Appendix 3

The Ilmenite Project
Social Baseline
Appendix to SIA

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1 Social Baseline

This document describes the social baseline situation prior to the construction phase of the Ilmenite Project.

The aim of the baseline is to provide information on demographic as well as economic conditions and trends, political structures, local organisations, cultural traits, and other factors that can influence the way in which affected communities will respond to anticipated changes brought about by the Project. The baseline is also used to predict in which way the Project will be affected by these factors.

The baseline study is based on review of secondary resources combined with information obtained through qualitative methods.

The social baseline presented in this document describes the current situation, but does not analyse on the project's potential impacts on the baseline situation. These analyses are presented in the SIA-report.

2 Demographic profile

2.1 Population

On the 1st of January 2018 the population of Greenland was 55,877 people. As seen in Figure 1 the change in population over the last 10 years has been limited, but decreasing. Between 2008 and 2018 there has been a decline in the population of approximately 1 %. The variations in the population is closely related to the migration patterns, which are further described in section 2.3.

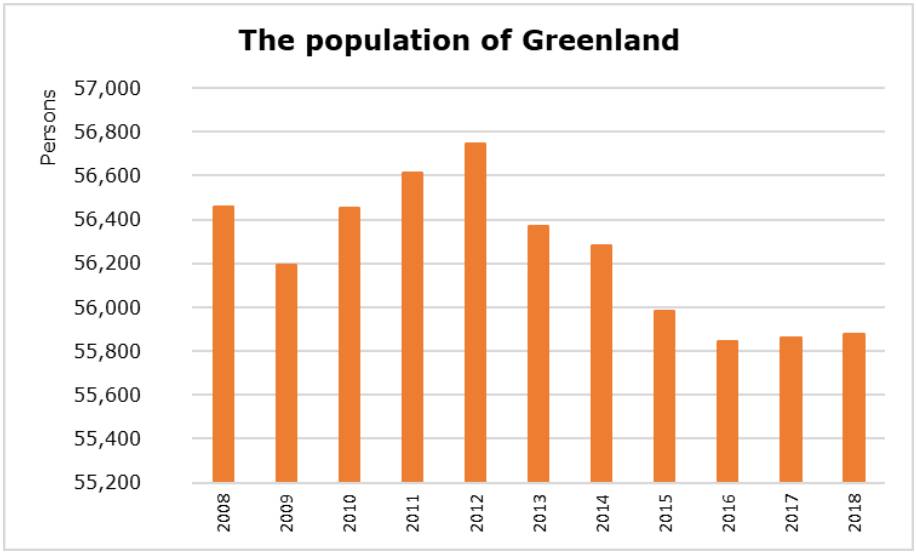


Figure 1: The population of Greenland (Source: Statistics Greenland, BEXST1)

The population forecast made by Statistics Greenland is shown in

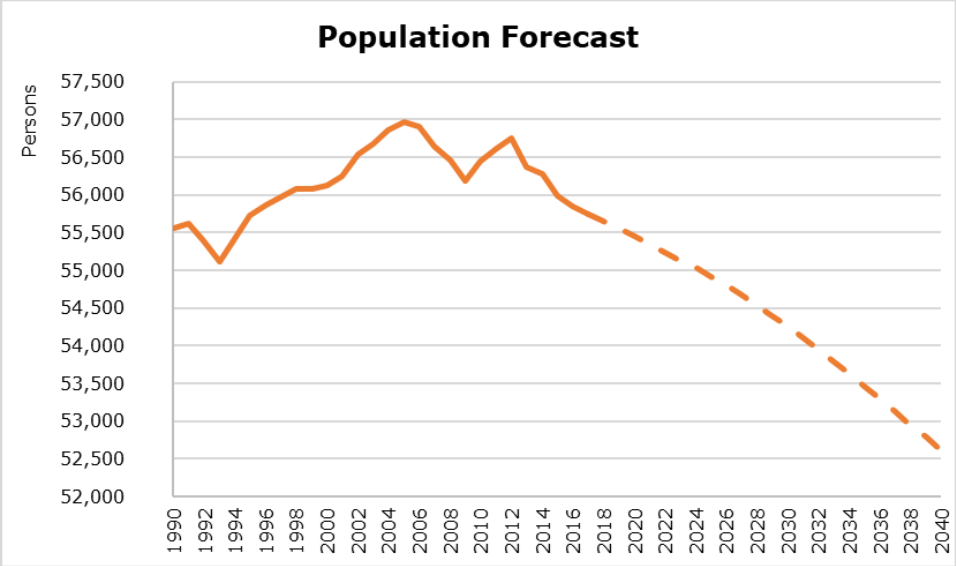


Figure 2, and indicates that the population of Greenland is going to decline by approximately 6 % by 2040 compared to 2017 levels.

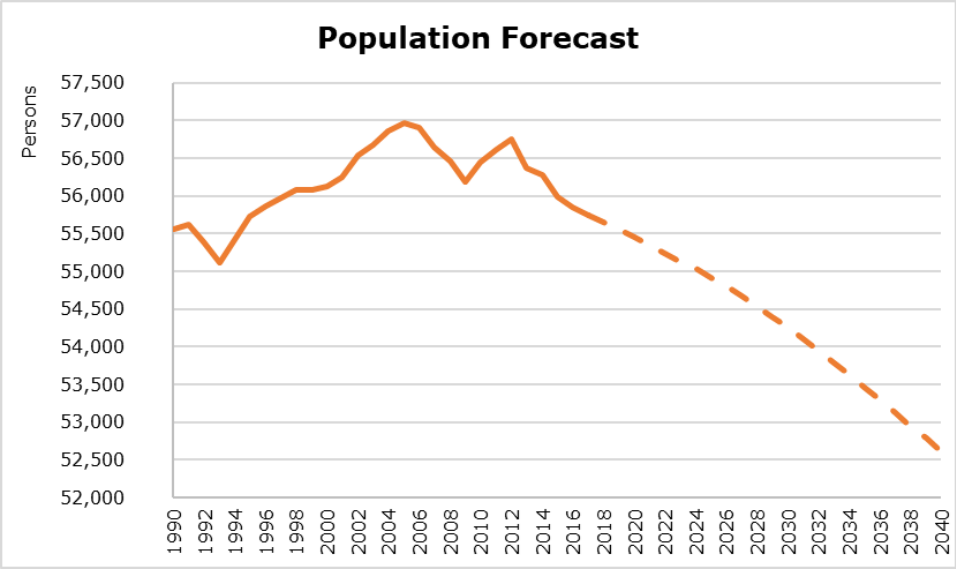
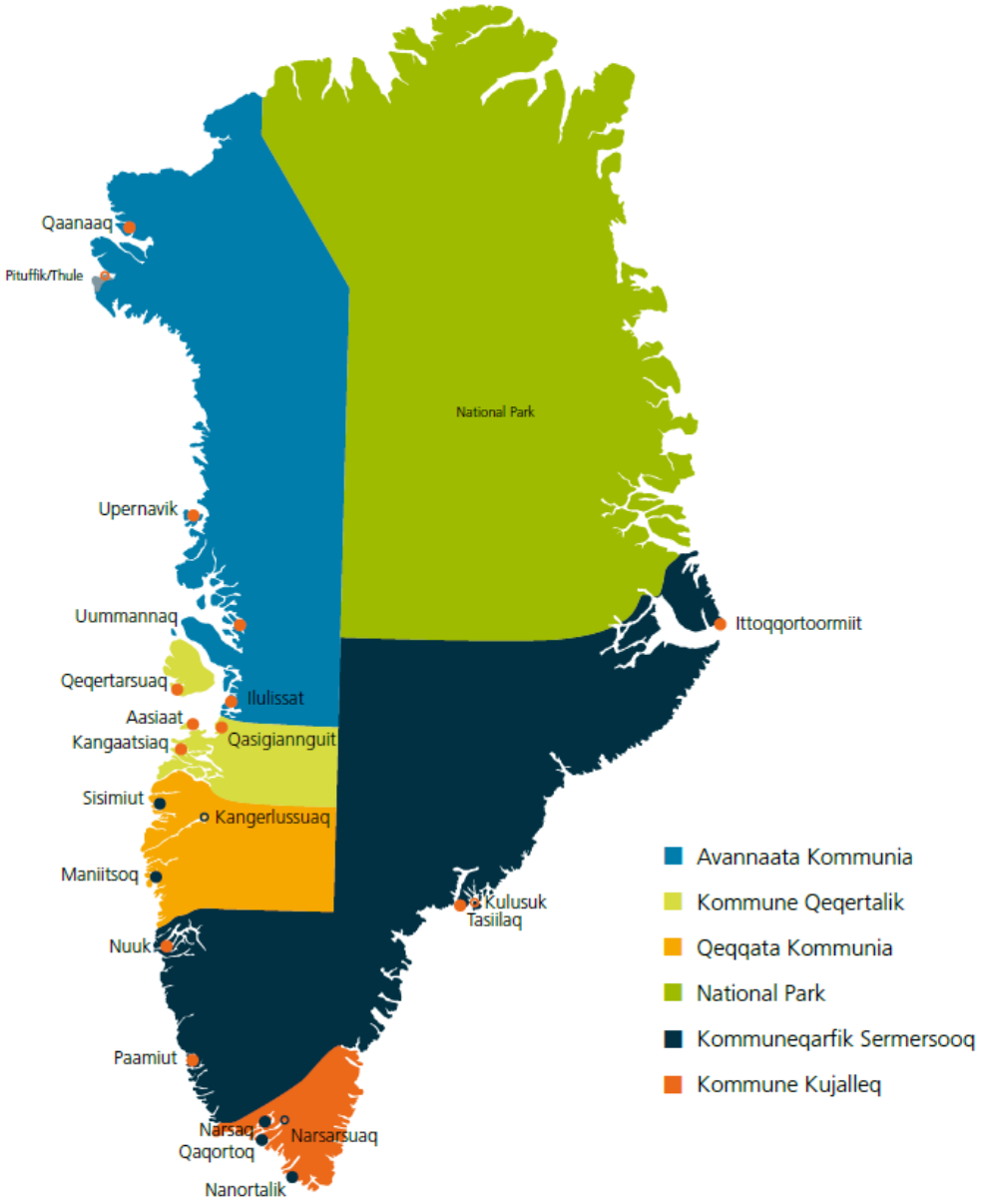


Figure 2: Population forecast 2017-2040 (Source: Statistics Greenland, BEXTPROG)

Greenland is divided into five municipalities and the National Park in northeastern Greenland. Until January 2018 there were four municipalities, as the Municipalities of Avennaata and Qeqertalik was one municipality called the Municipality of Qaasuitsup. Figure 3 below illustrates the boundaries of the five municipalities and the National Park.

Figure 3: Map of Greenland (Source: Greenland in Figures 2018)

The Dundas Ilmenite Project is located in Municipality of Avennaata, 80 km South of Qaanaaq. Due to the recent split of the Municipality of Qaasuitsup, there are limited statistical data available for the Municipality of Avennaata. Consequently, statistics from the former Municipality of Qaasuitsup will in some cases be used to describe the regional baseline situation.



The Greenlandic population is unequally divided between the five municipalities. As seen in Table 1, the Municipality of Sermersooq has the largest population; 40.7 % of the Greenlandic population is residing here. Nuuk, Greenland's capital city, is located in the Municipality of Sermersooq, and is home to almost 18,000 persons.

The Municipality of Avannaata had a population of 10,584 persons on 1 January 2018, and is the second most populated municipality in Greenland. Table 2 shows the distribution of the population in Avannaata. The majority of the people live in the south of the municipality, in the towns of Ilulissat, Uummannaq and Upernavik or in settlements in the surrounding areas. 753 people live in Qaanaaq or one of the three settlements Savissivik, Siorapaluk and Qeqertat.

As illustrated in Figure 3 Qaanaaq is the most northern town of Greenland and is isolated from the rest of Greenland. Qaanaaq town is located 80 km North of the Dundas Ilmenite Project, and close to Thule Air Base, an American Air Force base.

The only way to get to and from Qaanaaq town is by plane. There are flights to the town once a week. The population of Qaanaaq[1] has been decreasing during the past ten years. Figure 4 Shows a decline in the population of approximately 2 % between 2008 and 2018.

Table 1: Population distribution between municipalities, 2018 (source: Statistics Greenland, BEXST3)

	Population	% of total population
Greenland	55,877	100 %
Kujalleq Kommune	6,624	12 %
Sermersooq Kommune	22,738	41 %
Qeqqata Kommune	9,295	17 %
Qerqertalik Kommune	6,533	12 %
Avannaata Kommune	10,584	19 %
Outside Municipalities	103	0 %

Table 2: The population distribution in Avannaata, 2018 (Source: Statistics Greenland, BEXSTK3)

	Population	% of population
Avannaata Kommune	10,584	100 %
Ilulissat	4,905	46 %
Uummannaq	2,228	21 %
Upernavik	2,698	26 %
Qaanaaq	753	7 %

[1] Qaanaaq = Qaanaaq town + the surrounding settlements are includes

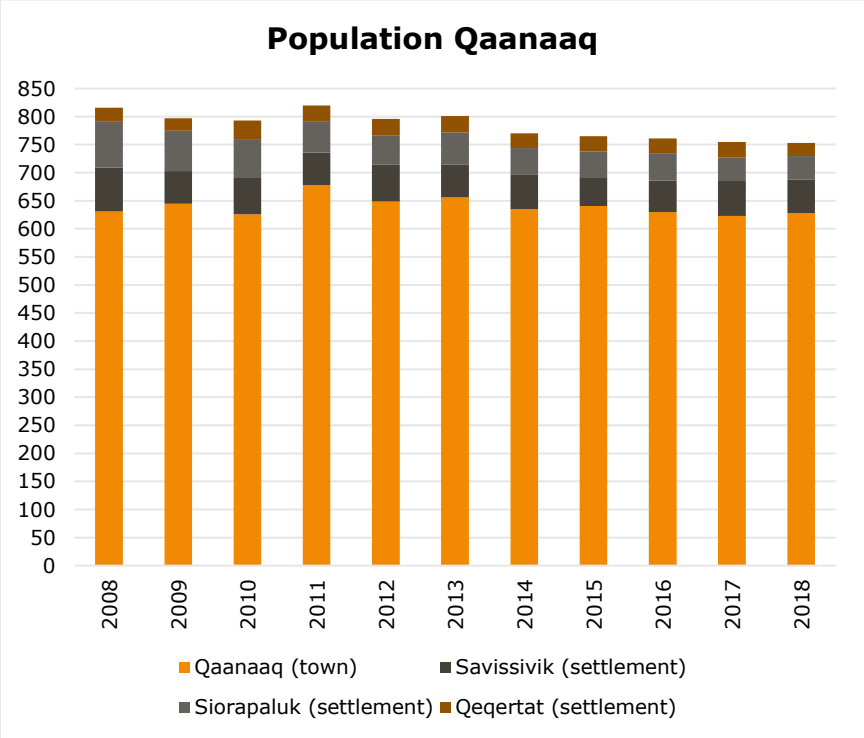


Figure 4: Population Qaanaaq (Statistics Greenland, BEXST4)

2.2 Ethnicity, age and gender distribution

The majority of the people living in Greenland are born in Greenland. As Table 3 shows, 90 % of the population are born in Greenland, while 10 % were born outside of Greenland. More than half of the population born outside of Greenland are living in the municipality of Sermersooq.

Table 4 shows that out of the 10,584 people living in the Municipality of Avannaata, 519 have been born outside of Greenland which is equivalent to approximately 5 %. The majority of the people born outside Greenland live in Ilulissat. In Qaanaaq, 24 residents have been born other places than Greenland. This is equivalent to approximately 3 % of Qaanaaq's population.

Table 3: Ethnic composition in Greenland, 2018 (Source: Statistics Greenland, BEXST3)

	Born in Greenland (% of total population)	Born outside of Greenland (% of total population)
Greenland	*90 %*	*10 %*
Kujalleq	11 %	1 %
Sermersooq	34 %	7 %
Qeqqata	15 %	1 %
Kommune Qeqertalik	11 %	0 %
Avannaata	18 %	1 %
Outside municipalities	0 %	0 %

Table 4: Ethnic composition in Avannaata Kommune, 2018 (Source: Statistics Greenland, BEXSTK3)

	Born in Greenland	Born outside of Greenland	Born outside of Greenland %
Avannaata Kommune	10,065	519	5 %
Ilulissat	4,538	367	8 %
Uummannaq	2,145	83	4 %
Upernavik	2,653	45	2 %
Qaanaaq	729	24	3 %

There are slightly more men than women living in Qaanaaq. This gender distribution is also seen across the rest of Greenland. Figure 5 shows the age and gender distribution in Qaanaaq. It illustrates that Qaanaaq has a growing elderly population, and that a large part of the population is younger than 15 years old. The rest of Greenland also shows the same trend, although the difference in the size of the age groups is less extreme than for Qaanaaq.

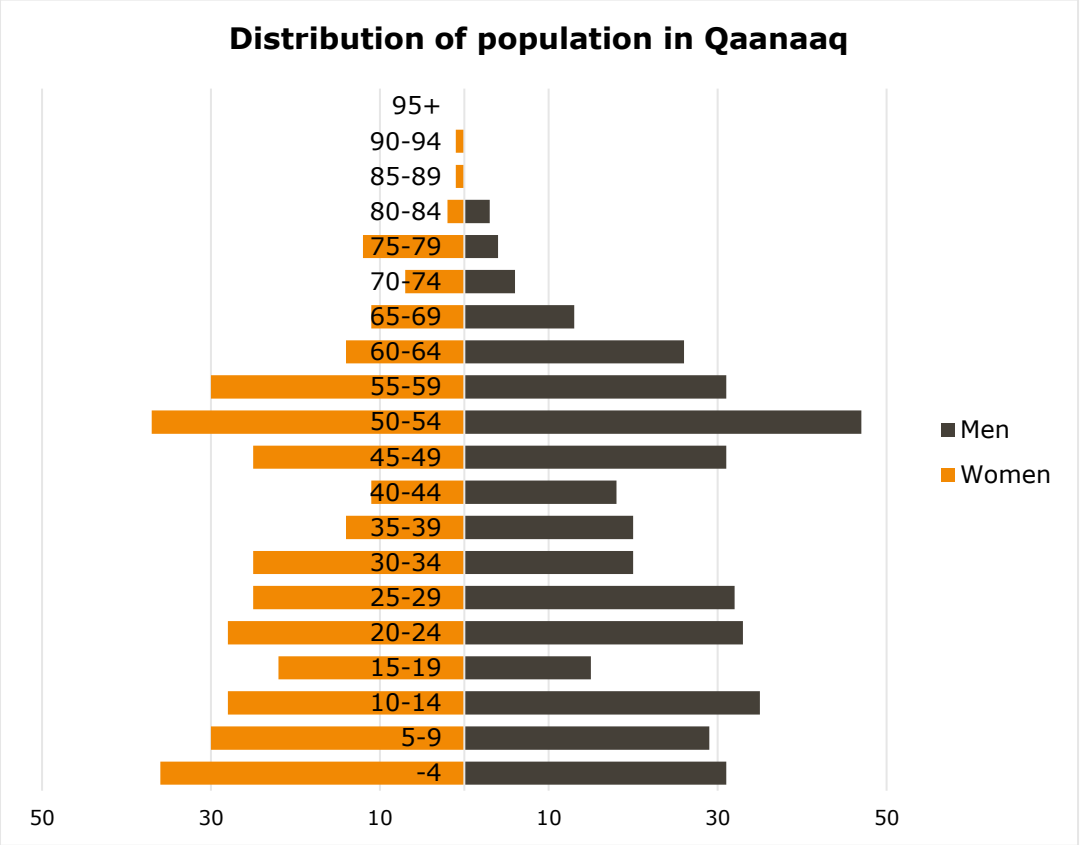


Figure 5: Population pyramid, 2018 (Source Statistics Greenland, BEXSTK3)

2.3 Migration patterns

In the period between 2007 and 2017 the net migration in Greenland has been negative. As shown in

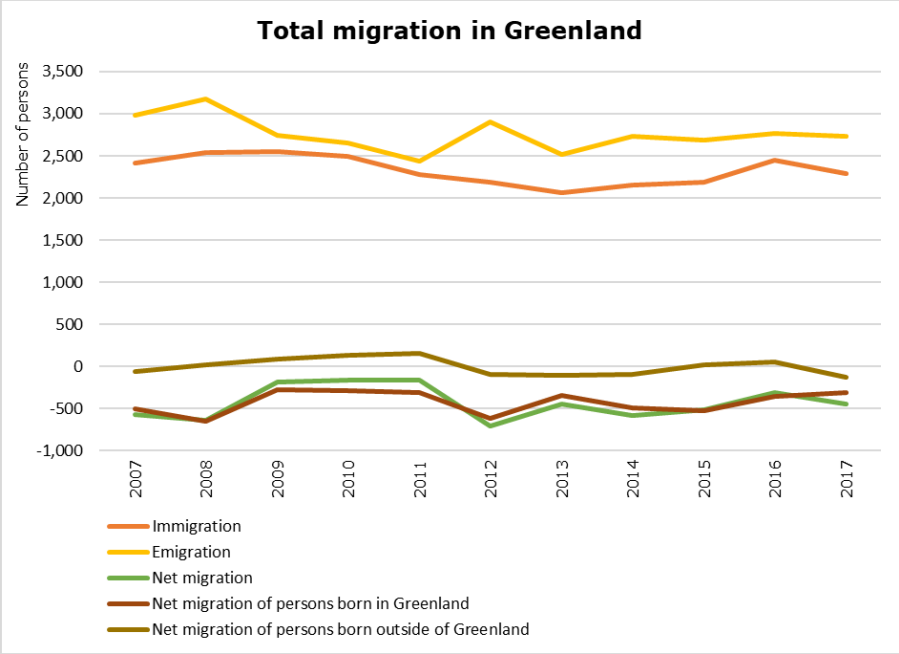


Figure 6 the number of people, who have emigrated from Greenland, is larger than the number of people, who have immigrated to Greenland. This trend is contributing to the decline in population that Greenland is experiencing. In 2017 the net migration was -449 persons.

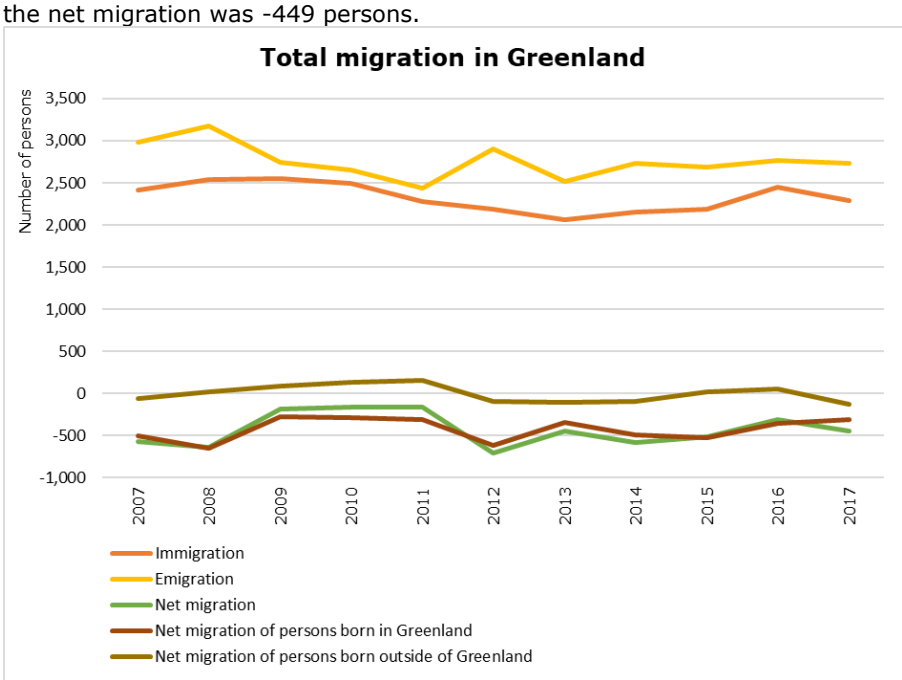


Figure *6* also shows the development in the net migration for people born in Greenland and people born outside of Greenland. The net migration for people born in Greenland is negative. This indicates that more people that are born in Greenland, emigrate to other countries, compared to persons returning to

Greenland. The net migration for persons born outside of Greenland fluctuates around zero.

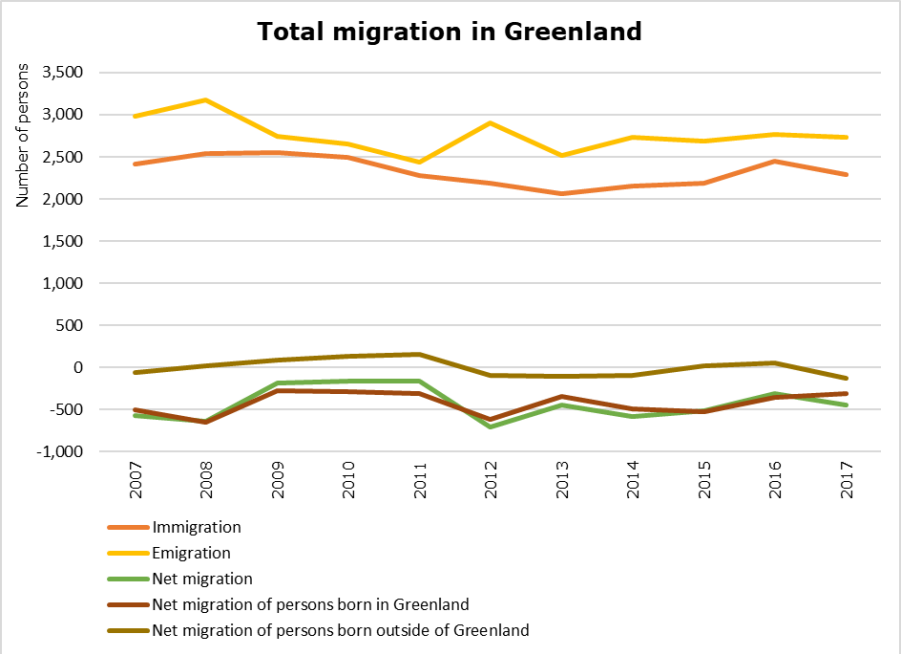


Figure 6: Migration in Greenland (Source: Statistics Greenland, BEXBBIU2)

The migration pattern for the Municipality of Avannaata is slightly different than from the rest of Greenland (. The number of people leaving the municipality, and moving to another country, is almost the same as the number of people moving to the municipality, from outside Greenland. In 2010 and 2017 the number of people moving to the Municipality of Avannaata was higher than the number of people moving from the municipality. Between 2007 and 2017 the net migration in the Municipality of Avannaata was -45, which means that the number of people emigrating was 45 persons higher than the number of people immigrating.

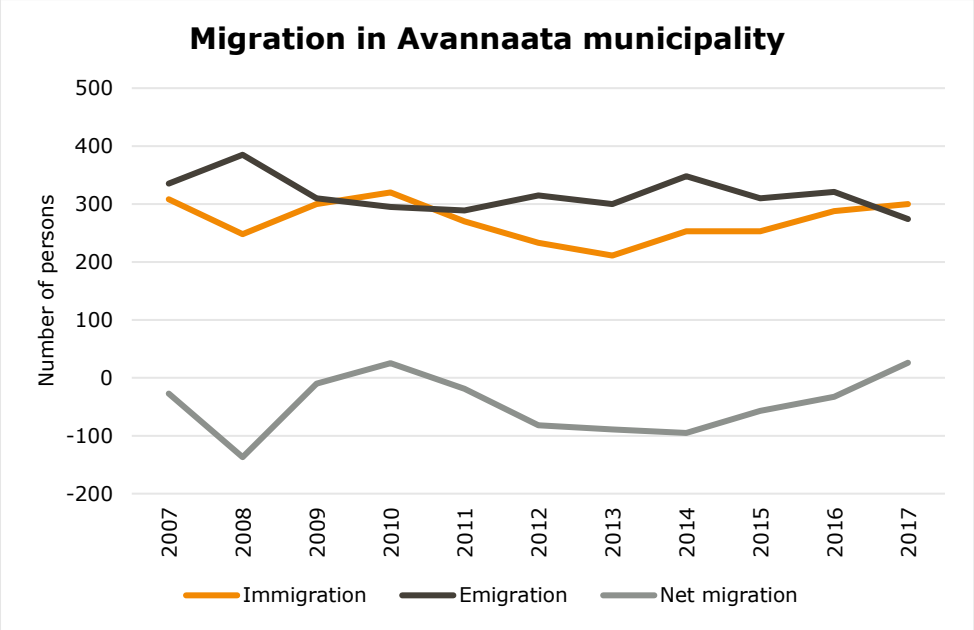


Figure 7: Migration in the Municipality of Avannaata (Source: Statistics Greenland, BEXBBIU2)

Figure 8 illustrates the net movement of people from Qaanaaq to other places in Greenland and to Qaanaaq from other places in Greenland. The number of people moving to and from Qaanaaq has been very volatile during the past 10 years. Between 2007 and 2017 the net movement in Qaanaaq was -132. The net movement of people has fluctuated between 6 and -35 per year since 2007.

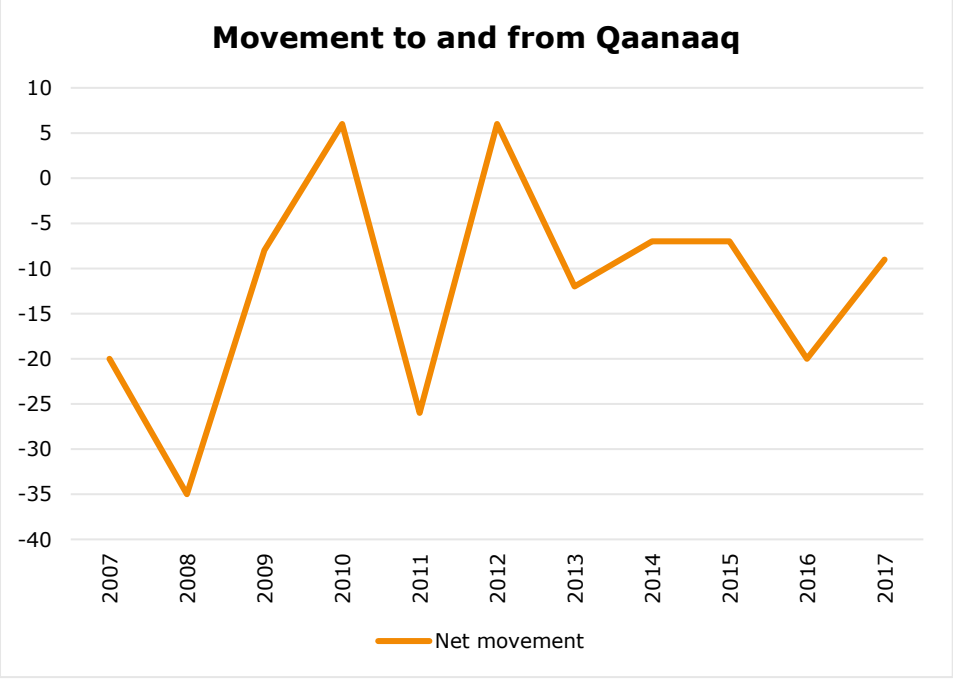


Figure 8: Movement of people in Qaanaaq to and from other places in Greenland (Source: Statistics Greenland, BEXBBAF3)

3 Economy

3.1 National economy

As Figure 9 shows, Greenland has seen an overall growth in GDP over the past 10 years. In 2016 Greenland's real GDP was approximately 16 billion DKK which is equivalent to approximately 280,000 DKK GDP per capita. In comparison, the Danish GDP was DKK 2,100 billion in 2016 which is equivalent to approximately DKK 370,000 GDP per capita[2].

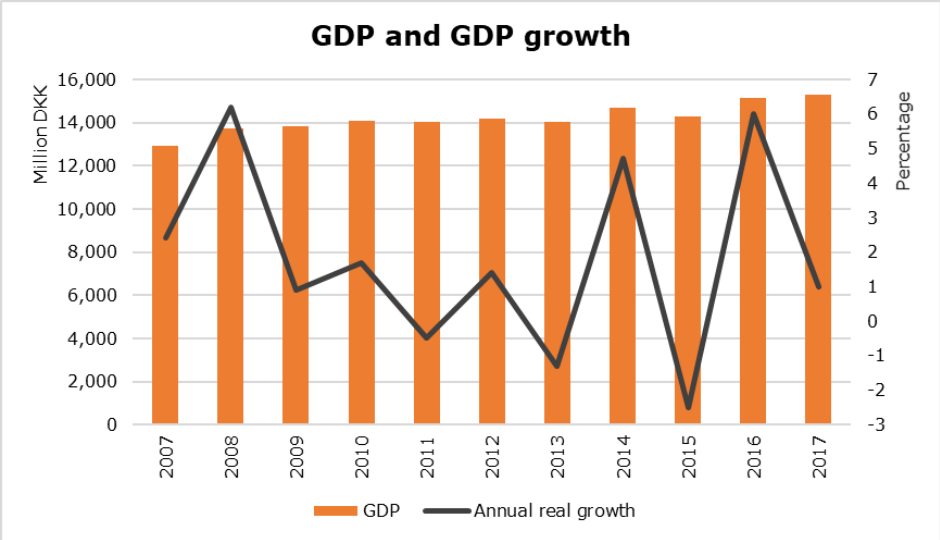


Figure 9: Real GDP and annual GDP growth (Source: Statistics Greenland, NRX10)

3.2 Taxes and public expenditure

In Greenland the general government consists of three sectors; the municipal sector, the self-government sector and the sector of central government. The general government finances are negotiated through the appropriation law every year. The central government sector includes activities still managed and financed directly by the State of Denmark.[3] More information on the regulative framework can be seen in Appendix 2 *Administrative and legal framework.*

Most public services are available free of charge for citizens and enterprises.[4] In 2017 Greenland's public expenses amounted to approximately DKK 11 billion. As Figure 10 shows, almost one third covered expenses for social protection, which amongst other transfers cover transfers related to old age, unemployment and housing. The second largest activity in Greenland's expenses is education. In 2017 approximately 20 % of the total expenditures were used to finance education. Due to the Government of Greenland's Sustainability and Growth Plan, there has been an increased focus on education, as it is one of four themes included in the plan[5].

Figure 10 also shows that the public expenditures have been steadily increasing during the past 10 years.

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[2] (Statistics Denmark)
[3] (Greenland in Figures 2018)
[4] (Greenland in Figures 2018)
[5] (Ministry of Finance and Taxes, 2017)

Figure 11 shows Greenland's public revenue for the past 10 years. Like the expenditures, the revenue has also increased steadily during the last 10 years. The figure shows, that almost 50 % of the revenue comes from other income transfers, which includes the Danish block grant of DKK 3,722.4 (2017) million.

A large part of Greenland's public revenue also comes from current taxes on income, wealth etc. Greenland's tax system operates with a flat rate of tax, i.e. everyone earning over the basic rate pays the same tax on every krone earned above the basic rate.[6]

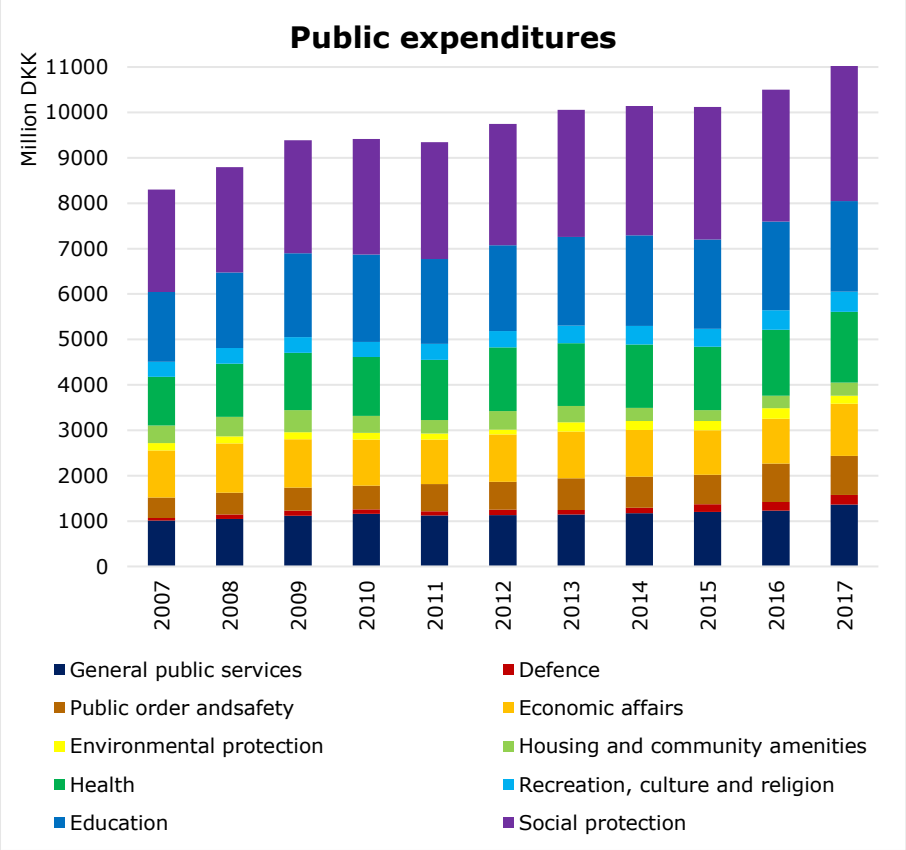

Figure 10: Public expenditure by sector (Source: Statistics Greenland, OFXFUNK)

[6] (Ministry of Finance and Taxes, 2017)

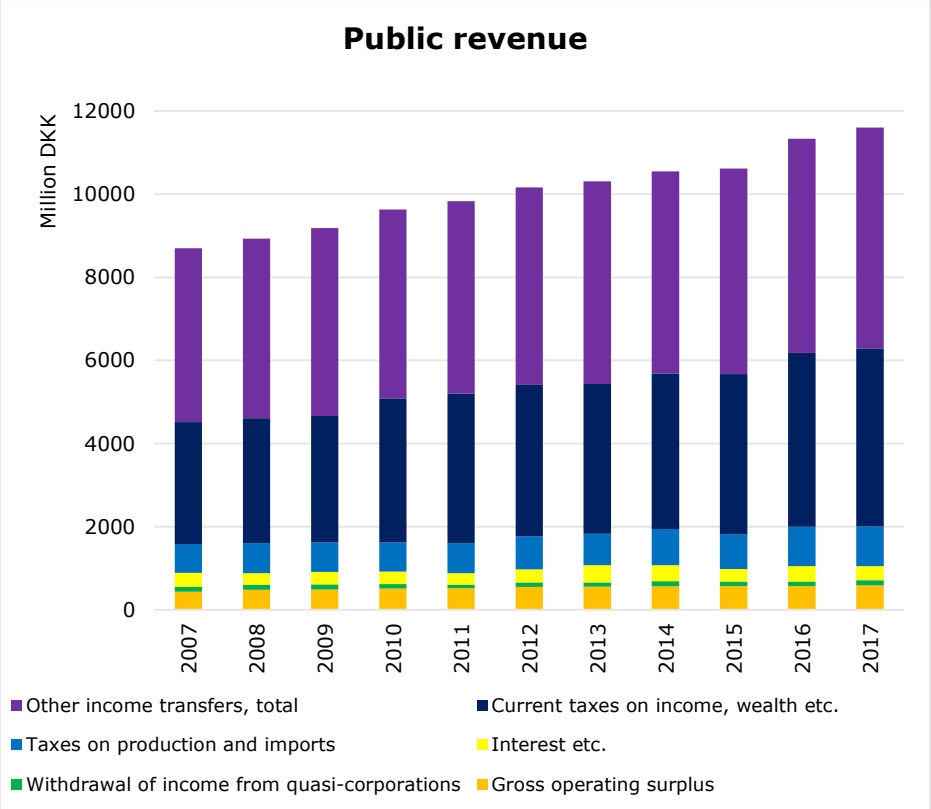

Figure 11: Public revenue (Source: Statistics Greenland, OXFREAI)

The tax revenue in Greenland is generated through corporate taxation and income taxation. The corporate tax rate for companies registered in Greenland is 30 % in 2019. Personal taxation for persons living in Greenland is between 42 % and 44% of the income, for all income above a personal tax-free amount of approximately DKK 5.000 month. Foreigners pays an income tax of 35 % of all income[7].

3.3 Trade

Table 5 shows the value of Greenland's exports and imports. The table shows that Greenland is a net importer. The total value of imported goods in 2017 was worth approximately DKK 4.6 billion, whereas the value of exported goods was worth approximately DKK 3.6 billion. This gives a trade balance of approximately DKK –1 billion. The biggest import industries are products from the food industry, especially products from cereals, mineral products, especially mineral fuels, and different types of machinery.

The table also shows that Greenland's largest export industry is fisheries. Greenland exports DKK 2.8 billion worth of products from the fishing industry. The products include fish, crustaceans, mollusks and other aquatic invertebrates. Greenland is also a net exporter of works of art, collective pieces and antiques where the export value is DKK 5 million. Greenland also exports approximately DKK 124 million worth of unspecified goods, which makes it the product group with the third largest export value.

[7]

Table 5: Greenland import and export in 1000 DKK, 2017 (Source: Statistics Greenland, IEXDET)

Article	Import	Export	Difference
Animal products	276,207	2,861,366	2,585,159
- of which are from the fishing industry.	16,232	2,861,284	2,845,053
Vegetable products	140,672	5	- 140,667
Other products from the food industry	618,355	622,451	4,096
Mineral products	770,029	222	- 769,806
Produce from chemical industries and related industries	249,002	41	- 248,961
Plastic, rubber and articles thereof	113,326	299	- 113,027
Raw hides, skins, leather and articles thereof	14,403	1,888	- 12,516
Wood and articles of thereof	72,471	5	- 72,465
Pulp of wood or other fibrous cellulosic material	73,565	189	- 73,377
Textiles	179,897	275	- 179,622
Other articles of apparel and clothing accessories	19,526	171	- 19,356
Articles of stone, plaster, cement, asbestos, mica, glass, ceramics or similar materials	231,275	315	- 230,960
Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad with precious metal and articles thereof	16,943	3,369	- 13,574
Base metals and articles thereof	314,627	3,924	- 310,703
Machinery and mechanical appliances and electrical machinery and equipment	708,356	20,363	- 687,992
Vehicles	456,968	3,308	- 453,660
Optical, photographic, cinematographic instruments and apparatus	54,057	11,209	- 42,848
Arms and ammunition and parts and accessories thereof	10,759	13	- 10,746
Other articles	215,748	417	- 215,331
Works of art, collectors pieces and antiques	1,441	6,425	4,984
Unspecified goods	98,769	123,768	24,999
Total	4,636,396	3,660,022	- 976,374

3.4 Mineral resource exploitation in Greenland

The oil and mineral sector has been under pressure in terms of global market prices, which means that investment in the industry has been limited during the past years. Prices have started to increase again, but it is estimated that it will take years before they are back at the level seen in 2010-2012.[8]

[8] (Ministry of Finance and Taxes, 2017)

In 2013 Greenland was number 7 out of 112 countries on the Fraser Institutes list of most attractive countries for investments in the mining sector[9]. Since then the ranking has dropped to number 63 out of 83 countries in 2018. Frasor Institute includes factors such as legal system, taxation regime, political stability and quality of infrastructure in their assessment.[10]

It is the goal of the government that Greenland's mineral resource sector will contribute more to Greenlandic economic independency, and several exploitation licenses have been issued. Even though a license has been issued it does not necessarily mean that a mine will open. Historically many mining projects are never carried out due to changing global market prices and difficulties in securing investments. Because of this, it is important that the number of licenses issued is high[11].

Greenland currently has two mines that are operating. Aappaluttoq, which is a ruby and pink sapphire mine and Naajat which produces anorthosite[12]. Aappaluttoq started production in May 2017[13] while Naajat commenced production in February 2019[14]. As the mines has only recently started their production, it is not yet possible to assess their long term effect on the Greenlandic economy. By the end of 2017 the Aappaluttoq mine had 37 employees, and income taxes in 2017 amounted to DKK 6.8 mio[15].

Greenland also has a number of upcoming potential mining projects which are still in the exploration phase. Table 6 shows a list of the current advanced exploration projects.

Table 6: Advanced exploration projects in Greenland. Source: (Naalakkersuisut a, u.d.)

Project	Product
Citronen Fjord	Zink and lead
Pituffik (Dundas)	Ilmenite (Titanium sand)
Kvanefjeld/Kuannersuit	Ree and uranium
Kringlerne/Killavaat Alannguat	Ree, niobium, zirconium and tantalum
Nalunaq	Gold
Maniitsoq norite belt	Nickel, copper, cobalt and PGM
Isukasia	Iron

4 Cost of living and housing situation

No data for the Municipality of Avannaata was available for this section. Therefore the data used is from the Municipality of Qaasuitsup.

[9] (Fraser Institute, 2018)
[10] (Fraser Institute, 2019)
[11] (Ministry of Finance and Taxes, 2017)
[12] (Naalakkersuisut b, u.d.)
[13] (Greenland Ruby, 2017)
[14] (Hudson Resources inc, u.d.)
[15] (Greenland Ruby, 2018)

4.1 Personal income

Figure 12 shows the average household income in Greenland, Municipality of Qaasuitsup and Qaanaaq. The figure shows that the average household income is steadily increasing. It is seen that households in Municipality of Qaasuitsup municipality have an income which is approximately DKK 50,000 lower than the average Greenlandic household. The average household income in Qaanaaq has not been increasing as much as the average Greenlandic income and the income in Municipality of Qaasuitsup. In 2017 the average household in Qaanaaq have an income which is approximately DKK 150,000 lower than the average Greenlandic household.

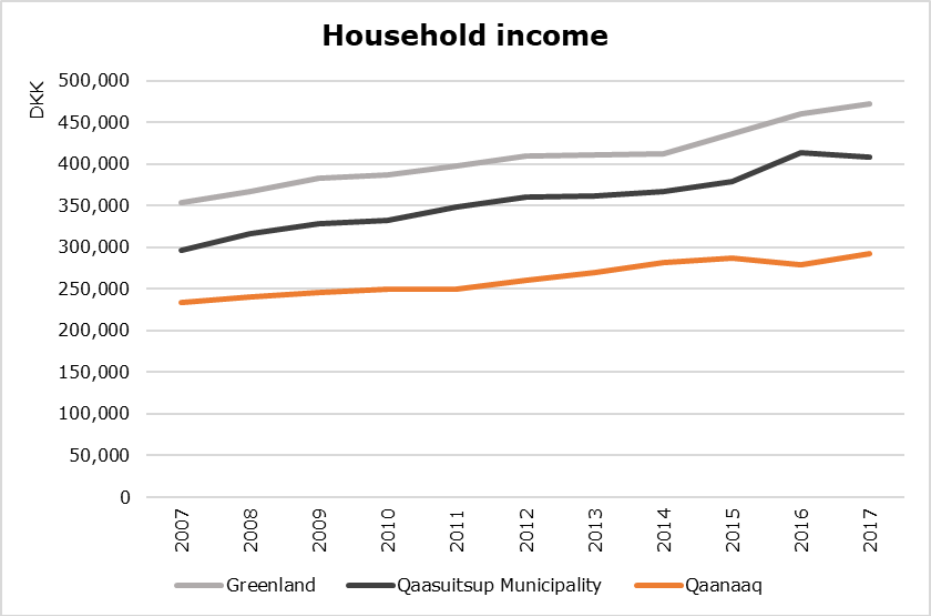

Figure 12: Average household income (Source: Statistics Greenland, INXH2 and INXH1)

Figure 13 examines the income distribution in Qaanaaq further. It shows the average household income in Qaanaaq town and the three settlements: Siorapaluk, Savissivik and Qerqatat. The average household income in Qaanaaq town has been steadily increasing and was approximately DKK 300,000 in 2017. The average household income in the three settlements is very volatile, especially in Qeqertat. The three settlements have a population of 42, 60 and 23 people respectively. Because of the small population, a change in income for a small part of the population can result in large changes in the average income.

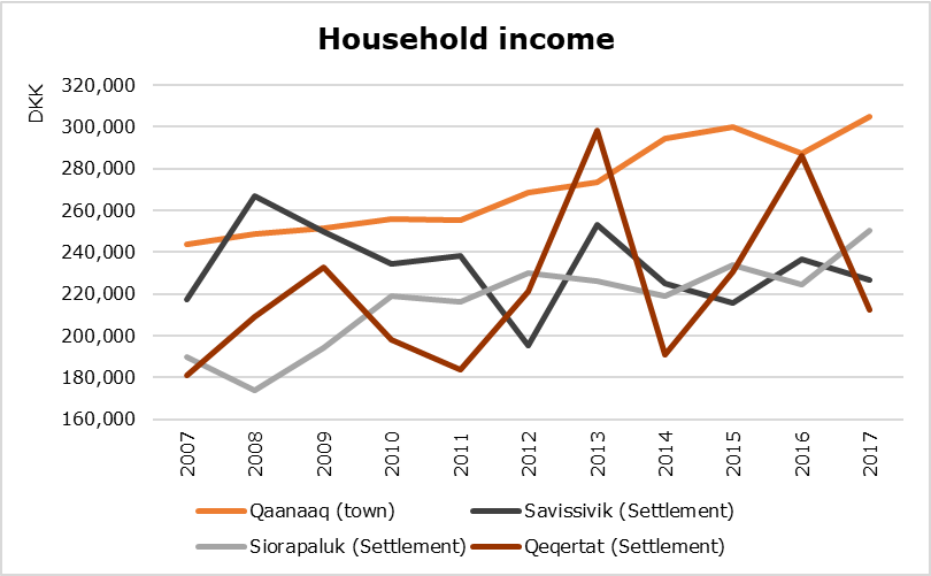

Figure 13: Average household income in Qaanaaq (Source: Statistics Greenland, INXH3)

4.2 Cost of living

Consumer prices can be used to measure the cost of living. Table 7 shows the consumer price index for Greenland. There has been an increase in consumer prices for almost all consumer goods and services, and therefore also in the cost of living. The largest increase has been seen in food prices. The prices have increased to index 135 compared to index 100 in 2008. Medicine and Pharmaceutical articles have also seen a relatively large increase in prices. The prices have increased by index 128. A few goods and services have seen a decrease in prices, including clothing and footwear as well as telephone and postage.

The population's purchasing power, also called real income, can be found by comparing the change in consumer prices with the change in income. If the change in income is greater than the change in consumer prices, then the real income increases. This has been the case in Greenland, where real income has been increasing steadily since 2014[16].

Table 7: Consumer price index (2008=100) (Source: Statistics Greenland, PRXPRISV)

	2014 Jan	2015 Jan	2016 Jan	2017 Jan	2018 Jan
All goods and services	*115*	*117*	*118*	*119*	*119*
Food etc.	124	127	131	134	135
Alcohol and tobacco	113	113	115	116	117
Clothing and footwear	100	97	95	94	94
Housing	131	133	133	130	126

[16] (Greenland in Figures 2018)

Furnishing and household services	120	122	124	122	120
Medicine, pharmaceutical articles	121	125	125	126	128
Transportation	116	117	121	124	123
Telephone and postage	89	87	88	87	88
Leisure and culture	94	96	97	98	102
Restaurants and hotels	114	116	117	119	122
Other goods and services	106	109	107	109	111

4.3 Barter economy

When looking at the living conditions in Greenland it is important to also include the barter economy[17], as it has a significant impact on the living conditions[18].

In Greenland a persons registered income does not necessarily reflect a person's actual living conditions. A survey from 2014[19] concluded that 12.5 % of the population in towns and 45.8 % of the population in settlements, ate meals consisting of their own catch more than once a week. The barter economy is especially important in the settlements in northern Greenland, and it is estimated to be the reason why people with low incomes can still get by. It has until recently been estimated that the barter economy has had a positive effect on the equality in Greenland, especially between towns and settlements. This is not necessarily the case, as it has been discovered that the wealthier people living in the towns has a substantial gain from the barter economy, due to the fact that they can afford to invest in better hunting equipment[20].

It is difficult to estimate the size of the barter economy as all the transactions are unregistered. It is therefore not possible to correctly estimate the barter economy's effect on the living conditions[21].

The barter economy has a significant role in Qaanaaq, especially in the settlements. Hunting contributes substantially to the families' consumption of food. Furthermore, it gives the families an extra unregistered income through sales through informal channels. It is also still normal to give "meat gifts" to people who do not have the opportunity to go hunting[22].

5 Business structure

Greenland has a large primary economic sector, due to the predominantly fishing-based economy, some agriculture and the exploration for and production from mining projects. The secondary economic sector is small, and consists almost exclusively of seafood procession and construction businesses. Greenland's tertiary economic sector is large, consisting primarily of a large public administration, the infrastructural businesses, and a growing tourism industry.[23]

[17] The barter economy is the cashless economy
[18] (Skatte- og vældfærdskomissionen, 2010)
[19] (Dahl-Petersen, Larsen, Nielsen, Jørgensen, & Bjerregaard, 2016)
[20] (Depertement for Sociale Anliggender, Familie, Ligestilling og Justitsvæsen , 2018)
[21] (Skatte- og vældfærdskomissionen, 2010)
[22] (Hendriksen & Hoffmann, 2016)
[23] (Greenland in Figures 2018)

Qaanaaq has a limited number of privately owned businesses. The town has one small hotel and a few holiday houses, one plumber, one car repair workshop, one grocery store, one carpenter and one paint shop. The largest business in Qaanaaq is the fish processing facility owned by Inughuit Seafood A/S, which occupies 15-19 workers[24]. The number of employees at the fish processing factory is highest during winter. Hunting and fishing are important occupations for many of the inhabitants.

Figure 14 shows how many percent of the Greenlandic population and the population in Qaanaaq have registered work in different sectors. It illustrates that public administration and service is the sector that employs the most people in Greenland. In Qaanaaq more than 50 % of the employed people work in the public sector. The sector that employs the second largest share of the Greenlandic employees is fishing, hunting and agriculture. Approximately 17 % are employed in this sector. In Qaanaaq 16 % are employed within the fishing, hunting and agricultural sector. The third largest sector, by employment, is wholesale. In Greenland 11 % of the employed people work in this sector and in Qaanaaq it is 15 %.

Less than 10 % of the employed Greenlandic population work in the remaining nine sectors and in Qaanaaq it is less than 5 %. Qaanaaq neither has a mining and quarrying sector, nor a manufacturing sector.

Across Greenland, 86 persons were employed on average per month within mining and quarrying in 2017. 271 persons are employed on average per month within manufacturing.

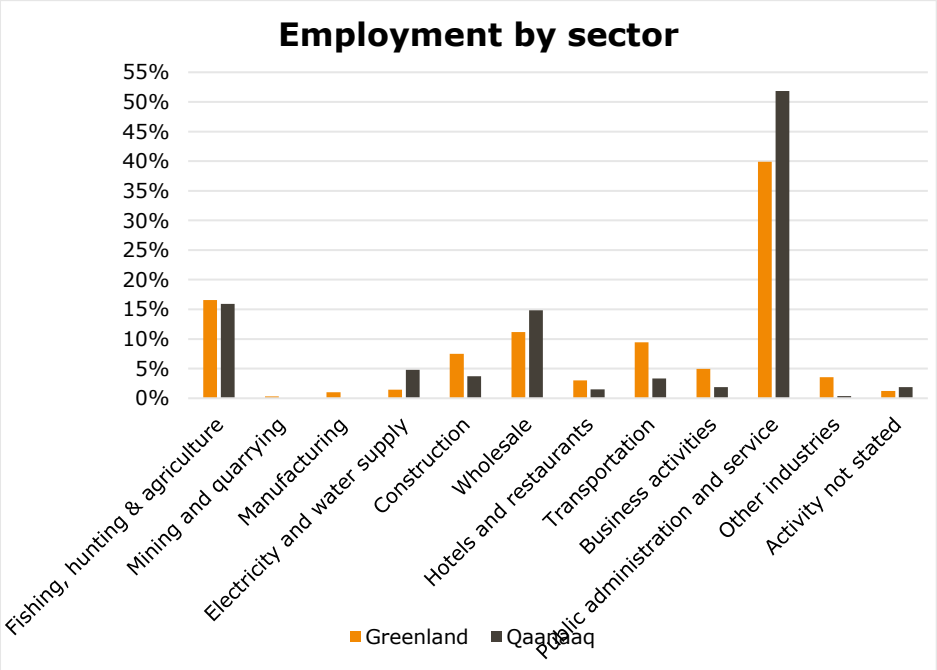

Figure 14: Employment by sector in average per month, in percent of total employment, 2017 (Source: statistics Greenland, ARXBFB4)

[24] (Royal Greenland A/S, 2018)

In Greenland there are many seasonal jobs. Because of this, the unemployment is generally higher during winter than it is during the summer[25]. Therefore there is a difference in the average number of people employed per month and the average number of people employed at least one month per year. Figure 15 illustrates this difference. In the majority of the sectors, the number of people employed at least one month per year is approximately twice as many as the number of people employed on average per month. This trend is more common in settlements than it is in towns[26]. In 2017 the unemployment rate in Qaanaaq was the lowest during the third quarter of the year[27], this is further described in section 6.2.

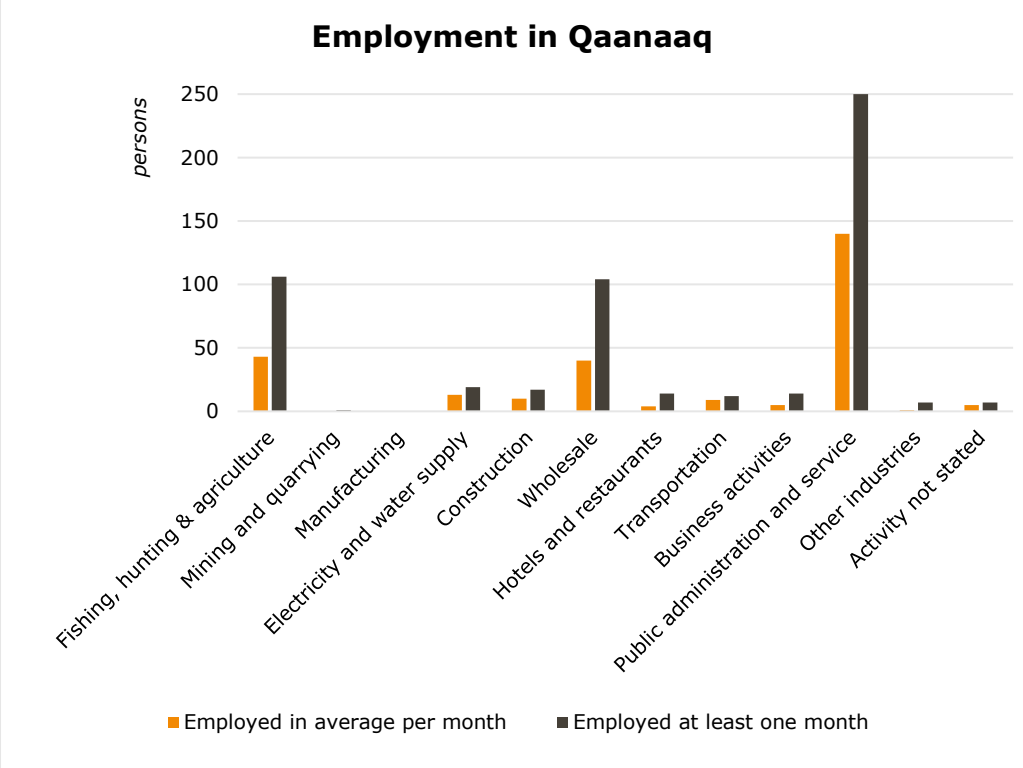

Figure 15: Employment in Qaanaaq, 2017 (Source: Statistics Greenland, ARXBFB4)

6 Labor market structure

6.1 Existing labor market structure

Greenland has a workforce of approximately 27,000 people. It is roughly half of the population. Figure 16 shows the distribution of the workforce by gender and age. The distribution has the shape of an hourglass, as the smallest groups are the youngest, oldest and middle-aged. The largest group is the 50-54 year olds and the smallest is the 18-19 year olds. It is important to note that many 18-19 year olds are enrolled in an education and therefore not part of the workforce. The figure also shows that there is a slight overweight of men in the workforce.

[25] (Ministry of Finance and Taxes, 2017)
[26] (Ministry of Finance and Taxes, 2017)
[27] (Statistics Greenland)

Figure 17 shows the workforce by gender and age in Qaanaaq. The distribution is the same as for Greenland although it is more extreme. The largest age groups are the 50-54 and 55-59 year olds. This indicates, that Qaanaaq will soon be facing problems related to having a large elderly population outside the workforce. The workforce in Qaanaaq also has an overweight of men.

Figure 16: The workforce in Greenland by age and gender 2017 (Source: Statistics Greenland, ARXSTK1)

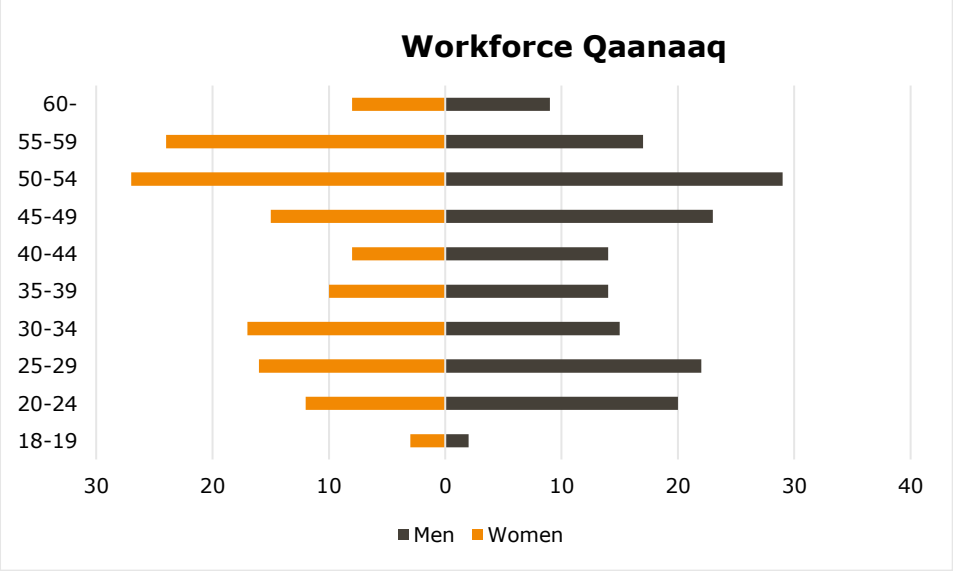

Figure 17: The workforce in Qaanaaq by age and gender 2017 (Source: Statistics Greenland, ARXSTK1)

6.2 Unemployment

The unemployment rate in Greenland is relatively high compared to other northern European countries. The unemployment rate is especially high amongst young people. The high unemployment rate is worsened by many of the young people not taking futher education after primary school and lower secondary school[28]. Therefore there is a large group of young people who have neither a job nor education[29]. Approximately 85 % of the unemployed part of the workkforce have no education, apart from primary school and lower secondary school[30].

Figure 18 illustrates the unemployment rate in Greenland and Qaanaaq, distributed by gender and age. Overall the unemployment rate in Greenland was 6.8 % in 2017[31]. For the age groups above 30 years, the unemployment rate is somewhere between 5-7 %. The age groups below 30 years have a higher unemployment rate spanning between 7-14 %, where the highest unemployment rates are found in the youngest age group from 18-19 year olds. Figure 18 also illustratres the difference in the unemployment rate between men and women. For the age groups between 18-34, men have the lowest unemployment rate. But for the age groups above 40 years, women have the lowest unemployment rate.

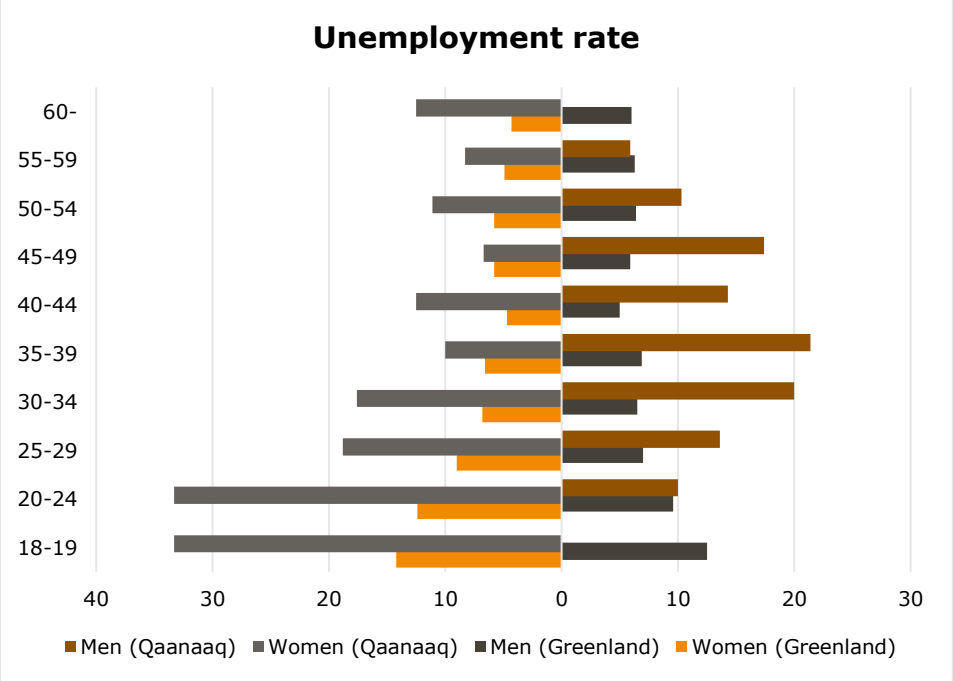

Figure 18: Unemployment rate in Greenland and Qaanaaq 2017 (Source: Statistics Greenland, ARXLED4)

[28] Primary and lower secondary school is equal to the Danish term "folkeskole"
[29] (Ministry of Finance and Taxes, 2017)
[30] (Statistics Greenland)
[31] (Statistics Greenland)

Figure 18 further illustrates that the unemployment rate in Qaanaaq is higher than the unemployment rate for the whole country. Qaanaaq has one of the highest unemployment rates in Greenland[32]. It is important to note, that the population in Qaanaaq is very small compared to Greenland and the statistics from here are therefore volatile and more subject to errors, especially when the population is devided into age groups. The unemployment rate is especially high amongst young women living in Qaanaaq. For women between 18-24 years, the unemployment rate is 33 %, which is approximately twice as high as for the rest of Greenland. The unemployment rate for men and women shows a different trend, than the rate for Greenland. Amongst the 30-49 year olds, the unemployment rate for woman is lower than the rate for men, and for the younger and older age groups the unemployment rate is higher for women.

Table 8 shows that the overall unemployment rate in Qaanaq is 12,9 % and that the rate is approcimately one percentagepoint higher for women than for men. The table also shows the unemployment rate in Qaanaaq town and the settlements in Qaanaaq. The rate is approximately 3 percentagepoints higher in the town than it is in the settlements. In the town, women have the lowest unemployment rate and men have the highest, whereas in the setllements it is the other way arround.

Table 8: Unemployment rate in Qaanaaq 2017 (Source: Statistics Greenland, ARXLED4)

	Total	Town	Settlements
All	12.9 %	13.2 %	10.9 %
Men	12.7 %	13.9 %	7.1 %
Women	13.8 %	12.5 %	22.2 %

Figure 19 shows the unemployment rate in Qaanaaq by quarter from 2014-2017. It shows that the unemployment rate has decreased steadily during the time period. The figure does not show a clear tendency of when the unemploymnet is the highest. In 2014 the unemployment rate was highest in the second quarter, in 2015 the unemployment rate was highest in the first quarter, in 2016 the unemployment rate was highest in the second and fourth quarter, and in 2017 the unemployment rate was the highest in the first quarter.

[32] (Statistics Greenland)

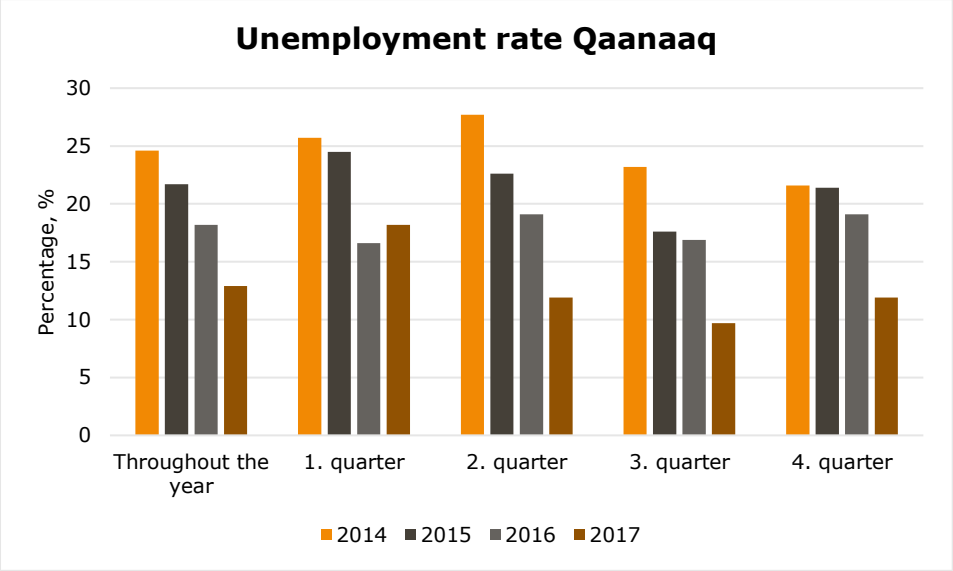

Figure 19: Unemployment rate in Qaanaaq by quarters, (Source: Statistics Greenland, ARXLED4)

Figure 20 illustrates the unemployment in Greenland between the five different educational groups: Primary, upper secondary - general, upper secondary - vocational and bachelors, masters, doctoral or equivalent. The number of unemployed is the highest amongst people, who have only primary education. In 2007 1,567 people in this group were unemployed. For people with vocational education the number of unemployed was 238. In the threee remaing educational groups the number of unemployed was 32, 2 and 20 respectively.

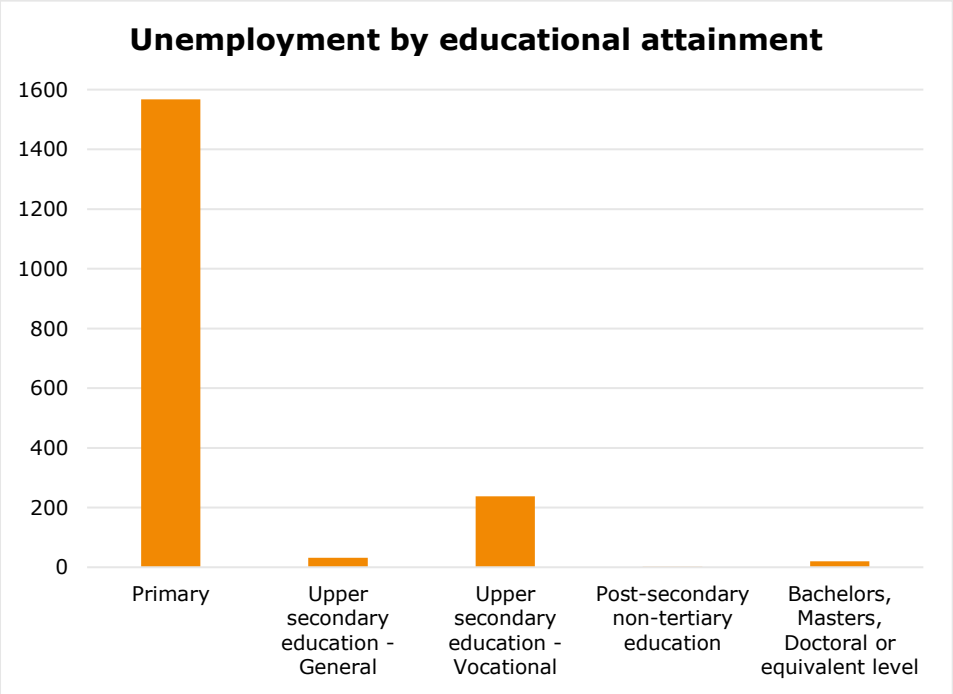

Figure 20:Unemployment by educational attainment Greenland, 2017 (Source: Statistics Greenland, ARXLED6)

7 Education

Primary and lower secondary education (folkeskole) is mandatory in Greenland and takes 10 years. Small settlements do not offer 8th-10th grade and therefore children from these settlements have to move to the nearest town in order to finish lower secondary school[33].

Four towns in Greenland have high schools: Nuuk, Qaqortoq, Sisimiut and Aasiaat[34]. There are no high schools in the Municipality of Avannaata. Because of this, young people have to leave home in order to complete high school. Greenland has one university, which is located in Nuuk. The university offers 11 bachelor programmes and only 4 masters programmes. Because of the limited number of programmes offered, 40 % of the university students study abroad, primarily in Denmark[35]. The Technical University of Denmark (DTU) opened a campus for Arctic technology (ARTEK) in Sisimiut in 2000 in cooperation with the Greenlandic Self Government. DTU offers four educational opportunities that takes place partly at ARTEK in Greenland and partly at DTU in Denmark[36].

Greenland is facing an educational shortfall, and in several sectors it has been necessary to import workers with the required formal competences, even though the overall unemployment rate is very high in some areas[37].

The highest achieved level of education in Greenland is relatively low compared to Denmark and European countries.

Figure 21 shows the educational attainment for people over 16 years living in Greenland, the Municipality of Avannaata and Qaanaaq. 60 % of the population in Greenland have only achieved lower secondary education and 22 % have achieved vocational education or training. The number of people who have attained a higher education is therefore very limited. Approximately 3 % of the population have achieved a master's degree, but 70 % of the people holding a master's degree are born outside of Greenland.

The level of achieved education is lower in the Municipality of Avannaata compared to the country average. 72 % have achieved only lower secondary education and only approximately 1 % have achieved a master's degree.

[33] (Greenland in Figures 2018)
[34] (Sunngu, Grønlands uddannelsesguide)
[35] (Greenland in Figures 2018)
[36] (ARTEK, u.d.)
[37] (Ministry of Finance and Taxes, 2017)

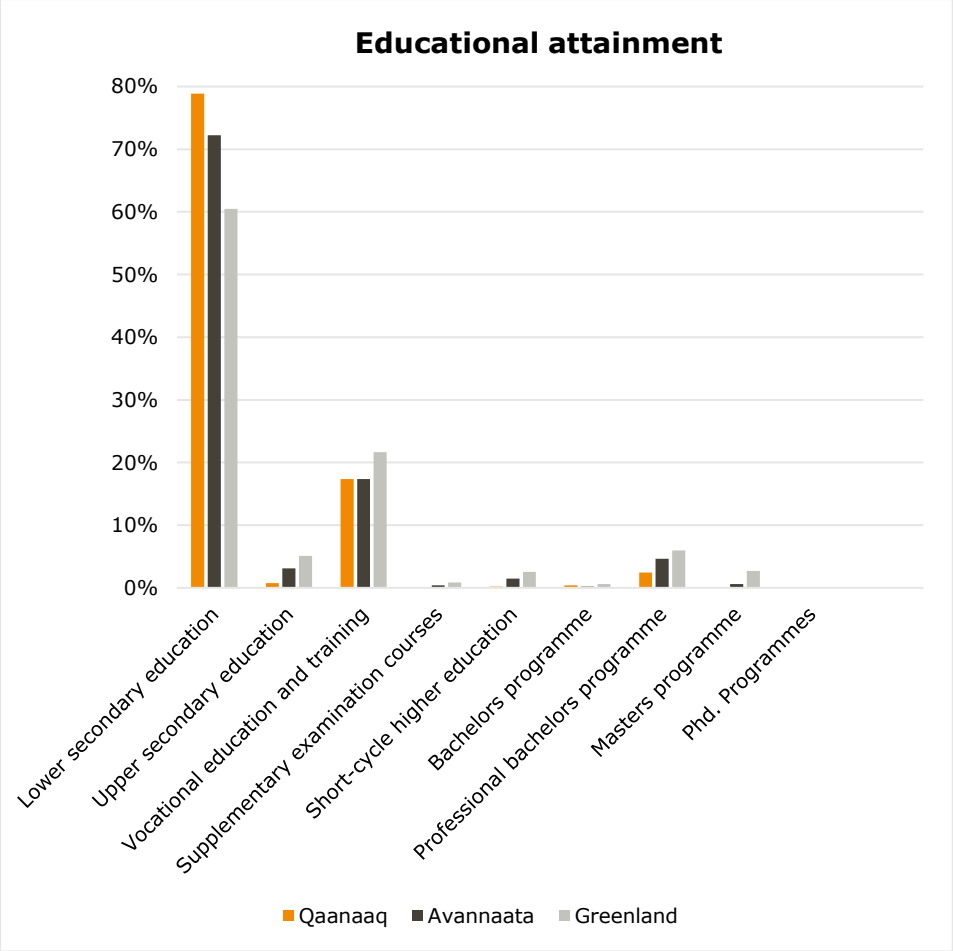

Figure 21: Educational attainment in percent of population over 16 years in Qaanaaq, Avannaata and Greenland, 2017 (Source: Statistics Greenland, UDXISCPROD, UDXISCPROG and own calculations)

The formal educational attainment of people living in Qaanaaq is lower than for the municipality. The town of Qaanaaq has a primary and lower secondary school but no high school. The nearest high school is in Aasiaat. The town also has a Majoriaq, which offers vocational education and training. The three settlements in Qaanaaq also offer different levels of education. Qerqertat and Siorapaluk only offers primary education. Therefore the students have to finish their lower secondary education in Qaanaaq town. Savissivik offers both primary and lower secondary education, which allow students to finish their mandatory education within the settlement[38].

Figure 21 also shows, that 79 % of the people living in Qaanaaq have not attained any education above lower secondary school. Table 9 shows the level of education attained in Qaanaaq in number of persons. There are no people living in Qaanaaq, who have completed either a PhD or a master's degree. 15 persons have completed either a professional bachelors programme or a bachelor degree. 93 persons living in Qaanaaq have completed vocational training and education. There is an uneven distribution between men and women in relation to educational

[38] (2014-2016 plan for Qaasuitsup Municipality)

attainment. The two people, who have completed a bachelor degree are both women, and 9 out of the 13 people with a professional bachelor degree are also women.

Table 9: Educational attainment in number of persons over 16 years in Qaanaaq, 2017 (Source: Statistics Greenland, UDXISCPROG)

	Men	Women	Total
Lower secondary education	233	189	422
Upper secondary education	2	2	4
Vocational education and training	50	43	93
Supplementary examination courses	0	0	0
Short-cycle higher education	1	0	1
Bachelors programme	0	2	2
Professional bachelors programme	4	9	13
Masters programme	0	0	0
Phd. Programme	0	0	0
Total education	290	245	535

Vocational training opportunities

There are a number of vocational schools in Greenland. Most relevant for potential employees at a mining project is the Mining School (Kalaallit Nunaanni Teknikimik Ilinniarfik (KTI)) located in Sisimiut. The mining schools is part of 'tech college Greenland' (KTI), a vocational school with approximately 650 students. The school has four departments: Iron and steel educations, building- and construction educations, mining educations as well as a department for upper secondary education. The school has departments in Nuuk and Sisimiut[39].

The Maritime School is located in Nuuk and Paamiut. The school offers education and training programmes within navigation, shipping and fishing.

Training opportunities for adults

There are two governmental financial support measures giving opportunities for adults to receive skill-training: 'Project competency development for unskilled (PKU) and AMA-grants[40].

PKU can generally be described as public financed education measure, which has been established to mitigate unemployment among unskilled people above the age of 25. Focus is on providing the persons who have no or very low experience in working in an industry, which is experiencing growth and development, skills that can lead to future employment. PKU has been used by other mining projects to pay for short courses, which has enhanced unskilled Greenlandic labour in relation to specific tasks at the mining projects.

[39] (Kalaallit Nunaanni Teknikimik Ilinniarfik (KTI), 2019)
[40] (SUNNGU Grønlands Uddannelsesguide, 2019)

AMA grants are given to both unskilled and skilled persons above the age of 18 who are taking courses away from there home. The grants covers transport, board and lodging when for instance persons studying at Majoriaq are to take courses focused on a specific vocational skill.

7.1 Informal education

Even though a relatively large share of the population in the Thule area only have limited or no formal education, many still possess informally acquired skills and experiences that are relevant for operating a mine in the Arctics. The skills are developed by living and working in the area, for instance hunters and fishermen will often not only have experience in fishing and hunting, but also navigation and preparation of local food. Similarly, some language skills will not necessarily be documented through diplomas.

In the report 'sitting on gold – a report on the use of informally acquired skills'[41] researchers have gathered a number of examples of successful integration of people with none or limited formal education in the job market. The report also highlights the potential for creating jobs in the extractive industry for people with limited formal skills but high traditional knowledge.

8 Health

All healthcare in Greenland is free, including dental treatment and birth control. There is one central hospital in Greenland, which is located in Nuuk. There are four other regional hospitals located in: Ilulissat, Aasiaat, Sisimiut and Qaqortoq. Towns and settlements have either nursing stations or tele-medical facilities. If a patient's case of illness is severe, the patient will be transferred to Denmark[42]. Qaanaaq town has a health care station, while the three settlements all have a nursing station.

The average life expectancy in Greenland is 69.1 years for men and 73.5 years for women[43]. Compared to Denmark this is relatively low, where the average life expectancy is 79.0 and 82.9 years for men and women respectively[44]. The low life expectancy is partly due to high mortality rates amongst young people caused by suicides and accidents. The death rate in Greenland is 8.98 deaths per 1,000 inhabitants[45].

Table 10 illustrates the causes of death in Greenland between 2013-2015. The most common cause of death is cancer. In 2017 99 people died from cancer. The table shows that the number of deaths per cause have been relatively stable between 2013-2015. Only infectious disease, accidents and suicide has seen a relatively high increase or decrease. Table 11 shows the causes of death in Qaanaaq between 2010-2013[46]. Also in Qaanaaq is the most common cause of death cancer.

Table 11 also shows that Qaanaaq has seen around one suicide annually. In October 2018 Qaanaaq started a new voluntary initiative to help prevent suicides. The initiative is aimed at young people and will be run by young people between

[41] (Kleist & Knudsen, 2016)
[42] (Greenland in Figures 2018)
[43] (Greenland in Figures 2018)
[44] (Statistics Denmark)
[45] (Greenland in Figures 2018)
[46] Most recent statistical data available

14-22 years. At a kickoff meeting the young people were given advice from different consultants. It is the aim that the young people will be able to facilitate their own initiatives to help prevent suicides[47].

Table 10: Causes of death in Greenland (Source: (Landslægeembedets årsberetning 2016))

	2013	2014	2015
Total	421	442	435
Infectious disease	22	12	21
Cancer	105	109	99
Endocrine and metabolic	11	8	6
Heart diseases	55	64	55
Other circulatory system diseases	34	30	34
Respiratory system	30	38	41
Digestive system	17	15	22
Accidents	23	15	27
Suicide	42	45	32
Homicide	3	3	3
Other	79	103	95

Table 11: Causes of death Qaanaaq (Source: Statistics Greenland, SUXLDA1)

	2010	2011	2012	2013
Total	7	5	5	14
Infectious inc parasitic diseases	1	0	0	2
Cancer	1	2	2	1
Heart diseases	1	0	0	1
Other circulatory system diseases	1	0	1	2
Respiratory system	0	0	1	1
Digestive system	0	0	0	2
Genitourinary system	1	0	0	0
Certain conditions originating in the perinatal period	1	0	0	0
Congenital malformations and chromosomal abnormalities	0	0	0	0
Symptoms, signs and abnormal findings, not elsewhere classified	0	1	0	3
Accidents	0	0	0	1
Suicide and attempted suicide	1	2	1	1

Greenland has a high rate of tuberculosis (TB) that can be compared with countries in Africa, Asia and Latin America. The number of TB cases has been increasing since the 1980's and until 2010. Since 2010 the number of TB cases has been steadily declining. In 2017 there were 57 cases of TB in Greenland which is equivalent to 102 reports of TB per 100,000 persons. In 2017 the municipality of Kujalleq had the highest TB incidence rate per 100,000 persons and Qaasuitsup

[47] (Avannaata Kommunia, 2018)

had the lowest. Qaanaaq has had a TB rate of zero per 100,000 persons between 2015-2017[48].

Sexually transmitted diseases are more common in Greenland than the rest of the Nordic countries[49]. Table 12 shows the number of positive tests for sexually transmitted diseases (STD) in Greenland and in Qaanaaq. Chlamydia is the most common STD in Greenland. There were 3,447 occurrences in 2017, which is equivalent to 6.2 % of the population having chlamydia. The occurrence rate for Qaanaaq is almost identical. Chlamydia is most common in the age groups between 15-29 years. Gonorrhea and syphilis is less common than chlamydia. The occurrence rate of gonorrhea in Greenland was equivalent to 2.2 % of the population, while it was less than 1 % in Qaanaaq. Gonorrhea is also most common in the age groups between 15-29 years.

Table 12: Number of positive tests for sexually transmitted diseases in Qaanaaq and Greenland, 2017 (Source: Statistics Greenland, SUXLSKS1 and own calculations)

	Greenland			Qaanaaq		
	Gonorrhea	Chlamydia	Syphilis	Gonorrhea	Chlamydia	Syphilis
-4	5	4	0	0	0	0
5-9	0	0	0	0	0	0
10-14	25	51	0	0	0	0
15-19	409	1,088	1	6	15	0
20-24	345	1,029	4	0	15	0
25-29	207	618	9	0	4	0
30-34	114	328	0	0	6	0
35-39	43	158	0	0	2	0
40-44	31	67	0	0	0	0
45-49	26	50	3	0	2	0
50-54	9	29	1	0	0	0
55-59	4	23	2	0	2	0
60-64	3	0	1	0	0	0
65-69	1	2	0	0	0	0
total	1,222	3,447	21	6	46	0
% of population	2.2 %	6.2 %	0.04 %	0.8 %	6.1 %	0.0 %

8.1 Public health in the license area

The Thule Air base is located approximately 40 km Southeast of Moriusaq, on the opposite site of the Wolstenholme Fjord, as seen on Figure 22.

Part of the local population has over time expressed worries related to potential health impacts from pollution and radiation from the air base and the 1968 plane crash.

[48] (Landslægeembedets årsberetning 2017)
[49] (Greenland in Figures 2018)

A 2010 in depth health study in the Avanersuaq area therefore included a qualitative study to assess and document the perception of health risks from living in the area. In the study 23 in-depth interviews were carried out with a broad representation in terms of both age and gender. The study finds that the awareness of plutonium pollution plays an important role for some Qaanaaq citizens. There is a general concern of pollution from different sources, especially of the impacts from plutonium pollution from the plane crash, but also a general concern of increased pollution from especially the dump at the Air Base. Most interviewees describe how they believe that pollution can be spread when eating meat from animals living in the area[50]. During interviews for this SIA carried out in 2017, local hunters similarly expressed that they do not hunt in the area, as they believe that people, including themselves, will not consume meat from marine animals hunted in the area near the crash.

Below the two potential sources of pollution are described, and afterwards the result of the health status of the population is described.

Contamination from the plane crash

The On 21 January 1968, an American B-52 bomber carrying four nuclear weapons crashed following an unsuccessful emergency landing at the Thule Air Base. The crash resulted in the dispersal of plutonium and other materials into the surrounding environment. The plane crashed on the ice approximately midway between the Air base and Saunders Island.

Since the crash, a number of studies have been carried out to study the potential contamination and the long-term impacts on the health of workers and volunteers assisting during the clean-up, people being in the area at the time, as well as potential health impacts from being in the area today.

[50] (Bjerregaard & Dahl-Petersen, 2011)

Figure 22: Map used during interviews in the 2010 health study in Avanersuaq. Location of flight crash is indicated with the airplane-figure. The red line has been added for this baseline and indicates the license area for the Dundas Ilmenite Project. (Source: Bjerregaard & Dahl-Petersen, 2011)

Further to health studies, a number of scientific reports have studied the potential contamination near the crash site. In the 2011 report "*The Thule Accident: Assessment of Radiation Doses from Terrestrial Radioactive Contamination*", three potential exposure pathways for pollution are investigated: Inhalation, ingestion, and wound contamination[51].

The report assesses radiation doses and consequently the risk for individuals as a result of terrestrial radioactive contamination in the Thule area. The report concludes that: *"It is the assessment of the National Institute of Radiation Protection that the total dose for representative persons in the Thule area for plutonium contamination resulting from the 1968 Thule accident is lower than the recommended reference level, even under extreme conditions and situations"*[52]

Pollution from the airbase

The Thule Air Base was built in the 1950s and more than 500 employees work at the base. Previously there have been limited control with the dumps at the base. In 2002 The Danish Environmental Research Institute (DMU) did a marine environmental investigation off the coast of the Thule Air Base. The purpose of the investigation was to asses if the activities and the dump at the Air Base have had a negative effect on the marine environment. The study found that there was a heightened level of some contaminants in the immediate coastal area surrounding

[51] (Statens institut for Strålebeskyttelse, 2011)
[52] (Statens institut for Strålebeskyttelse, 2011)

the Air Base. The study finds that the most severe contamination issue is PCB's. The levels are 2-30 times higher in the immediate surrounding area compared to other local and regional areas. The investigation also found heightened levels of cobber and led and slightly heightened levels of chromium, zinc, mercury, arsenic, PAH and HCH in the nearby area. The concentration of PCB is only found to have a potential health impact if a person consumes high levels of sculpin liver from fish living in the area, and the impact is only seen within 54-10 km from the dump[53].

Health impact from living in the license area

The 2010 Health Study included a quantitative health study including a register study of registered illnesses and deads in Avanersuaq. The study has a specific focus on persons who have lived in Moriusaq at any time between 1968 and 2007 (Moriusaq is located within the license area).

The study could not establish an increased incidence in mortality, neither when looking at total mortality, mortality of all natural causes, or mortality from cancer, when comparing Moriusaq or Avanersuaq to the Municipality of Qaasuitsup or all of Greenland. The only disease that occurred more frequently as a cause of death was chronic bronchitis (in Avanersuaq compared to Qaasuitsup settlements). On the other hand, the study finds that there are lower mortality rates for all natural death causes in Avanersuaq, but consistently higher mortality rates for violent causes (accidents, suicides and murders)[54].

The study further concludes that there is no indication that the cause of death or cancer occurrence in the populations from Moriusaq or Avanersuaq was adversely affected by any exposure to radioactive radiation caused by the B-52 aircraft crash. It is, however, highlighted that the populations are very small, and the number of deaths few, wherefore it is difficult to establish statistically reliable results[55].

Further to the more general concerns of radiation/pollution, the health study points out that there is a general feeling of misinformation from and mistrust to the authorities. It is pointed out that interviewees in the study do not separate the mistrust and lack of respect from authorities isolated to potential pollution, but also related to the movement of Dundas to Qaanaaq in 1953 and other events, where the population does not feel that they have been heard or informed[56].

9 Language and culture

The official language in Greenland is Greenlandic, but Danish is widely spoken, and used in education above the level of primary school. Both Danish and Greenlandic is used in public administration. In 2003 a little less than 30 % of the population spoke Greenlandic as the only of the two languages, less than 10 % spoke Danish as the only of the two languages, whereas the remaining 60 % of the population spoke both languages[57].

Greenlandic is an inuit language. In total approximately 100,000 people in Greenland, Canada and Alaska speaks inuit languages. There are three main

[53] (Danmarks Miljøundersøgelser, 2003)
[54] (Bjerregaard & Dahl-Petersen, 2011)
[55] (Bjerregaard & Dahl-Petersen, 2011)
[56] (Bjerregaard & Dahl-Petersen, 2011)
[57] (Saammaateqatigiinnissamut Isumalioqatigiissitaq, 2017)

dialects of Greenlandic: Westgreenlandic, Eastgreenlandic and the Thule dialect. The Thule dialect is only spoken in and around Qaanaaq.

The population of the Thule area descend from a later settlement from Canada, than the inuit people in the remaining Greenland. The local population is called Inughuit (the proud people) and local cultural traditions such as drum dancing and kayaking play an important role in the cultural life of the inhabitants.

Due to the isolation of the area, the Thule area was the last area in Greenland to be colonized. It happened in 1937 when Denmark took over Knud Rasmussen's Trading Post. It was also the last place to be decolonized. The process happened when the people living in the settlement of Uumannaq were resettled, due to the construction of the Thule Air Base. Most of the people were moved to Qaanaaq[58].

Arguably, there still exist some clan structures, especially in Qaanaaq town, which secure some people privileges such as work in the public sector. Structures like this benefit to a social fragmentation that may prevent development[59].

10 Nature and land use

The license for the Dundas Ilmenite project is covering an area which is approximately 30 km long and three km wide. The license area covers the former settlement of Moriusaq (see section 10.1). The area is located 40 km North of the American military base 'Thule Air Force Base'.

There are no people living in the license area. However, some of the houses in Moriusaq is privately owned, and can be used as vacation houses. The license area is also passed by when people travel by boat between Savissivik and Qaanaaq.

As described in more details in section 8, local hunters have stated that the area is not used for fishing or hunting. They state that most people will not eat the meat due to the fear of the meat being poisoned by remains of a B52 brint bomb carrier that crashed in the area in 1968[60].

10.1 Moriusaq

Moriusaq got the status as a settlement in 1963. In the 1980s up to 80 inhabitants lived in the settlement[61]. Since then the population was steadily declining Until the settlement was officially closed in 2010[62]. In 2009 only two persons were living in Moriusaq.

Due to the public supply obligation in Greenland, the cost of having Mariusaq as an active settlement was approximately 2 million DKK per year[63]. In September 2009 the Greenlandic Self Government decided to initiate a dialog with the remaining residents of Moriusaq about leaving the settlement. It was also decided that all publicly financed activities would be stopped once the agreements with the

[58] (Hendriksen & Hoffmann, 2016)
[59] (Hendriksen & Hoffmann, 2016)
[60] Interview with hunters in February 2017. This is further described in the SIA.
[61] (Kamikposten, 2010)
[62] (Statistics Greenland, u.d.)
[63] (KNR, 2009)

remaining residents had been made[64]. The last person living in Moriusaq moved to Qaanaaq in 2010.

The closed settlement consists of approximately 20 houses, a church, a cemetery, a shop, a power station and a heliport. A view of Moriusaq is seen in Figure 23.

Since the closure of the settlement, the houses has been used sparsely for persons travelling to or from Qaanaaq going hunting near Pittufik or as a stop on the way to/from Savissivik.

Figure 23: Picture of Moriusaq, Summer 2016, picture taken by Flemming Pagh, Orbicon

10.2 Archeological discoveries in the license area

The Thule-area is well noted for its importance in understanding of prehistoric migrations from Canada and Alaska into Greenland.

In the summer of 2018 the Greenland National Museum (NKA) was contracted to perform an archaeological survey relating to activities in the license area. The license area contains archaeological evidence of Paleo-Eskimo and Inuit people in Greenland, as well as the Norse.

The survey recorded 89 sites and/or structures in the area[65], of which nine were identified as being prehistoric. If the project design and activities impact these location, complete archeological excavations must therefore be carried out[66].

11 Social issues

11.1 Crime

Figure 24 shows, that the crime rate in Greenland is high compared to Denmark and the Faeroe Islands. The number of offences per 1,000 persons was 76 in 2017. In Denmark and the Faeroe Islands the same number was 65 and 10, respectively.

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[64] (Naalakkersuisut, 2009)
[65] Not all
[66] (The Greenland National Museum & Archives, 2018)

According to the Greenlandic police, one of the biggest crime issues is violence. In 2017 there were 854 reported incidents of violence. This is a 9 % increase from 2016, and the highest number reported since the beginning of the 1980s. In Greenland there are four times as many reports of violence per inhabitant than there is in Denmark. Another big issue for Greenland is the high amount of reported sexual assaults, which has remained unchanged during the last couple of years. The number of reported sexual assaults against children shows the same unchanged tendency. In 2017 there were 132 cases of reported sexual assaults and 69 cases of reported sexual relationships with children under the age of 15[67]. Many cases of sexual assaults against children are never reported to the police[68].

Greenland has seen a positive development with some types of crimes. The number of reports concerning crimes against property, such as burglary and theft, was historically low in 2017. Another area which has seen a vast decrease in police reports is juvenile delinquency. The number has been decreasing since 2012 and it decreased with 24 % between 2016 and 2017[69].

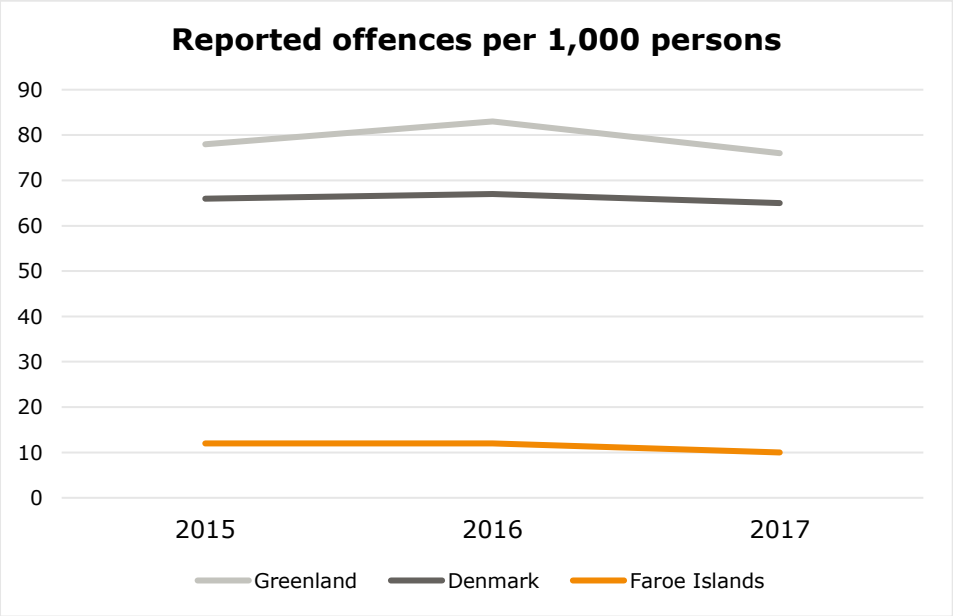

Figure 24: Number of reported offences per 1,000 persons, Greenland, Denmark and the Faroe Islands (source: Grønlands Politi)

Figure 25 shows the number of reported offences in Qaanaaq between 2013-2017. The number has been decreasing, except from a spike in 2015. In 2017, 39 offences were reported. Table 13 shows which types of offence were committed in Qaanaaq in 2017. The most common offence was burglary with 17 cases. The second most common offence was violence with 12 cases. In 2017 there were also 7 sexual offences, where 3 concerned rape, 3 concerned sexual relationships with children under 15 years and 1 concerned an offence against public decency. Qaanaaq was also the scene of one homicide in 2017.

[67] (Grønlands Politi)
[68] (Rosa, 2017)
[69] (Grønlands Politi)

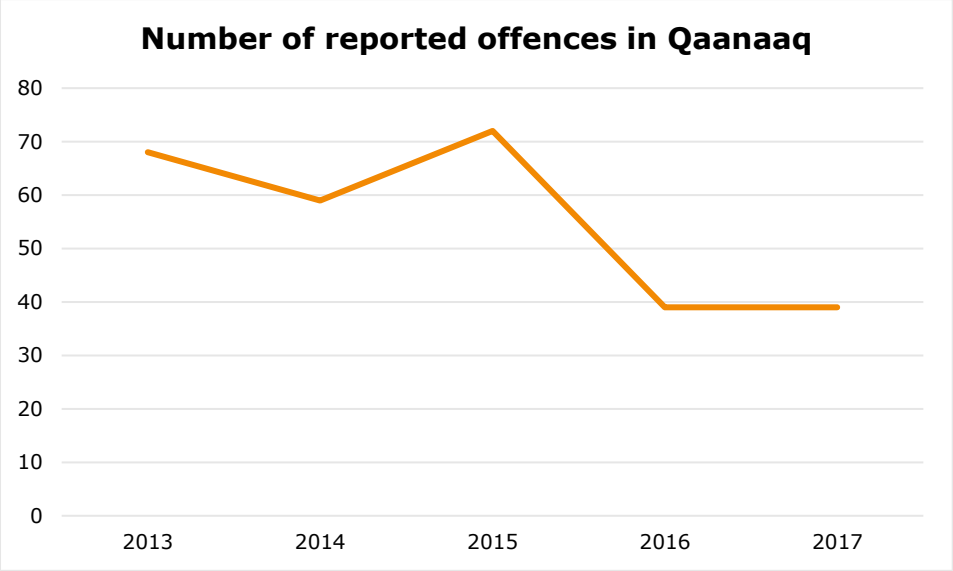

Figure 25: Number of reported offences in Qaanaaq between 2013-2017(Source: Grønlands Politi)

Table 13: Types of offences in Qaanaaq, 2017 (Source: Grønlands Politi)

	Number of offences
Homicide and violent crimes	
- homicide	1
- violence	12
Sexual offences	
- rape	3
- sexual relationship with a child under 15 years	3
- offences against public decency	1
Offences concerning property	
- burglary	17
- theft	2
- fraud, embezzlement etc.	1
- shoplifting	1
Vandalism	8

11.2 Homelessness

Qaanaaq struggles with a relatively high lack of housing. It is therefore normal that three generations live in two rooms[70]. It is estimated that approximately 1/4 of the adults in the town of Qaanaaq are homeless and are forced to sleep at their friends' or family's place[71].

[70] (Hendriksen & Hoffmann, 2016)
[71] (Sæhl, Kirk, & Veihe, 2018)

11.3 Drug/alcohol abuse

There is a relatively high number of persons in Greenland who problems with alcohol. Figure 26 shows the number of units of alcohol consumed per person per week. The number has been steadily declining during the past 10 years. In 2017, the number of units per week per person over 14 years was approximately 11 units. If the alcohol consumption is divided across the entire population, the number of units per week is approximately 8.5. In Denmark the same numbers are 9.9 and 11.7 respectively[72].

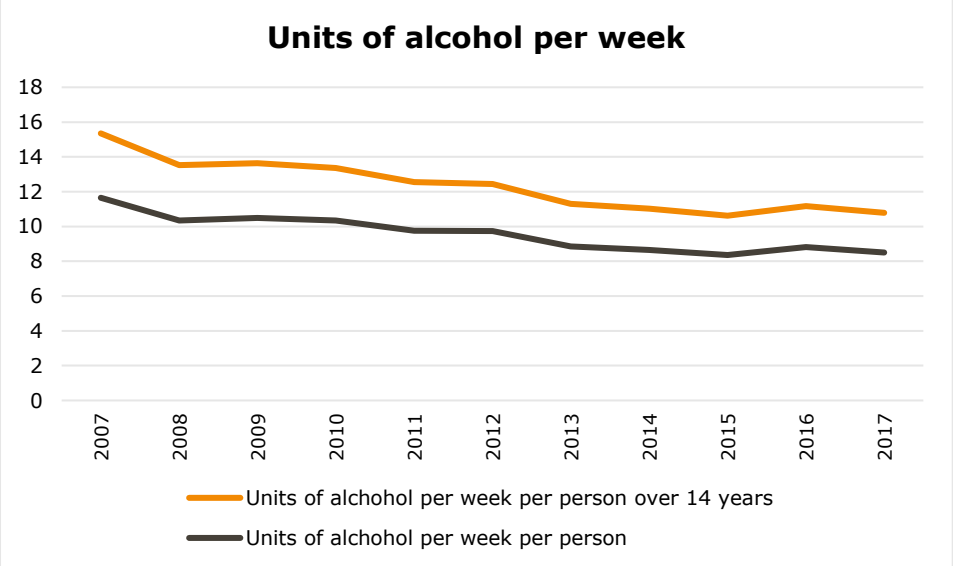

Figure 26: Units of alcohol consumed per week per person between 2007-2017, Greenland (Source: Statistics Greenland, ALXALK4)

Like other places in Greenland, Qaanaaq also has a big problem with alcohol consumption. The problem is so extensive that Qaanaaq was the center of attention in the Danish media in 2007 due to the high level of alcohol consumption in the area. The Danish movie director Karen Littauer was doing a children's theater project in Qaanaaq in 2007. During the project period Karen Littauer discovered that many of the children were neglected due to their parents' alcohol habits. She brought the story to the Danish media and was subsequently reported to the police by the parents in Qaanaaq for violating the children's rights. The case became widely debated in both the Danish and the Greenlandic media[73]. The case got so much attention that the Greenlandic Self Government banned all sales and the serving of beverages with an alcohol percentage above 2.5 % in Qaanaaq and the surrounding settlements[74]. The ban was lifted the same year, when a new decree stated that only beverages with an alcohol percent above 15 % were banned[75]. The legislation on the area has since changed again, and sales and

[72] (Statistics Denmark) and own calculations
[73] (Almbjerg & Nielsen, 2007)
[74] Hjemmestyrets bekendtgørelse nr. 6 af 10. maj 2007 om forbud mod salg og udskænkning af drikke med alkoholvolumenprocent over 2,25 i Qaanaaq Kommune.
[75] Hjemmestyrets bekendtgørelse nr. 11 af 20. juni 2007 om forbud mod salg og udskænkning af stærke drikke med alkoholvolumenprocent på 15 eller derover i Qaanaaq Kommune

serving of alcohol is currently banned in Savissivik, while it is only legal to sell and serve alcohol below 15 % in Qaanaaq, Qeqertat and Siorapaluk[76].

11.4 Vulnerable groups

Vulnerability is often linked to and caused by factor such as poor health, lack or limited education and unemployment.

A health survey was carried out in the area of Qaanaaq (Avanersuaq) in 2010 which concluded, in the same way as it is seen in this baseline survey, that the education level is lower in Qaanaaq compared to the rest of Greenland. Twice as many live as hunters or fishermen than the rest of Greenland and housing conditions was worse. Both wealth and income were lower in Avanersuaq than in the rest of the country. Furthermore, many of the participants in the survey had experienced alcohol problems or violence in their childhood home. In addition, several of the participants (especially the women), stated that they have been sexual abused[77]. Combined this means that a larger share of the population in Qaanaaq and the settlements must be seen as vulnerable, when comparing to the rest of Greenland.

In June 2018 the Children's Rights Institution (MIO) visited Qaanaaq to conduct an investigation about the conditions for the children in Qaanaaq. MIO's finished report about the visit concluded that 18 articles in the UN Convention on the Rights of the Child were being violated. One of the detected problems were a lack of help to children who has suffered from abuse or have in other ways been let down. Qaanaaq is also dealing with problems such as sexual assaults against children, abuse of alcohol and gambling addictions amongst adults, reports of children sniffing glue and lighter gas and violence and mental abuse against children[78].

12 Infrastructure

12.1 Transportation

Qaanaaq is one of the least accessible places in Greenland because of its geographic location. Qaanaaq does have an airport with a weekly flight to Ilulissat via Upernavik, The Air Greenland Dash-8 planes that are flying the route has a maximum passenger seats of 37. Flights in and out of Qaanaaq are expensive, and a large share of the population in Qaanaaq cannot afford to use it[79].

Qaanaaq does not have real port facilities because construction of one would be difficult due to a reef. Between July and September Qaanaaq is navigable and Royal Arctic line has a route to the town. Because of the lack of port facilities cargo has to be loaded and unloaded by the use of barges. Unloading and loading a vessel can therefore take days.

The primary means of transportation within the Qaanaaq area is dog sledge and motor vessel. In the summer it is possible to travel by boat to the surrounding

[76] Selvstyrets bekendtgørelse nr. 26 af 4. november 2016 om salg og udskænkning af alkoholholdige drikke i Qaasuitsup Kommunia
[77] (Bjerregaard & Dahl-Petersen, 2011)
[78] (Børnerettighedsinstitutionen, 2018)
[79] (Hendriksen & Hoffmann, 2016)

settlements, but in the winter it can only be done by snowmobile, helicopter or dog sledge[80].

12.2 Power supply

Qaanaaq town has a diesel-driven power plant which provides the town with power. The town also has an emergency power plant. The western part of Qaanaaq town has oil-fired heat production, while the rest of the town has electric heating and residual heat from the power plant.

There is no power plant in Qerqertat. Some of the buildings in the settlement have a generator to produce power, and heat is produced by means of paraffin heaters or oil-fired burners. The two other settlements in Qaanaaq, Savissivik and Siorapaluk, both have power plants and heat is produced by means of paraffin heaters or oil-fired burners[81].

There are no power supply in the license area.

12.3 Drinking water

The water supply in Qaanaaq is based on surface water in the summer, and melted ice from frozen icebergs on the fiord in the winter. The distribution of the water takes place via a network of preinsulated, electrically heated frost-proof lines, water tank trucks and bottling houses. The supply can be unreliable in some periods, but it meets the demand of the town. It is common to also fetch ice blocks to meet one's individual water demand.

The three settlements Qerqertat, Savissivik and Siorapaluk do not have a central water supply. Therefore the demand for water is met by everyone collecting their own water in the summer and ice for melting in the winter[82].

12.4 Telecommunication

TELE Greenland handles telecommunications in Qaanaaq town, Savissivik and Siorapaluk. Qerqertat does not have any phone or internet coverage. The settlement has a battery-powered aerial network and a radiophone belonging to the municipality[83]. The telecommunications infrastructure in Qaanaaq, the settlements and license is covered by satellite, and not by a marine cable as in most of Greenland.

[80] (2014-2016 plan for Qaasuitsup Municipality)
[81] (2014-2016 plan for Qaasuitsup Municipality)
[82] (2014-2016 plan for Qaasuitsup Municipality)
[83] (2014-2016 plan for Qaasuitsup Municipality)

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