a non income source. Something that you otherwise would think could even out food scarcity caused by crop failure. In addition the Gävleborg County Governors Five Year Report (1871) states that hunting of elk in the wrong season are said to be the most common poaching crime.

Gävleborg County Governors Five Year Report (1871) goes on to describe how parts of the coastal population are fishermen but they are often forced to take long expensive trips for fishing and lose money on the way. Cultivation of flax are said to be an important income in the province of Hälsingland as well as craftwork from flax and different kinds of fabrics such as duck or more refined linen. Flax commodities are said to be sold off but the price on flax has been low lately due to the low market price on cotton. Hence the flax producing people in 1860:s Hälsingland were affected by prices of cotton on the international market, a product not cultivated in Sweden. Annual markets are also held in the same extent around the county in 1866-1870, as the previous five years period. Peddlers are said to be less common these days in the late 1860:s, instead there are said to be people from Germany traveling about and selling all different kinds of stuff. (ibid)

One picture painted by the official reports (reviewed above), in my view as a researcher, is many kinds of income possibilities in Hälsingland, not least for men. Multiple kinds of income sources are an advantage for a population in relation to subsistence crisis and even a strategy on household level, developed for coping with an ongoing subsistence crisis (see Isacson et al. 2013 and review in chapter 2).

Both Beskow (The national health care report, 1867) and the Gävleborg County Governors Five Year Report 1866-70 (1871) mentions herring conserved with salt as an important part of the diet. Also dried fish is mentioned. This is something to remark upon since fish is not affected by sudden extreme weather as crops are. Hence fish could possibly have been eaten to the same extent as in an average year, as long as no other factor prevented it such as transportation possibilities or a higher demand which cannot be filled. It is reasonable to think that a diet of fish would at least even out some of the grain shortage during years of poor harvest. The lower vulnerability of a fish dependent society in times of harvest failure is also commented on by Gräslund (2009) who argues that the population in some parts of Norway with fishing as the main income source, managed the 6th century AD "Fimbulvinter" during the iron age, better than their neighbors in Sweden who were dependent on agriculture.

A curiosity is that the populace in Gävleborgs County is mentioned by both Beskow and in Gävleborg County Governors Five Year Report 1866-70 (1871) to be wealthy in general. It is also stated by Beskow in the National Health care report (1867) that the county has felt the later years pressured market conditions. Nothing is said about the reason for the "pressured market conditions" and no mention are made about crop failure or unusual weather or diseases related to hunger or hard conditions, which is peculiar when the text is after all written in the context of giving a picture of the state of the health of the population within the region. The only endemic disease mentioned by the doctor in this section is *bleksot*, today interpreted as anaemia.

The people are described as largely builded, stout and prone to overflow especially when it comes to clothes. (Beskow 1867) To keep in mind is that Hälsingland is the place where wealthy peasants used their surplus from flax and forestry to build "Hälsingegårdar" with a peak in the nineteenth-century. Some of these large decorative farmhouses with rooms built entirely for festivities are today a UNESCO world heritage⁴⁶. If the populace in the area of Söderhamn was wealthy in general then a subsistence crisis is less believable amongst these people than in more destitute parts of the population (see discussion in chapter 2). The society in general are more resilient. This could also explain some of the reasons for Västerbotten and not Hälsingland being suffering more by the crop failure in 1867-68. However for this conclusion more research is needed on the matter, even though Nelson (1988) also have thought on this matter, in how Finlands population in relationship to Sweden managed the crisis years in the 1860:s less well.

⁴⁶ <http://whc.unesco.org/en/list/1282/>, 20150401

Regional impacts of subsistence crises

This section is mainly based on the Gävleborg County Governors Five Year Report 1865-70 (1871). What should be said already in the beginning of this section is that the crisis years is mentioned in the report (ibid) as a past event and therefore not given specific focus. The single event that gets most focus in the report is instead the great fire in Gävle 1869. This implies that these years were harsh for some, but at the time of writing the report, in retrospective, the subsistence crises is treated as a past event and with little/no impact worth mentioning in the 5 year report, from the county governors point of view. Obviously, and as has been discussed above in chapter 2, looking at famine as an event, it is hard to establish an beginning and end to it (Arnold, 1988). From the description of the county governors in the County Governors Five Years Report of 1865-70, we cannot know about the impacts, of the crisis years of 1867-68, individuals still felt in their lives, when the report was written.

The following are the impacts of the crop failure in 1867 mentioned in the Five Years Report 1866-70 (1871). One not "dismissible" number of people is said to have emigrated to America after the crop failure in 1867. Thus after a few good years of harvest the emigration has decreased⁴⁷. How many exactly this "dismissible" number are, the account does not tell.

According to the report (ibid) bread made with bark or other additional ingredients has only been eaten in the county by exception since the famine year 1867. This account reveals that there were people within in Gävleborgs County who actually had to blend their bread with bark to have bread to eat during the year 1867. Hence the Five Years Report 1866-70 (1871) implies that there were people suffering from hunger due to the extreme weather in Gävleborgs County in 1867. To what extent people had to make bark bread is not mentioned in the account by the county governor.

After the crop failure in 1867 there was a labour shortage within the county and especially in the northern and western parts of Hälsingland, as explained in the Gävleborg County Governors Five Year Report 1866-70 (1871). With help from a great influx of gifts, relief loans and poverty funds, mainly flax where purchased and handed out for processing amongst them who could not make a livelihood for themselves. The working salary was handed out in food commodities and the eventual loss for selling the processed flax were made up for by poverty funds and gifts. (ibid.)

Above we have four signs of subsistence crisis (taken up by the famine literature presented in chapter 2) and also crisis mitigation actions: Emigration, turning to supplementary food (not used in the ordinary diet), a decrease in employment rates and poor relief systems in action. Within the poor relief systems people are given "entitlement of exchange" even during the crisis situation which they possibly did not have outside the system. The governance has a providing interference role in the crisis.

As we have seen Gävleborgs County received low amounts of relief funds from Stockholm Aid Committee. Therefore much of the relief and mitigation projects came from county governance.

It is said in the Gävleborg County Governors Five Year Report 1866-70 (1871) that the needs for the farming population of grain and fodder to the livestock are usually covered within the county, with exception from the year of 1867 (especially in Northwest of Hälsingland), where the harvest was harmed by frost. Even during "ordinary" years it is said to be hard to cover the need of "other" places so the towns and mills are purchasing rye, barley and rye flour from Russia, amongst other

⁴⁷ The emigration from Sweden to America was far from over and continued to be extensive in waves decades ahead with a peak during 1880:s, due to crisis within the agriculture. Between 1850-1930, 1,5 million Swedes emigrated from Sweden. 1.2 of them to Northamerica, mainly the US, which had a boom at the same time. (http://www.scb.se/statistik/publikationer/be0701_1950i02_br_04_be51st0405.pdf accessed 2016-03-22) In the early twentieth century an extensive investigation was made on the matter, see *Emigrationsutredningen* (1907-1914).

places, on a regular basis (Gävleborg County Governors Five Year Report 1866-70 (1871), p.3.). Thus the year of frost 1867 seems to be the hardest year for cultivation in a northern place such as Gävleborgs County (supporting Edvinsson et al. 2009). 1867 stands out in contrast to the dry summer of 1868, when many wild fires rages the forests but that, according to the county governor, was not as bad harvest year (Gävleborg County Governors Five Year Report 1866-70 (1871), p.5). A population that, until harvest failure strikes, is otherwise managing to cover their needs by their own production, is a sign of resilience to some extent,. For the towns and the industries within the region there are already existing ways of evening out a food shortage, being established on an international market through import from surplus areas elsewhere.

An Age of improvement?

Something noticed in the Gävleborg County Governors Five Year Report are projects of agricultural improvement in multiple areas of the county. The dairy production was a female sphere. In Mo parish there was a dairy school for female students with a female expert in dairy management, employed to work within the county (*länsmejerinna*), as teacher. She also traveled around the county to showcase dairy husbandry and management of cow barns. The scope of the project was improvement of the management of dairy products and of cow barns to increase the income from it. The improvement project was financed with interest free mortgages, through the Husbandry Society. The different income sources from the forest are said to be diminishing and there is a worry expressed on the forests conditions. In relation to this account the dairy products value is said to be increasing and it is stated that "natural features" of the county and the climate has shown the potential in increasing the dairy production (Five years report, 1866-70, p.4.) In addition efforts are made to improve the livestock breeds. A farming school is also existing in the county. The cultivated area in the county is extended through drainage of lands. To reduce the risk of frost in the ground, is an important improvement issue addressed and evaluation of the grounds through monetary loans given by the *Landsting* (country council) has been made and private cultivation and land reclamation companies has started. (ibid.)

The Husbandry Society has had a drainage supervisor employed in the county to give information on drainage of lands and support. There are also money put on rest for interest free mortgages to support small farmers in subsoil drainage projects. Drying of wetlands through construction of ditches and an investigations of water drained land prone to frost has been paid by the Landsting and made by the Husbandry Society as discussed in previous chapter. The Gävleborg County Governors Five Year Report 1866-70 (1871) states that drainage projects had been going on in the county since 1865 and the issue have in other words been identified as necessary even before 1867-68. Watering projects of meadows are also carried out in the county according to the Gävleborg County Governors Five Year Report 1866-70 (1871).

A curiosity which says something about the contemporary sentiment from governance point of view are exhibitions with price rewards, held by the Husbandry Society at their annual summer meetings, "to encourage agriculture, livestock husbandry and crafting". Funding is also given to "eminent cultivation diligence". (Gävleborg County Governors Five Year Report 1866-70 (1871), p. 5). In the Husbandry Societies annual summer meetings we see both the "female sphere" of cattle products and maybe also crafting as well as the "male sphere" of other agricultural task represented, encouraged and rewarded.

The list of improvement areas in the region during the late 1860:s can be long; but gardening and planting of tree, interest free mortgages to dairy's (one in Bollnäs) and improvement of cattle breeds are some improvement areas which are supported. The agriculture is also said to be in advance due to improvements, according to the Gävleborg County Governors Five Year Report 1866-70 (1871) (ibid.).

To conclude, there is clear evidence of multiple kinds of strategies from governance institutions to improve the agricultural production and products within Gävleborgs County as well as increasing and improving the quality of arable land, even before the years of subsistence crisis. Different kinds of crop rotation are applied within the county and also on some individual farmer's lands, depending on the character of the soil. More organized crop rotations is used on larger farming estates and is said to be in advantages amongst the populace.

The diet in relation to impact of crop failure

What can be said about the diet in relation to the ability of coping with crop failure in Gävleborgs County during the late 1860:s? Through sowing and harvest records we can see which sorts of crops were cultivated as food for humans or fodder for livestock. As has been mentioned earlier on, the design of the statistics of crops were decided by the state and therefore standardized on county level, including demands to specify yields and details for specific crops in the submitted statistics. From national statistics and the Gävleborg County Governors Five Year Report 1866-70 (1871) we know that wheat for instance were not cultivated in any extent in the region and therefore did not cover the populations needs. As the state demanded statistics on specific crops only, there might be local crops that are not represented in the statistics. In addition, the Gävleborg County Governors Five Year Report 1866-70 (1871) also mentions other parts of the diet, and also sometimes describes food that was taken from the wild.

Except from the already mentioned dairy production, the Gävleborg County Governors Five Year Report 1866-70 (1871) mentions multiple crops cultivated as food. Potatoes (and salted herring) is said to be one important part of the diet. The main grains cultivated in Hälsingland are barley, oat and grey peas. Rye is said to be a grain that is becoming more popular. In Gästrikland rye is already one of the main grains. Mixed seeds are occurring as well in some parishes. In general the grain harvest is said to be sufficient enough to cover the needs for the farming population (as also discussed above) as well as for the livestock. Amongst the root vegetables potatoes has increased in popularity and locally harvested potatoes is covering the needs of the county. In larger estates turnips are also cultivated as fodder for the animals. Other cultivated plants are cabbage, hops and leguminous plants. (ibid.)

As mentioned above fish also was an important part of the diet and fishing in the sea are even something also done by peasant farmers and landowners (The Husbandry Society Report 1867, Gävleborgs county, p.10). What can be said is that there seems to be quite a differentiated diet within the county. Different crops have different requirements for a good harvest outcome. A great dependence on one crop can be dangerous if that particular crop is eliminated by bad weather or disease. One example of this is the well researched so called Potato famine, due to potato rot, in Ireland 1845-49 (e.g. Arnold, p.23, 1988). Even though there of course was other layers to the Irish potato famine as well. Hence, with this reasoning a diversified diet is a strength in situations of harvest failure. On the local level, presented in the next chapter, I will take a closer look on what exactly were cultivated in Hanebo Parish.

What did people drink in Gävleborgs County in the 1860:s? Beer and coffee is said to be upcoming and snaps is decreasing in popularity (Gävleborg County Governors Five Year Report 1866-70 (1871). A virgin drink called *svagdricka* was also popular amongst the people. Though coffee was also a popular beverage, it was not the coffee we think about as coffee today. Doctor Beskow in Söderhamns provincial district wrote in 1867 (National healthcare report 1867, p.3.):

So called coffee is generally used in an excessive way, but make no reason for its name. Indeed coffee beans are used in some part of the beverages preparation, but they are burnt so heavily that the volatile

parts disappear and are blended with as strongly burnt barley and fractured bread.

Beskow continues with how this beverage, that he won't call by the name of coffee possibly is more harmful for the digestion than properly made coffee. This small account on coffee does not only tell us about cultural preferences on coffee, to me as a researcher, it also says something about social status, attitudes, hierarchy within the society and access to resources. It is hard to believe that the *allmoge* (populace) preferred coffee mainly made of burnt barley but as we have seen barely were one of the most common crops cultivated in Gävleborgs County. The "burnt barley coffee" must be an imitation of the original drink but less expensive. Maybe the bread is added to blend out a bad taste or make the drink more filling? The account does not say what the bread was made of, but it could be a way to use old bread that has gone dry, a way of resource management in a time when everything eatable had to be used. What we know is that wheat was rarely cultivated in the region [according to...](#) thus wheat bread would probably therefore have been more expensive to blend out the daily "coffee" with. Apparently, doctor Beskow (ibid.) have access to more monetary resources than the average population and can afford to drink coffee only made of coffee beans rather than the burnt barely coffee. In addition Beskow has another social status and express a mental distance to the beverage and the people drinking it. Hence, there is a cultural and social distance conveyed through the writing of Beskow which is interesting considering his role as provincial doctor. This to me says something about the society, its institutions and attitudes in 1860:s Hälsingland. The social differences are important to consider in relation to the subsistence crisis, and cannot be looked upon as something unique for the coffee culture in the county, thus I argue we can expand this discussion on difference to livelihood and food more generally and therefor it is an interesting piece of contemporary text.

Below are the contemporary statistics on different grains, peas, potato, root vegetables, vetch, flax and hemp from the Gävleborg County Governors Five Year Report 1865-70 (1871, p.11). The agricultural statistics are collected from each parish and as mentioned in previous chapter, the collection of this very kind of statistics was in its cradle, thus the figures should be assessed as relative rather than quantitative as explained in chapter 3. For instance we have Hanebo Parish which despite of notification did not hand in any statistics to the Husbandry Society between 1868-1871 (The annual Husbandry society report, 1870). From the figures (Fig.6) we see that 1867 is overall the year with lowest harvest outcome. In addition during the same five year period 1868 reach the lowest population numbers within Gävleborgs County. But during the whole period it is stated that the population within the county has increased, much due to migration to the cities from rural areas. Thus it seems that despite crop failure and emigration to America, we have no long-term negative impact on the population numbers in Gävleborgs County during this relative short period of time. At the end of 1865 the numbers of inhabitants was counted to 142 632 inhabitants and in the end of the year 1870 to 146 132 inhabitants (Gävleborg County Governors Five Year Report 1865-70 (1871, ch. 2. Inhabitants). The account does not specify how many people migrated to the area or emigrated from it, and where the immigration came from. Therefore we cannot know what the county population numbers would have looked like after the subsistence crisis years without the immigration to the towns⁴⁸.

The reporting on county population numbers brings to fore the question if some regions can benefit from a famine and subsistence crisis elsewhere? Migration to cities from more rural regions is a common feature of subsistence crisis or famine (as we seen in the literature). Would the population in Gävleborgs County have increased without the crop failure years and did it spur the urbanization within the county? This will not be answered within this space but something to ponder upon.

⁴⁸ This would require further and extensive research in church archives and it has not been possible within this study.

The weather and harvest - qualitative accounts on regional level

Below are compressed accounts, collected from five years of yearly reports from the Husbandry Society on Gävleborgs County, between 1866-1871, made for the Statical central bureau in Sweden (SCB). These accounts provide a qualitative overlook of the conditions during sowing, harvest and outcome for each year in the county.

Year 1866: In general there were good weather conditions during the spring sowing which started in May and ended in June, with persistent rain and cold during the late part of the summer. The salvage of the harvests were difficult by *frost damaging the crop in places*. The harvest as well as the harvest of hay from natural meadows was moderate. In lowland places, the harvests of hay were poor, due to high water levels. But in general the harvest of straw was plentiful. The report also tells of a surplus on butter, cheese and milk but *lack in grain to cover individual needs*, and for market sale.

Year 1867: It was cold and windy during sowing and harvest. The spring came late and the spring sowing started in the middle and end of June and ended in the middle of July. The harvest went on in September and October during general unfortunate weather conditions. *Crop failure was reported in most parts of the county* but the harvest of straw was plentiful. The harvest of hay from natural meadows was moderate. *The lack of grain is reported to be large*, hence nothing was left for market sale. Some surplus on butter, cheese and milk is reported. A smaller amount of cattle has been sold off according to the report.

Year 1868: The year was marked by dry and warm weather conditions during sowing and harvest. Spring sowing took place in May and harvesting in August and September. The harvests in the county were in general good and important, but with a slightly lower harvests than average due to the warm and dry summer. The harvest of hay from natural meadows was below moderate. Agricultural commodities did not produce surplus for trade, both barley and rye had to be purchased but some surplus of butter, milk and cheese are reported. A smaller amount of beef animals was also sold off from the county the same year.

Year 1869: The sowing took place in the middle of May to the middle of June, during cold and rainy weather conditions. The harvest went on during similar conditions between the end of July to the end of September, after the frost had come. The hay harvest was moderate and in some parts of the county plentiful but damaged by rain. The rye was partly damaged by rain and the spring grains were damaged by frost. This made the *quantity and quality of the harvest less than average years*. In some parishes there were evident crop failures. The potato also suffered to some extent by dry rot. The harvest of hay from natural meadows was below moderate, whereas availability of straw was moderate. No surplus of grain or other agricultural commodities are reported and grain in large quantities had to be purchased. But there was a surplus of butter and cheese. Some beef animals was sold off, to alleviate harvest failures.

Year 1870: The sowing already took place in early May and the mowing went on until the middle of July. The harvest of spring and autumn grain started in the middle of August. Both sowing and harvest was carried out in fortunate weather conditions and the harvest was therefore well taken care of this year. The harvest of hay was in general plentiful and the *harvest of grains was of splendid character*, but the potato suffered from dry rot also this year. The harvest of hay from natural meadows was moderate while yields of straw were plentiful. *A surplus of grain is reported within numerous municipalities* but even with good harvests some places, especially those with iron mills, does not have enough to cover the needs. Cattle is sold for slaughter and butter, milk and cheese is being sold from rural areas to the towns within the county.

Year 1871: The spring sowing started in May during fortunate weather conditions. The summer was warm and dry. Both spring and autumn mowing and harvest took place during fortunate weather conditions, but the potatoes was harmed by frost and suffered from dry rot. The autumn

harvest were moderate in general. The harvest of hay from natural meadows was moderate to below moderate but the straw yields were below moderate. A surplus of grain was traded together with flax. The harvest of seed was enough to support the population in the countryside and some for trade to the towns. Despite surpluses the county imported larger quantities of grain. Apart from grain and flax a surplus of butter, milk, cheese and *mesost* (a kind of cheese) was sold off to the towns and some livestock have been sent for slaughter.

Even though the general estimations, made in the Husbandry societies annual reports, on harvest and weather can be problematic (as discussed earlier) I still think the accounts say something in relation to each other when it comes to estimations from within the same geographical (and political) region. In the above years we have a span of sowing season starting early in May (1870), or in late June going on until middle of July (1867) and years of something in between. The differences during growing season will make a huge impact on the outcome of the harvest in a vulnerable climatic region with an already short growing season (see Parker 2013, p.18.). There is also a huge difference in when the harvest can start and end in these reports, from the end of July (1869) to September (1867). In 1867 the harvest is still going on in the end of October! The harvest outcome is also different between years, both 1866 and 1869 are poor harvest years along with 1867. Several years in a row with bad harvest are harder on the population than one or maybe two years, which often can be mitigated for in some way, e.g. through grain storage. In years of bad weather for many of the food crops, conditions seems (depending on if the land is wetland or not) to be better years for the production of hay. In addition the production of dairy commodities is said to be good in general each year and this could level out some of the pressure of grain loss, it also indicate that the livestock seem at least to get what they need in terms of food. The selling or slaughter of animals can indicate a scarcity within households, as there needs to be a negotiation of when it is more profitable to get money for the animals, instead of keeping and provide for them (e.g. Isacson et al. 2013). In keeping the livestock you also maintain possibilities of increasing livestock herds. However as shown above "a smaller amount" livestock (in a very general term) has been sold of almost every year, indicating this was nothing out of the ordinary. Only in 1869 there is said to have been animals slaughtered because of necessity.

Tabb. N:is 2 och 3.

Gefleborgs län.

11

Tab. N:o 2.

JORDBRUK.

I.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
	Hvete.	Råg.	Korn.	Hafre.	Bland-säd.	Ärtor.	Polatis.	Andra rotfrukter.	Vicker.	Liu och hampa.
Vanliga årliga utsädet på ett tunnland, kub.fot	4,7		6,9	9	7	3 à 4	40	5 ½	5 k.fot	3 à 4
1866	42,633,2	—	188,790,1	—	10,200,7	30,758,5	1,650,4	—	25,816,4	
1867	41,552,1	—	187,050,6	—	8,900,9	31,116,9	1,531	—	26,583,1	
Qvadr.-ref åker använd till odling af.	1868	41,939,6	—	189,147,6	—	10,580,5	31,105,7	1,722	—	26,150
1869	42,321,9	—	189,596	—	9,165,8	31,797,1	1,651,8	—	25,123,8	
1870	42,494,5	—	189,376	—	9,168,8	36,626,7	1,554,2	—	25,499,4	
1866	828,3	38,231,3	137,302,9	89,294,8	56,553,7	12,372,3	198,847,7	—	1,621	18,377,9
1867	455,1	36,791,1	137,228,9	88,614	52,278,8	10,374	203,709,1	—	1,629,5	15,739,9
Hela årliga utsädesbeloppet, kub.fot.....	1868	490,6	36,452,4	137,731,3	85,396,6	50,620,6	9,657,1	206,424,5	—	613,9
1869	598,6	37,417,7	136,622,8	88,787,1	48,565,1	10,110,5	217,328,7	—	730,4	18,415,3
1870	625,1	38,171,8	138,006,6	88,231,2	48,928,7	9,579,4	224,753,2	—	1,302,2	18,866,6
1866	5,954,8	277,277,5	835,854,8	499,612,2	328,811	45,665	1,306,113,4	34,890	* 1,261,3	Centner 23,070,4
1867	2,752,9	154,610,2	560,216,4	281,006,4	171,528,9	9,846,3	973,259,2	15,884,2	* 670	12,830,8
Skörd utan afdrag af utsädet.....	1868	2,226,2	208,803,3	729,363,3	328,704,5	240,843,5	38,812	1,292,613,6	21,850	* 1,021
1869	3,844	217,322,4	723,470,6	399,188	230,719,1	28,282	1,178,670,6	34,057	* 1,132	19,925,6
1870	5,146,7	293,894,7	920,764,7	547,798	291,987	42,986,5	1,566,221,2	31,666	* 842	14,296,4

* Vickern skördas merendels grön till foder.

Fig.6 Five years of harvest in Gävleborgs County, the county governors five years report, 1866-70, p11.

Conclusion regional level, Gävleborgs County

What is striking on the regional level is the diversity of income sources within Gävleborgs County. The income diversity reflects the different geography in the region and hence may, if we go back to resilience and vulnerability thinking, create a resilient and quite a shock resistant society in times of crisis. Of course, this is not applicable to all individuals, but in general with income diversity people have more exchange entitlement to choose from. During the crisis years we see that state relief programmes are aimed at helping the ones who cannot support themselves, for instance on county levels through the purchase of flax to do products from and sell. State and regional authorities are investing in improvement programmes to change people's behavior and to secure their livelihood and the quality of the agricultural products, already before the crisis years. The harvest of grain is in general enough to sustain the farming population and their animals, as it is stated in the Gävleborg County Governors Five Year Report 1866-70 (1871, p. 3). Thus, the year of 1867 was a marked exception from local self-sustenance. In 1867 the frost damaged large parts of the harvest especially in the Northwest of Hälsingland and in the accounts presented here, several signs of subsistence crisis are found within Gävleborgs County. Even during normal years just a small amount of grain could be saved for market sale and export, therefore cities and mills are importing barley and rye from other countries. Also quite a large amount of rye flour is imported from Russia (Gävleborg County Governors Five Year Report 1866-70 (1871, p. 3)).

The regular import of grain shows how international trade connections were already established in Hälsingland when the crop failure hit (Gävleborg County Governors Five Year Report 1866-70 (1871, p. 3)). International foodstuff trade is a good way of mitigating food scarcity in a region. This is also one reason mentioned in the literature presented, why modern industrialized countries are rarely threatened by famine from "natural" causes. Also, as shown here a multiple range of crops are cultivated and consumed in the region. Different types of crops have different types of weather requirements, thus the multitude of crops grown in Gävleborgs County is a source of resilience in relation to risk of harvest failure. We know from the sources that especially the year 1867 was bad for the harvest in the county and that people blended out bread with bark to save resources. In addition dried and salted herring were staple food and the dairy production generally covered the need of the population. This would have evened out at least some of the food scarcity. Gävleborgs County is mainly self-sufficient, not only on agricultural products but also when it comes to industry production, a huge difference compared with the state of the county today. Despite diversified income sources and cultivation of a variety of crops in Gävleborgs County, we still have several signs of a subsistence crisis on county level specifically in the year of 1867, such as; Crop failure, unemployment, poor relief systems in action, use of supplementary food, cattle slaughter and emigration.

Local level: Hanebo Parish

Hanebo Parish is situated inland in the south west of Hälsingland. The settlement in the parish is mainly located close to the lakes Bergviken, Bofarasjön and Västansjö. Within Hanebo Parish and the Kilafors area, there is a breakpoint in vegetation, climate zones and topography lines. Here, the south taiga and the middle west taiga meets around Kilafors and the lake Bergviken. A characteristic Norrlandic river, Ljusnan, has its outflow in Bergviken. As described in previous chapter the land consists of terraced landscapes and flat coastlands. A state induced shift in landownership and division (skifte) was made in periods in this area during the eighteenth and nineteenth century. (Hovanta, 2008)

Between 1863 and 1973 Hanebo was a municipality of its own. Today Hanebo Parish is part of the larger Bollnäs municipality. In the middle of the eighteenth century Kilafors iron mill started by the stream Kilaån and had its highpoint in the middle of the nineteenth century with approximately 250 workers (Hovanta, 2008). Other important income sources except from the agriculture were production of charcoal and other forest related industry. In Västansjö, a wool mill was started in 1867.

According to contemporary official statistics, the population of Hanebo Parish was counted to 47 768 in 1867. The exact same number is given for the parish in the years of 1866 and 1871, hence we have to interpret the numbers as a guide and not an exact and accurate number (see earlier discussion on population statistics in chapter 2 and 3). The numbers does not say anything about any population impact of the extreme weather years in 1867-1868, hence to understand the possible local impact of these extreme weather years other sources has to be studied. (Annual Husbandry society Reports between 1866-71)

Demographic impact

In this section a simple statistics is developed on the parochial level of Hanebo, a methodology developed and explained in chapter 2 and 3 and inspired by Lilja (2009). Hence, for this section a new methodology is adopted. Deaths recorded in the parish church book are studied over a ten year period, the numbers of deaths each year is counted whether or not the person who died was from the parish or not. Also included in the study is how many children died and if any epidemics seems to have hit the parish . The statistics does not specify gender or age more, than that children under 18 years (a modern upper limit for childhood) are separated. As long as no contagious diseases hit the parish, children close to the year or under one year of age were most vulnerable and therefore represent a majority in child mortality in the church deaths account. A high child mortality is not surprising and more a rule than an exception in this type of society before the modern health care. To be born too early or by twin birth was a clear danger for babies at this time, as is shown by the church accounts. If any epidemic outbreak, that can explain a larger increase in deaths, has been found during a studied year it will be declared in this the study. This means that few cases of diarrhea for instance will not be mentioned, other death reasons will not be accounted for in this study.

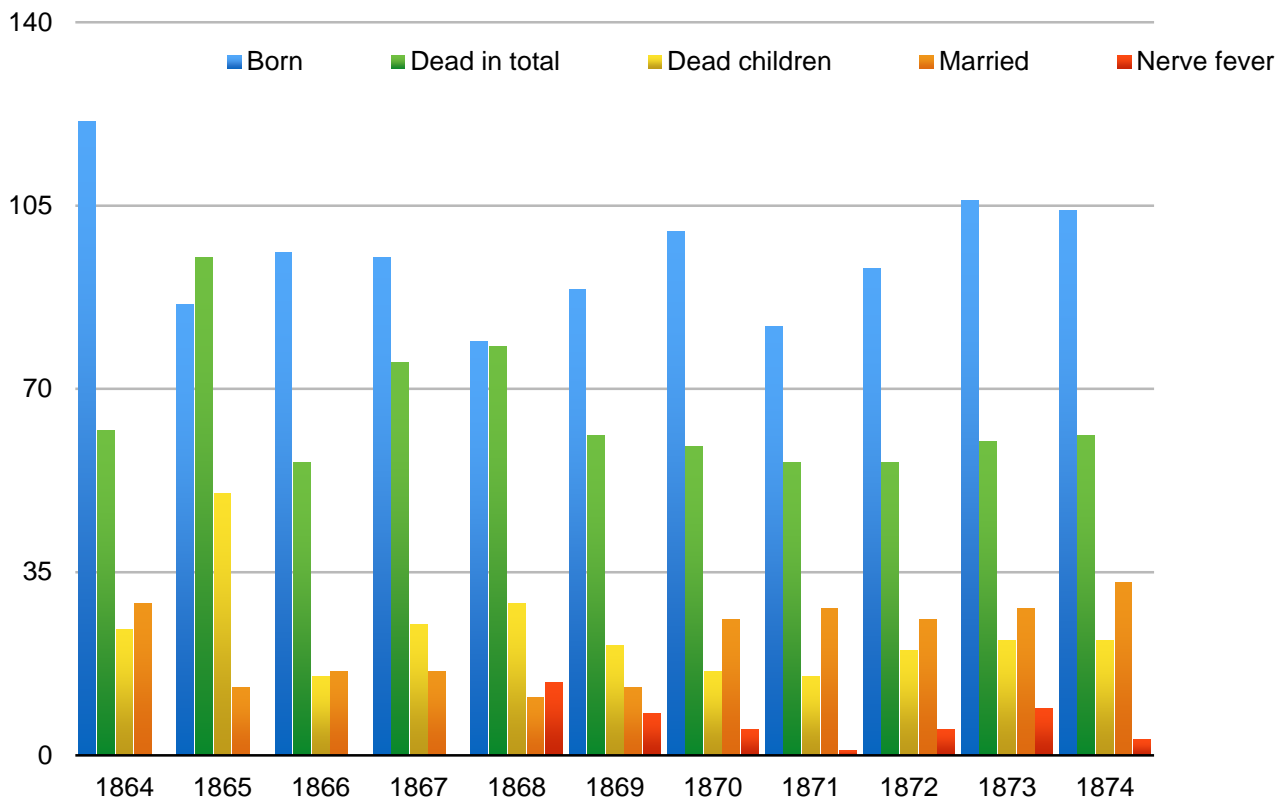


Fig.7 Source: The church archive in Hanebo Parish. Books on death, birth and marriage.

Marriages (not engagements) and delivery register has also been studied for a ten years period. This is to see if any significant difference takes place in the years of 1867-68. As discussed earlier on, mortality, marriage rates and fertility are three common factors to take into account when studying famine in relation to demographic impact (see chapter 2 and 3). Even if this study is a qualitative one, the statistics gives a frame to what happened in Hanebo during the two extreme weather years. Dead children are counted up to the year of eighteen, but a "normal" year the great majority of dead children in Hanebo are infants under the year (as it usually was in pre-modern Europe). People from another parish e.g. dying in Hanebo Parish are also counted in the statistics, and stillborns are counted in the birth statistics. Of course you cannot make any general conclusions dealing with such small numbers (see Lilja (2009) study in Ösel discussed in chapter 2), still I think I have made some interesting findings in relation to the subject of this study.

The year of 1868 is standing out in the demographic statistic. This is reasonable thinking of possible backlog effect with low numbers of birth and marriages during crisis years. The year of 1868 has the lowest birth rates, second highest numbers of deaths, debut of an epidemic disease that can be related to famine (as seen in the literature), "nerve fever"(typhoid) and also the highest rates of typhoid. The year of 1868 has also the second highest child mortality and lowest numbers of marriages of the period 1864-1874 in Hanebo Parish. I have found no other epidemic outbreaks during the studied ten year period than the "nerve fever" in 1868, except from a fever I interpret as scarlet fever in the parish accounts during the year of 1865 (and a few cases of diarrhea and "breast fever" that comes in clusters in the church books). Without the scarlet fever in 1865, which accounts for almost all the 50 dead children during this year (mostly children under the age of ten), 1865 would have had least numbers of deaths (all ages) during the ten year period. If we discount scarlet fever, a child epidemic not connected to famine, in 1865, the year of 1868 stands out in the church record

even more⁴⁹. Then the year of 1868 also have the highest number of deaths and highest child mortality of all the years and not only the lowest birth and marriages rates as before. All the three "classical" demographic symptoms for defining famine are in other words found in the year of 1868 in Hanebo Parish. Even without the outbreak of typhoid, the year of 1868 would stand out as the year with second highest mortality figures (64 individuals) and only the crisis year of 1867 have higher numbers of deaths (75 individuals). The signal of crisis is even more striking looking at stillborn numbers which are included in the birth rates. There are four stillborns in 1867 (the highest rates amongst the years of 1864-71) and one stillborn the year of 1868. The year of the scarlet fever, 1865 is the only year with higher mortality than births. If I do not count the one stillborn child in 1868 in the birth statistics, there is an even number between dead and born this year. Even if it cannot be called a mortality crisis, a year when there are as many dead as babies being born in a society is not a good year.

The individuals who died by "Nerve fever" are mainly children, teenagers and (young) adults, elderly seem to manage the disease better. I have not considered when in the year people have died, given birth or got married. This would probably give a deeper picture of the actual situation in relation to subsistence crisis and backlog impacts of subsistence crisis. In the following years after 1868 that I have included in my study, the "nerve fever" still exist in the death records, but with a few deceased each year and with some fluctuations. The Scarlet fever is reoccurring now and then amongst children but with no extreme outbreaks as in 1865.

The demographic findings in Hanebo Parish are also agreeing with what to be expected according to the literature on the subject (as reviewed in chapter Theory and method, e.g Nelson (1988), Hunt (2009) and Campbell (2009). The mortality have risen but not in a large extent and very temporary and birth and marriage rates seem to recover fast after the crisis.

Typhoid

The "Nerve fever" as it was called in Hanebo Parish accounts is (as we seen) found to appear the first time in 1868 and it is some kind of typhoid. In the famine literature typhoid is sometimes mentioned to have been called "hunger fever", therefore the findings in the parish record are of interest. In 1867:s Health Collegium Report for Sweden the county of Jämtlands stands out in comparison to other counties, with only few reported cases of typhoid. In other words Hanebo were one of many places in Sweden where typhoid existed in the late 1860:s. In the national statistics there is an overweight towards younger people up to 30 years being affected by the disease, verifying the findings in the accounts from Hanebo death register. In Gävleborgs County 1867 the disease hit mainly the area around Hudiksvall and Bollnäs in the last six months of the year (Bollnäs is today in the same municipality as Hanebo Parish, which as we seen, according to the findings is hit by the same disease in 1868). In the district of Bollnäs there were according to reports 149 sick and 15 dead.

In other words the accounts on deaths, in Hanebo church records, due to "Nerve fever" is probably in response to a larger number of sick individuals we cannot know the number of. In 1868 typhoid and gastric fevers has spread even more in the whole of Sweden and is said to have been particularly malignant in the counties of Norrland (including Gävleborgs County) with petechial rashes. With emphasis on the county of Västerbotten it is said that the disease has taken form of "Famine fever" or "Hunger typhoid" (Health Collegium Report 1868, p 24.). In Västerbottens County the

⁴⁹ Utterström (1957, p.207) writes that child diseases rarely were connected to fluctuations in harvest and follow their own cycles. This support the decision I made in this study not to count the year of 1865 as the worst in mortality in relation to subsistence crisis.

situation is stated to be severe throughout the whole year, but the disease is decreasing somewhat after August. It is said to mainly occur amongst less fortunate people, this is in line with the hierarchy of suffering in famine (as addressed by Hunt, 2009). The reason for the typhoid in Västerbotten, is said to be because of lack of food due to the last year's crop failure (Health Collegium Report 1868, p.23-24).

The county of Västerbotten, much affected by the crop failure in 1867 had an average harvest in 1868, according to the statistics from the time. Maybe the increased harvest is also why the typhoid started to diminish after August in 1868 in Västerbotten? In Bollnäs there were at this time over 500 ill and 68 dead. In Gävleborgs County, in south Norrland, as a whole there are partial epidemics occurring stronger in the last months of the year, often in a petechial form (ibid.). If the cases of "nerve fever" in the parish account of Hanebo has any relation to famine will be hard to establish for certain with the records presented here but I believe that this is very likely given what is reported for the whole county.

A support of this conclusion could be that it occurred in 1868, the second crisis year, as a backlog impact. As we have seen in the developed statistics for Hanebo the year of 1868 is the one with most cases of "Nerve fever" and after this there are only a few cases each studied year onwards. Of course, it is a possibility be that the typhoid is not connected to the subsistence crisis. Typhoid seems to have occurred now and then in nineteenth-century Sweden. Another explanation for the increase of typhoid could be crowding and change in movement patterns due to the crisis. Several of the authors of famine research reviewed in chapter 2 are arguing that epidemics (such as typhoid) are the major killer in famines. To connect this discussion with the "Health crisis model" of Deveroux (Fig.3) and my addition to the same, including environmental disturbances (see discussion chapter 2) I find that the conclusion on a health crisis in Hanebo in 1868 due to economic and environmental disturbances is confirmed. Only from the numbers of deaths we cannot know of the total number of sick. What is found in the church records on deaths and births is that in 1868 death outnumber births by one individual if moving the one and only stillborn to the deaths instead of births, thus this was a negative demographic trend but a short lasting one according to the figures, a phenomenon also confirmed by the literature on famine and demographic crisis presented in this paper.

The harvest

As mentioned before the demand from the state to collect agricultural statistics in Sweden was developing during the focus period of the study. The organization around it and reporting forms was still to be developed to reach more accurate statistics on the subject. The problems of the reporting and the number's accountability are also mentioned in the prologue of the Husbandry Society Report in 1867 and has been referred to earlier. In the years between 1868-70 Hanebo Parish did not submit any statistics to the Husbandry Society agricultural statistics, even though a reminder was sent to the parish (The Husbandry Society report 1870). To not submit statistics also happens to other parishes during the period but Hanebo Parish does not do this for three years in a row. Why this is the case is hard to know but one reason can be that something else was prioritized in the parish and took the focus away from the reporting or maybe the routine for reporting in the parish was simply missing? Lack of parish routines is in line with the reasoning about the form and organization for submitting the agricultural statistics being a newly introduced routine from state level. One may also ask if the crisis years come in the way of reporting? But if there was an administrative interruption or even breakdown due to the ongoing crisis, (a problem addressed in the famine literature as discussed in previous chapters) it would probably have been more common also amongst other parishes in the county not to submit the agricultural statistics several years in a row.

Since 1871 is the closest year after 1867, the last year Hanebo Parish left any statistical accounts, this is the referential year I will use. In addition and according to the empiric material it also seems like a “good” harvest year and therefore reasonable as something to compare with in relation to the bad harvest.

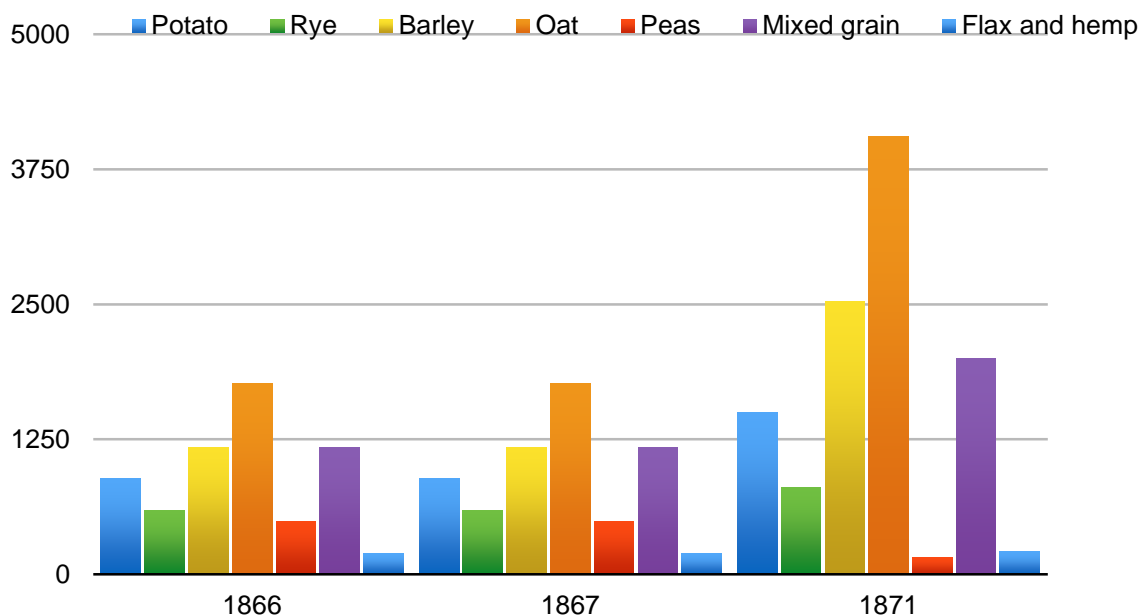


Fig.8 Seeds in cubic foot, Hanebo Parish⁵⁰. The numbers are lifted out from tables in the annual Husbandry Society Reports on national agricultural statistic.

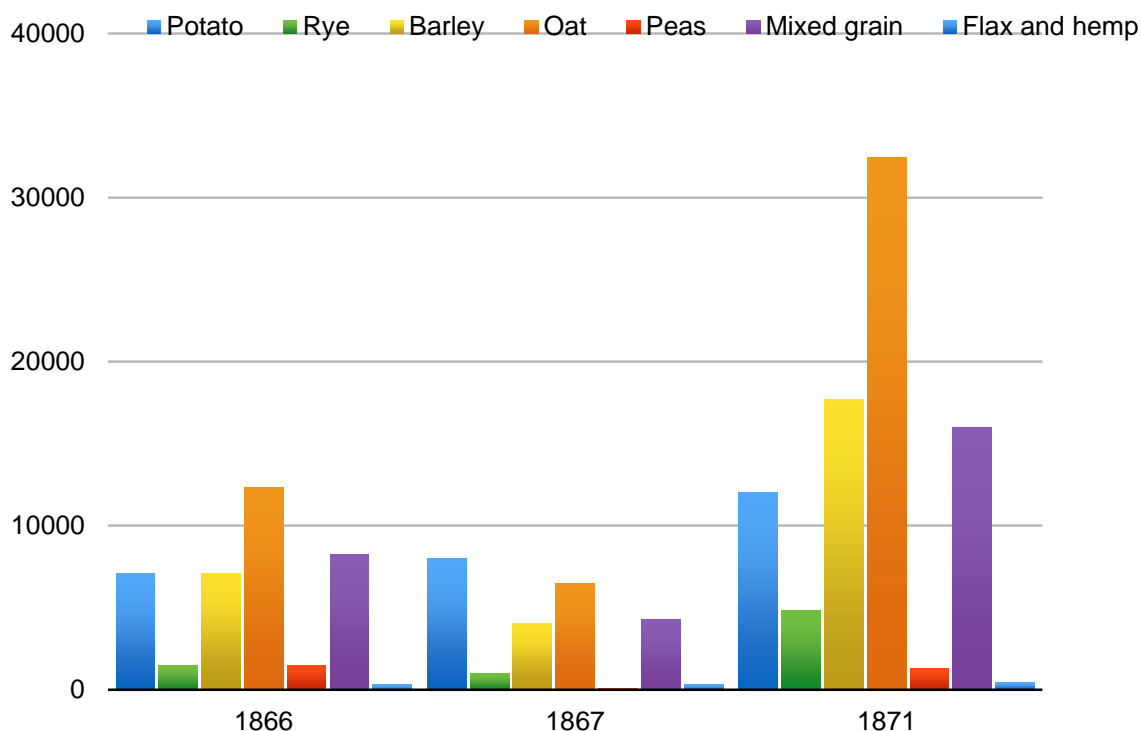


Fig. 9 Harvest outcome, Hanebo Parish in cubic foot, seeds included⁵¹. The numbers are lifted out from tables in the annual Husbandry Society Reports on national agricultural statistic.

⁵⁰ Wheat and beans seem not to have been cultivated in Hanebo. Vetch is not included but cultivated in a small scale.

⁵¹ Swede and turnips not included because only a small amount were harvested in 1871 and nothing in 1866 or 67.

As has been argued before the agricultural statistics in the 1860:s is not an exact science, and the measuring techniques are still very much in development. In the section below the three years agricultural statistics I have managed to obtain from Hanebo are presented and are studied as an estimation and comparison between the three years: 1866 is the year before the possible crop failure year of 1867, and finally 1871 is the closest year after where Hanebo Parish handed in harvest statistics to the Husbandry Society again. This was still a few years after 1867-68 and hopefully a year that can therefore indicate any possible more long term changes. In addition the year of 1871 is expected to be a fairly good weather year for cultivation.

In the charts we see that 1871 is the year with the largest harvest outcome but also the year with more seeds put in the soil. 1866 and 1867 are more similar to each other even though 1867 is the the year with the poorest harvest. We can in the figures also see that the cultivation of crops have recovered from the crisis in 1867-68, when comparing the figures from 1866 with the numbers from 1871. There is not only a recovery but an increase of cultivation, hence according to the figures there are not any long term impact of the bad harvest years in relation to cultivation. Peas, rye and oat are especially impacted negatively in 1867. Flax and hemp (not used for food though) has almost the same outcome each of the three years and the same goes for potato. If we compare the above charts with the general weather and harvest accounts in Gävleborgs County, taken from the annual Husbandry Society Reports (presented above under the section "County level") not only 1867 but also 1866 has crop damage due to frost in places and with moderate harvest as well as lack of grain for the population. The year of 1867 the crop failure are explicitly expressed in the qualitative account on weather and harvest, as well as the large lack of grain for the population. 1871 is a good weather year according to the accounts but still with moderate harvest in the autumn and frost damaged potatoes suffering from dry rot. Once again we see how dangerous frost can be for the harvest even though the weather in general are fortunate for the cultivation during a year. If to trust the figures Hanebo were not an exception the year of 1867 when it comes to harvest outcome. Instead the findings correlate with the poor harvest years of 1867 in Gävleborgs County and in Sweden. Though with only these figures it is hard to estimate how "bad" the harvest really was in relation to other years and other places. What we know is that rye was an important food crop at this time in Gästrikland and an increasing crop for cultivation in Hälsingland according to the county governors five years report. The figures also reveal some of the other crops in people's diet. Unfortunately harvest figures does not say anything about trade and connection that can mitigate subsistence crisis and both (Nelson 1988, Lilja 2009 and Iscasson et al. 2013) discovers local and regional differences in impact of crop failure and subsistence crisis. The local and regional difference in coping with a crisis can come down to landscape and geography, accessibility and the existence of additional income possibilities.

What is known from the Husbandry Society Report in 1867 on county level is that the harvest of straw was estimated as plentiful and harvest of hay from natural meadow moderate. We also know that the dairy production did not suffer during the crisis years. In the chart below (Fig.10) it is clear that the harvest of hay are the best in 1867 amongst the three years. Utterström (1957 p.??) in addition recognize that the grass prefer moisture to grow while hot conditions can be disastrous for the harvest of grass. This in line with the figures of a good harvest of hay in 1867, but it would have been interesting to have been able to compare the figures of hay harvest in 1867, with the harvest outcome of hay the hot and dry summer of 1868.

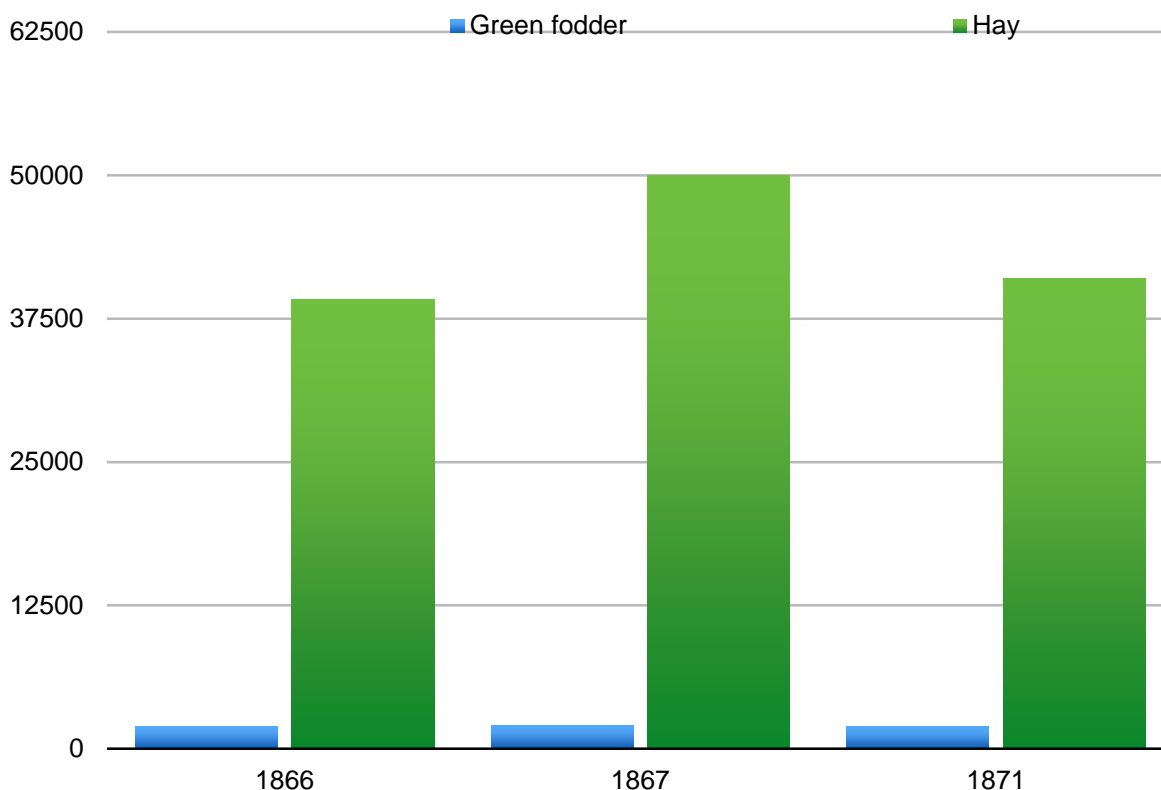


Fig.10 Fodder harvest, in Hanebo Parish, presented in cubic foot. Numbers are lifted out from tables in the annual Husbandry Society Reports on national agricultural statistic.

Coping with crisis

Minutes of meeting from Hanebo church council and church parish meetings (1867-69) have unfortunately and not as expected, given any information on the crisis years. The minutes of meeting deal mainly with school matters and a discussion on purchase of land for the parochial priest accommodation. The extreme weather years of 1867-68 does not stand out in the Hanebo church council and church parish meetings minutes in particular which suggest that the event was not regarded a serious matter and/or as something having a significant impact on Hanebo Parish and its population, worth to bring up in the council. A secondary source paint another picture though and will therefore be used, due to necessity, to broaden the understanding of experiences on local level and Hanebo Parish during the years of 1867-68 crisis. The year of 1868 is in the secondary source confirmed as the hardest years for Hanebos inhabitants, in line with the demographic findings in the parish church records. The secondary source also confirms a subsistence crisis in Hanebo much due to harvest failure, due to frost, in the year of 1867 further making impact on the year of 1868. To underline, ones again, as in the literature presented earlier on in this paper, we see how dangerous frost are in the wrong time, for the crops in this northern latitude.

The secondary source used, a book⁵² "on memories" from Hanebo written in 1952 also give the reader knowledge about mitigation strategies to prevent hunger and suffering amongst Hanebos population, during the harvest failures. It allows me to follow the course of events more closely in Hanebo in relation to the extreme weather and following poor harvest.

⁵²Frantzell, K. A. & Pontén, Ernst (red.) (1952). Hanebo: minnen och anteckningar 1900-1951. Bollnäs: Nyström

The chapter in the book about Hanebo parish on "Destitution and harvest failure"⁵³ in the book are based upon Hanebo municipality minutes of meetings⁵⁴ at least in 1867, 68 and 69 as well as grain storage accountings. As written in the beginning of this chapter, Hanebo became a municipality in 1863⁵⁵, when responsibilities were divided between the parish (church) and the new municipality. One example of responsibilities is school matters that were still lying on the parish. Issues regarding school matters I have also found in the parish minutes of meetings. This new division can explain the lack of discussion on crop failure related matters in the church accounts, even though you could expect that at least parish poverty funds would be mentioned in the church minutes of meetings. On the other hand there are separate accountings of that kept in the parish⁵⁶.

According to the book by Frantzell, the first account in the municipality minutes of meetings on harvest failure is from the 14th of July 1867, and relates to a collection of money from people in villages around the parish to help people in Norrland and not the parish (Frantzell, 1952, p.57). A list is made for the village keeper to write down the names of the donors and the amount of money donated in each village. The 30th of December the same year, 1867, it is said that the destitution are knocking also at Hanebo parish door and the municipality developed strategies how to mitigate the lack of grain for sowing and food until the next year's harvest. Ways to create earnings for those who do not have any income source are also decided on. From His Majesty the King the County Governor was requested to make an evaluation of the need of grain and resources within the parish. (Frantzell, 1952, p.58)

The result of the evaluation of the situation in Hanebo December 1867 was that almost no households in the parish had enough grains to cover their own needs and some households had nothing to use for flour and bread, due to frost damages. In some houses, within the municipality, there were already destitution. To prevent further suffering and hunger it was decided that at least 2.500 barrels of rye and barely or the correlation number of flour were needed. Tenant households under the local iron industry, *Kilafors bruk*, in total 100 household were not accounted for and 300 crofters, cottagers and soldiers were said to have no income sources at all. Recently the municipality had borrowed money for purchase land to the new priest accommodation and in addition other expenses for the municipality had soon to be paid. Hence Hanebo municipality economic situation were not ideal at the time for the crisis in 1867-68. The earlier quite extensive local lumber mill industry was also in decline, and people had lost their jobs and stood without earnings. According to the book by Frantzell six strategies were decided and developed to mitigate the situation (Ibid. pp.67-58):

1) To apply for an interest free mortgage, to be payed back the years of 1871-73. 2) To prepare for official work that could be carried out and paid in the coming spring, such as road work. 3) To purchase forest for unemployed people to produce shingles for the parish against a salary, already in the winter. (Shingles produced in the parish during the winter were also sold in March 17, 1868 at an auction.) 4) To give opportunities for the poorest part of the population for handcraft, spinning yarn and other crafts that was possible for them to do. The products were sold of later on. 5) Estate owners with crofter and cottagers on their estate should support them with work in the extent it was possible. 6) The municipality board should as soon as possible lend out money for the mitigation plan, according to the points 3 and 4 listed above. The municipality then applied for a relief

⁵³ Ibid. 1952, pp.56-61.

⁵⁴ The chapter does not have any references unfortunately, more than quoting the municipality minutes of meeting and I have not been able to relocate the exact minutes of meetings or writings despite attempts to find them.

⁵⁵ As mentioned in the introduction of the thesis a municipality reform were implemented in Sweden in 1863.

⁵⁶ Poverty funds accountings were kept by the church. There are different books kept for this particular matter, to extensive to comprehend in this particular study.

mortgage⁵⁷ on 30 000 *Riksdaler*, a smaller amount than the estimated need on 50 000 *Riksdaler*, because the care of individuals, contributing with their resources were also said to be trusted, according to the decision. The decisions made by the municipality board, was opposed by the representative for Kilafors iron work (Mr. O.H Sillén) and a complaint was made to the County governor. The master of the iron work did not want to be put in a role of solidarity responsibility and opposed the mortgage, claiming the decision was not taken according to the rules. Kilafors iron work also argued that the decision makers should take all the responsibility for the mortgage and they did not agree on the extent of the lumber mill regression within the parish in the later years, but admitted to the crop failures. After a meeting the municipality board replied that the iron work already had prospered from the crisis due to a lowering of salaries by 25-30% and possibly could further do so, if the crisis should continue. Even if the municipality meeting did not want to believe it would be the case, they could not exclude this scenario. The poverty relief was said to be everybody's responsibility and the loan was needed if the poverty relief should not fall too hard on the municipality. The pressure were already on the municipality, due to a doubling in the cost for the poor relief in the municipality the last years. The municipality council also stated that the people attending the meeting when shared responsibility for repayment of the relief mortgage was decided upon, were unanimous in the decision. It was pointed out that one to three individuals should not be able to stop a relief mortgage and the shared responsibility for the local population in crisis, therefore the protest from the Kilafors Iron work was denied by the municipality. In 1869 another smaller mortgage on 1000 *Riksdaler* was taken in the parish name, which Frantzell suggest indicates that the crisis was not totally over. (Frantzell, 1952, pp.58-61) This particular mortgage I have found mentioned in the church parish minutes of meetings as well, which confirms the reliability of the secondary source, though whether it has to do with the crises or not, remains a hypothesis.

Clear social hierarchies and differential attitudes are visible in the account above, and we also can appreciate how *the hierarchy of suffering*⁵⁸ can work within a substance crisis locally. The account also reveals the importance of the forest in the Hanebo area as an income source. The decline in lumber mill industry in the mid 1860:s, seems to have exasperated the crisis. At the same time there also exist a *resilience* for the community Hanebo with the forest landscape and forest resources. The municipality is able to mitigate the subsistence crisis amongst unemployed through purchasing forest and produce wood products.

It is stated in the book by Frantzell that beggars were also common in times of crisis and a system with a beggar club was coordinated. The club went around households and the beggars could expect food at the household that housed the club at the moment. No food was supposed to be handed out to young men able to work, instead they should be offered to work for food. People that had owned storages before should not be given food. Beggars from another parish were to be jugged and thereafter bundled off to their own parish. (Frantzell, 1952, p.58) Here the importance of *exchange entitlements* are evident in relation to the crisis. We see above how the entitlement for beggars of getting food or work or get nothing at all depended on their sex, age and geographic belonging or even former registered resources (or former registered *ownership bundle* to use Sen's concept) .

There were six village grain storages within Hanebo at the time for the crisis. These were used before and during the crisis. In the place Lilltjära only a small amount of grain had been possible to storage since 1865. In addition a smaller amount of flour came from Russia. custom was to pay an interest after borrowing from the grain storages, but during the years of 1867-68 most people

⁵⁷ I have chosen not to write down all the exact numbers of mortgage, poor relief, salaries etc. (even though they are written in the book) due to difference in value to today and for the clarity of my text. The actions made and the accounts are more relevant in relation to impact of the crisis years than the exact figures, per se.

⁵⁸ See the theory section and Hunt, 2009.

could not pay an interest (consisting of grain) for taking out grains from the village storages. Relief of interest payments were granted for some people in the 1870 but others were not mortgage free until the year of 1874. Ibid. p.61.

Arnold has thoughts on how famine can be viewed as an *event*⁵⁹ and how the researcher can investigate the course of the event within the crisis of famine as discussed in chapter 2. I have earlier raised the question when a famine does begin and when does it end? In the Gävleborgs County Governor Five Year account⁶⁰, there were no visible signs of the subsistence crisis in the present, instead it was handled as a past event in the text. But in Hanebo we suddenly have a secondary account of individual households in grain debt as late as the year of 1874. How stressful this was for the individuals in debt we do not know, but clearly, as Arnold points out, the beginning and end of a famine (in this case a subsistence crisis) depends on who you ask.

Conclusions Local level, Hanebo Parish

This study use different kind of empirics on the local level than on the national and regional level. Out of the demographic survey on ten years of church records some interesting findings have been made suggesting that the year of 1868 was something out of the ordinary. One strong indication is the epidemic outbreak of typhoid, a disease connected with famine, both in the academic literature and in the contemporary official health report in Sweden. Mortality and births were even in numbers in the year of 1868 taking out the one and only stillborn this year from the birth rates. The demographic trend becomes negative if we put the one and only stillborn this year amongst the dead instead of amongst the born. 1868 is also the year that had the lowest numbers of marriages and births in the whole studied ten years period. In addition if not counting 1865 with the highest death rates due to scarlet fever amongst children (an outbreak not relevant in relation to famine and hence not for this study), 1868 also have the highest mortality in the studied ten year period. In addition generally low harvests have been found on the parochial level in the extreme weather year of 1867.

The Hanebo church council and church parish meetings (1867-69) are surprisingly silent about the crises and no entries were made during these years that can help us understand the crises from a local perspective. However, from the secondary source based on municipality meeting minutes, the original of which I have not been able to recover, the crisis is explicit during the year of 1868, confirming the findings from the original sources used. The municipality had depleted funds at the time for the subsistence crisis and therefore took out a mortgage for relief funds. The municipality board also made decisions to create work opportunities for unemployed within the parish. I have also discovered social hierarchies within the society, affecting the relations in the period of crisis which also made impact on what kind of help people got. To underline the importance of my findings and to conclude the analysis of local level events, the secondary source confirms the findings from the primary sources and strengthens the indications of a subsistence crisis within Hanebo Parish in the year specifically of 1868. Furthermore the result of the study on local level confirm the findings on national and county level and vice versa.

⁵⁹ See theory section and Arnold, 1988.

⁶⁰ The years 1866-70 (1871)

Concluding discussion

To remind the reader, the two initial questions posed in the introduction to this study were as follows;

1) *-What kind of immediate impact had the two extreme weather years and following harvest failures on a county and local level and are there signs of a subsistence crisis?*

2) *-How were the coping strategies and discussions formed around the event of extreme weather and the following harvest failure in 1867-68, on a national, regional and local level?*

To begin with the first question, even without the personal voice of any subject of the crisis in this study, I have presented debates and statistic around the years 1867-68 on three different geographical levels; national, regional and local. Gävleborgs County and Hanebo Parish, in south west of the province Hälsingland. As I have shown here Gävleborgs County and Hanebo Parish, possesses northern cultivation conditions, with a short growing season, that is sensitive to cold weather during cultivation season and early frost as we have seen occurred in the extreme weather year 1867.

From the empiric material on the national, regional and local level there are signs of a subsistence crisis in the years of 1867-68. The immediate impact from the extreme weather and following poor harvest found in the empiric material reveals a subsistence crisis regionally and locally. There are signs of food and resource scarcity with use of supplementary food and slaughter of cattle, unemployment, poor relief systems and organization in action and emigration. Hunt (2009) mentions unemployment as a ripple effect of famine when poor harvests leave people without work. As more people becomes available there is a working force surplus and people are having a hard time to support themselves, as is mentioned in Gävleborg County Governors Five Year Report 1866-1870 (1871) as an effect of the crop failure in 1867. During the crisis period people got help from public work projects through handcraft of mainly flax and Hanebo Parish municipality had to take at least one relief mortgage and also plan for relief projects to alleviate a hunger crisis. Many people within Hanebo had no grain to cover their own needs and they were also out of work according to the book by Frantzell (1952). In addition the book from 1952 about "Hanebo memories" also reveals a social conflict ignited due to the subsistence crisis between the local municipality board and the local iron work company. Social instability can, as we seen in the literature, also be a feature of crisis.

On the parochial level all demographic signs of a subsistence crisis or famine are found: Decrease in birth and marriages, higher mortality and an epidemic outbreak of a disease that can have a relation to famine and changed social patterns and behavior, such as crowding in houses or towns and change in hygiene habits. Even though there is no evidence of crowding (due to changed social patterns) during the crisis years in 1867-68, it is probable that the signs of a typhoid outbreak within Hanebo Parish in 1868 are related to the ongoing subsistence crisis.

On the other hand, we have seen in the paper that other places might have been affected more by the years of harvest failure. Norrbotten and Västerbotten for instance, had more money and commodities sent to them from Stockholm Aid Committee for Norrland, than Gävleborgs County. One theory explaining the differences between the counties in Norrland that need further investigation is the impression that, when the crisis hit the region, Hälsingland was quite wealthy, as due to diversified natural and geographical conditions there were many different options in supporting

yourself or your household, at least if you were male. Dairy production (the female sphere) in addition seems to have managed quite well during the extreme weather years and harvest failures and fish was also a large part of the diet even before the subsistence crisis. Even before the railway reached Gävleborg the county was also quite accessible as the coast, rivers and lakes was communication routes. Gävleborgs County, being placed in the south of Norrland, is not as isolated from the central areas of Sweden and the capital of Stockholm as other parts of Norrland are. Communications and accessibility to aid and markets are good assets for a region to have when there is a subsistence crisis. All this accounted for above was making the Gävleborg region more resilient against crop failure and following subsistence crisis than for instance Norr- and Västerbotten.

To sum up, there are clear signs of a subsistence crisis exist in Gävleborgs County and Hanebo Parish during the years of 1867-68 and no doubt these years were very hard times for people. But some correlating natural, social and economic factors might have made the crisis less severe than further north in Sweden. In the Gävleborg County Governors Five Year Report 1866-1870, written in 1871, the crisis years are handled as an event of the past and the experience does not seem to have affected the present society at the time of the reporting to believe the County Governors text. Of course, this is in the eyes of the County Governor and not the individual farmer. And as we have seen there are accounts on people in grain debt in Hanebo parish six to seven years after the crisis in 1867-68, according to Frantzell⁶¹. The crisis event which get the most attention within the five years period in the County Governors report are instead the great fire in the town Gävle in 1869. This might of course not only be due to the severity of the two crises in relation to each other but more due to the character of the event. A great city fire is an extraordinary and costly event not occurring now and then within a pre-industrialized society in the same ratio, as crop failure does.

Following section are in response to question two. In the empiric material presented in this paper there are different and more or less immediate coping strategies in relation to poor harvest. Two kinds of coping strategies have been found in the material: One: Actions which are taken to alleviate the acute situation. Two: suggestion of actions to prevent similar situations in the future (the last one to be expected due to the character of some of the empirical sources, being official reports and as we seen, written with a delay).

There are coping and mitigation strategies found in every layer within the society from the governance down to the individual household. Coping and mitigation strategies, found in the study, include individuals or organizations giving money or commodities, one example is Stockholm Aid Committee for Norrland, Interest free mortgages are another coping strategy for improvements in gain for the society and to put people in work. Advices when it comes to sustenance are also given out such as blending out bread with bark or eating lichens. Both on national and regional level the use of lichens and bark in food are recognized in the official reports. On national level there are also discussion of the national agriculture statistics and how it can be used, to put in the right amount of help in time in case of harvest failure in some part of the country in the future.

We also see how social hierarchies come into play and are affecting the situation for individuals within times of crisis both in good and less good ways. A good way can be aid initiatives form above the social hierarchy, as in the Stockholm Aid Committee for Norrland. Top-down attitudes in reporting and writings has been discovered in the empiric material, and there are from this point of view clearly a "we" and "them" thinking in the present society hit by harvest failure and following subsistence crisis. The social hierarchy is seen on all levels of the society, the local iron-work which does not want to support their workers during hard times, the regional doctor who

⁶¹ Frantzell, 1952, p.61.

seem to have a moral cultural distance towards his "populace" patients and the writer of the "Statistical Review" for the whole of Sweden expressing a distance in understanding peoples urge for societal and political change during subsistence crisis.

In the eyes of the governance the end and the beginning to "the event" of crisis can be totally different from the individual household. Hence the empirics of this study due to lack of individual accounts from the once direct suffering from the crisis in the year of 1867-68, are not sufficient to answer the question of when different people within the hierarchy of suffering in 1860:s Sweden established the beginning and end of the present crisis.

As stated in the purpose of the thesis: The study will investigate impacts of sudden extreme weather and crop failure and look for sings of a subsistence crisis on regional and local level in the years 1867-68. The empirics will be analyzed trough demographic methodology often used to evaluate "famine-like" situations, theories on famine and its causes and the three concepts: vulnerability, resilience and exchange entitlement. This will be discussed further below.

The empirical findings of subsistence crisis

This study is mainly qualitative. In the empiric material used, there is sometimes only a hint of a situation, or one single action mentioned in relation to the ongoing subsistence crisis. Such hints or a single mention of one action says something and point towards one direction or another, but you can never draw general conclusions from one single account on one single event even in a qualitative study. In interpreting the findings presented in this paper through theories of famine and previous research made on extreme weather and harvest failure within similar agricultural societies, the empiric findings get a bigger context to support them or not. With this in mind signs of a subsistence crises are found in the empiric material approached in this study and hence the conclusion is that a subsistence crisis occurred in Gävleborgs County and Hanebo Parish the years of 1867-68.

Hierarchy of suffering and attitudes

On the national level the documents I have analyzed describe a top down decision line, right from the state, usually in the name of His Majesty The King, on how and why to do national agriculture statistics. In the Husbandry Society Report from 1867 one of the motivations for raising the quality of the statistics is the argument that good statistics will facilitate a quicker action chain in case of crop failure and also to distribute the right amount of help to the right places in time. In an almanac given out by privilege of The King, in 1868, there is one text about the importance of harvest techniques and the role the agriculturalist has in harvest failure. The text also relates to the hard last years and how this would have shown the importance of salvage the harvest in the right way to decrease the risk of crop failure, something you really think the individual household, dependent on their production as livelihood, already would know and care about. The "blaming the peasant" attitude I have found in the material are also described by Arnold (1988) as something developed during the nineteenth century. On the regional level a similar attitude towards the populace can be found in the annual account made by doctor Beskow, Söderhamns provincial doctor (Yearly National Health Care Report 1867). It is clear by doctor Beskow's account that the doctor have another social status within the contemporary society than the "populace" and this is affecting his account on the state in the region, connecting epilepsy with masturbation and complaining about the coffee the populace drink. Peculiar enough he also does not mentions any crisis in his account for the year of 1867. If the account is written in retrospective, as we have seen in the case with The County governors five year report, treating the crisis as a past event, then this might explain Beskow not empathizing any crisis. We also know from the church record that at least in Hanebo the tyfoid did not appear until 1868 and of course this could have been the case in the Söderhamn

region as well, where Beskow worked. Explaining why he did not mention the decease in his annual account för 1867. Still you would think he would have mentioned something if there was any situation out of the ordinary in 1867.

Even if these accounts mentioned above are not specifically about the subsistence crisis, the attitudes and social hierarchies that are revealed in the accounts are for real and made in the time a real impact in peoples lives. This maybe even more in places where a subsistence crisis are at least affecting parts of the population and often make impact on the ones with lower status and less resources within the same context. Decision makers, people in power or with monetary resources can have the action space to avoid being personally affected by food and recourse scarcity in the first place, and thus has a distance to the experience of the crisis. Possibly they also beforehand have a cultural and social distance to the people of less resources and lower social status. Still individuals in the higher up in the social hierarchy are the ones taking decisions on the matter of a subsistence crisis though they are not the subject of the experience of the crisis. This in turn is part of the brick work in *the hierarchy of suffering*, when people with lower status in the society tend to die first in famine.

This study has not focused on the victims of typhoid (only the occurrence of the disease within a famine context) and therefore I don't know the social stratification of sickened or deceased. It is said that illness do not know class (and that is more or less true within a society without modern health care if you already are infected) but the higher up in the social hierarchy you are, the larger action space to choose and avoid situations you have (as discussed above). In other words, with high social status or monetary resources you have more exchange entitlements within the hierarchy of suffering of famine and not only during ordinary circumstances.

Mitigation, resilience and vulnerability

As I already made account for there are signs of a subsistence crisis in Gävleborgs County and Hanebo Parish in the years of 1867-1868, hence mitigation strategies to cope with the situation is also to be expected.

In Gävleborgs County the sources (as also discussed above) show a diversity of income possibilities, thanks to and depending on natural resources in the landscape; mills (need a stream), forest industry, iron industry, cattle barns and related products, cultivation, transportation for companies and annual market to sell commodities and production of flax commodities. Of course not every income source is mentioned above but the range of income opportunities shows a variety which can indicate a resilience in a pre-industrialized society, meaning that the range of livelihood made households less vulnerable as a whole to fluctuations in demand or weather. In other words the risks are more spread in Gävleborgs County than compared with a society mainly depending on for instance cultivation (see e.g Isacson et al. 2013).

Flax and flax products are a characteristic commodity of Hälsingland. One poor relief action from the authorities during the crisis was to purchase flax and let people who were not able to support themselves work the flax and make craft commodities to sell. This is a mitigation strategy with use of local raw material. Mitigation strategies can also be a sign of crisis, here we have the already mentioned bark bread and guesses can be made that the individual household made more efforts than this to alleviate hunger and worsen resource crisis. This is also shown in Isacson et al. (2013) paper on mitigation strategies and resilience.

The interest free mortgages for different kinds of improvement projects such as improvement of dairy commodities, increasing of arable lands and road project made during the five year period of 1867-70 in Gävleborgs County can also be interpreted as long term mitigation strategies to make a society in transition more resilient.

No findings in the empiric material point towards any deeper human - environment system thinking in relation to the subsistence crisis and how to better balance the dependency of ecosystems for human livelihood for alleviating forthcoming crisis. Instead changes made are only to adjust the nature to human needs through for instance watering of meadows, drying of lands to make the land less prone to frost and already existing cattle breeds are "improved". There is no longterm sustainability thinking (in a modern sense) found in the material that make a deeper analysis on the complexity of the reasons for a subsistence crisis, as shown in the literature (e.g. Arnold 1988, Edvinsson et al. 2009 and Lilja 2009) connecting crisis with long-term structural economic, social, environmental and political factors as correlating causes for the subsistence crisis.

Exchange Entitlements

Entitlements is something Lilja (2009) and Arnold (1988) brings up in relation to the peasantry (in turn based on Sen). I would like to add the notion of obligations in this context as well. There are a lot of obligation in a society suffering from subsistence crisis and not only exchange entitlements.

One striking theme throughout this whole study is the theme of power in relation to crisis no matter social, subsistence or climatic crisis. Lilja (2009) took up the aspect of power in his study on the 1690:s crisis. The ones in power, a governance or people of wealth, set the rules for poor relief. This is evident in the empiric material when it comes to relief mortgages and work accomplishments on official projects as demand for getting the interest free mortgages. (Nelson 1988, as shown, also find this in her study). At the same time people have exchange entitlement through their endowments, they also have obligations in relation to the authorities, as shown in this specific case. You do not get help if you do not work for it and the work task is already decided from above in the hierarchy of power.

Exchange entitlements change in times of crisis when your endowments are less worth cause of more people offering their services and less work are needed. Then as mentioned above it is good to have access to diversified income sources within a society and hopefully not all businesses are affected by the crisis the same way. People who are not able to work are always exposed even during normal circumstances, but peoples action space diminishes even more in times of subsistence crisis. My interpretation of *exchange entitlements* and as used in this study is that it is *a certain amount of actions space within a specific context*. If you happen to have a scarce commodity in times of subsistence crisis then your *exchange entitlement* can be altered to the better in relation to the crisis. In Hanebo Parish, according to the secondary source written by Frantzell in 1952, we see how different people have different *exchange entitlements* in relation to begging. The ones not from the parish has no legitimacy to beg within Hanebo Parish at all, and as Sen`s theories goes the entitlement one possesses has to be legitimated within the same context. In other words, according to the findings, your *exchange entitlement* can depend on geographic decent as well.

Further research

As already been touched upon, famine as subject has been rigorously researched through time and space and in all parts of the world. Connections to weather and crop failure are in addition also very well researched. Still, I would like to suggest another research project that builds on my study. In a master thesis there are many interesting aspects of the subject you have to dismiss. A research project obviously too large for a master thesis but an interesting one, would be to study Finland, Västerbotten and Hälsingland in relation to each other. This would elucidate how different social, political, geographical and landscape etc. conditions during the same years and approximately the same weather has various impact for people in a society. This would be particularly interesting if combined with a gender approach to the research questions to evaluate possible gender related issues in relation to famine. The suggested study would also go deeper in to the

”natural” archives of this time, something which could not be done in this study. Apart from including natural archives further research on this matter should include personal accounts made by the actual subjects of the crisis, people who experienced it first hand from both sexes (in the end an unwillingly but unfortunate lack in this paper). One intriguing topic would also be to investigate how people’s minds are impacted by subsistence crisis. In other words, to study eventual psychological impacts due to ”bad weather” and subsistence crisis.

The picture

I will end this this by reflecting back on the picture in the very beginning of this paper. Can something be added to the understanding of the picture of the ice-breaker and the food ship on midsummers day the 24:th June, 1867, in relation to the study made? As pointed out already in the beginning we can suspect that the food ship are not coming for the people in the picture. The men in the picture live in an area, as the findings of this this has shown, with a sudden event of extreme weather and subsistence crisis, but they are possibly not the subject of the subsistence crisis. The men (and only men) we see in the picture, obviously except from the artist, are probably not farmers either. We can sense a gender perspective to the whole situation. The picture show the viewer an extraordinary event, something out of the ordinary, such as subsistence crisis are for the suffering, but it is not suffering shown in the picture rather I sense an excitement in the special occasion. The picture also confirms sources on poor relief action to Norrland, but this ship are coming to Söderhamn and Stockholm Aid Committee for Norrland did not ship anything to Hälsingland according to their accountings. Are this ship just passing by or is it from another help initiative? Still it was ice on midsummer day.

Relevance for the future

This study shows that 150- years ago a county as Gävleborg was more or less self-sufficient but still vulnerable to sudden extreme weather events. Local self-sufficiency is discussed in the present day climate debate, when it comes to environmental friendly solutions to global natural recourse scarcity and for diminishing carbon emissions. Maybe we in Sweden can learn from the reports used in this study, and other historical sources from this time, what to grow and what to do or not to do, when building more self-sufficiency as a country. The study also shows that state incentives and publically organised incentives can mitigate disaster both over short and long term. Maybe the transition period of the 1860:s can also give the courage and inspire, to partly transition our own society, mixing the good resilient advantages we have from the modern industrialized society in the present days, with good ways from the past? Growing our own grey peas as in the past in our own time of transition.

Ellen Lindblom,
Uppsala i May, 2015.

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