

# **Greenland's Elite Sport System: Capabilities, Challenges and Performance of a (Very) Small Nation in the World's Largest Island**

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## **ABSTRACT**

Research into the development and competitiveness of national elite sport systems has grown significantly in recent years. Most research concerns large or medium-sized nations whereas studies of elite sport systems in small nations are notably absent. This paper focuses on a (very) small nation and its efforts to become competitive in international elite sport. Using the nine pillars of the SPLISS framework, the study assesses the strengths and weaknesses of Greenland's elite sport system. From a pure results perspective, Greenland performs below expectations. This is partly the result of its climatic and geographical conditions and low population density. The case study of elite sport in Greenland has intrinsic value in its analysis of a nation with extreme conditions in this respect. The case study is also used to suggest general conclusions regarding the capabilities and limitations of elite sport systems in small nations.

**Keywords:** International sporting success; Elite sport; Greenland; Geography; Climate.

## **1. INTRODUCTION: WHY STUDY THE ELITE SPORT SYSTEM OF A (VERY) SMALL NATION?**

Government interest in international sporting success has increased globally over the years (Green & Houlihan, 2005; Houlihan & Zheng, 2013). An increasing number of nations are now competing in international competitions, and due to increased investment in national elite sport systems, the question of the effects from such investments has entered the sphere of public interest (De Bosscher et al., 2015). Therefore, research and evaluation of existing systems, priorities and strategies are needed, and, in parallel, new research programs have developed (see for example: De Bosscher et al., 2018; Green, 2009; Green & Oakley, 2001). So far, existing research has focused on elite sport systems of large or medium-sized nations. There are only few studies of small nations and none of very small nations. To the best of our knowledge, Estonia (population: 1.3 million) is the smallest nation that has been studied in the academic literature (De Bosscher et al., 2015; Raudsepp et al., 2013).

Insight into the priorities and strategies behind the successes and failures of small nations is largely absent resulting in little research-based knowledge available for these nations to develop their own elite sport system. The aim of this paper is to contribute to filling this gap by focusing on the elite sport system of Greenland - the world's largest island although one of its smallest nations with a population of only around 57.000. The ambitions for gaining international sporting success are high, and the elite sport system in Greenland is well funded and generally well organized. However, there are major climatic and geographical constraints affecting the performance of its athletes.

This study is exploratory and is mainly based on qualitative data. It applies the overall pillar structure of the SPLISS (Sports Policy Factors Leading to International Sporting Success) study in an analysis of the Greenlandic system. The scores for the pillars in the SPLISS study are derived from data about a large number of success factors and sub-scores. This comprehensive

framework facilitates an understanding of differences between and convergences in elite sport systems (De Bosscher et al., 2018). The study of Greenland's elite sport system does not use the full SPLISS framework but only the overall pillar structure. Therefore, the results cannot be used for a comparison with other countries similar to the SPLISS study. The required data for such a comparison does not exist. However, the SPLISS does provide a useful overall structure for the analysis of a case which is original because of its small scale and unique because of the importance of climatic factors and can be seen as a lighter methodological version of the SPLISS approach. We believe that this is useful in cases where the full-scale version is difficult and too expensive to deploy.<sup>1</sup>

The paper starts with a section that elaborates the rationale and the purposes of the case study of Greenland as a very small nation. The next section is a brief review of existing studies on international elite sport followed by an outline of the theoretical approach and a presentation of the data and methods applied in the study. Then the case findings are analyzed and discussed. Finally, we sum up and conclude what may be learnt from this case, first the specific conclusions regarding Greenland followed by conclusions of relevance for small nations in general as well as theoretical reflections.

## **2. GREENLAND – A CASE STUDY**

Case study methodology literature distinguishes between intrinsic and instrumental cases (Stake, 2005). The choice of the specific case of Greenland has both intrinsic and instrumental motivations. It is an intrinsic case in the sense that Greenland is an interesting case in itself, due to

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<sup>1</sup> It would have been ideal if data about the criteria used in the full scale SPLISS framework had been collected. However, this was impossible because of resource and time constraints.

its peculiar characteristics. The aim of the analysis is partly to reflect on the strengths and weaknesses of the system to help its stakeholders to understand and improve it.

Further, this is a pioneer study in the sense that no other studies of the elite sport system of very small nations exist. Therefore, it holds potential relevance as an instrumental case for understanding the challenges which small nations will have to overcome in order to become competitive in the international sporting arms race. Copying successful large- or medium-sized nations is hardly relevant nor feasible in such contexts. This paper aims to understand to what extent the case study of Greenland can be useful for other small nations in their efforts to understand and develop their elite sport systems.

Information-oriented selection is more relevant in case-study research than random sampling (Flyvbjerg, 2006). The purpose of information-oriented selection is to choose small samples or single cases based on expectation about their information content. The selection of extreme or deviant cases is one type of information-oriented selection. The purpose of studying extreme cases is 'to obtain information on unusual cases, which can be especially problematic or especially good in a more closely defined sense' (Flyvbjerg, 2006, p. 230).

Greenland is an extreme case in several respects; first and foremost, because of its climatic and geographical conditions. It is very thinly populated and transport between settlements is difficult and costly. It is also extreme in the sense that the elite sport system is very well funded and has an elaborate and well-developed organizational structure. This is partly because of financial support as well as inspiration from and interaction with the Danish elite sport system.

To some extent, this resembles other autonomous regions which often function as part of a broader national elite sport system. However, the Greenlandic elite sport system is not able to take full advantage of this situation because of the geographical distance from Denmark. In this case study, the extreme characteristics of Greenland will be used to draw general lessons regarding the

appropriateness of ‘best practice’ benchmarking, sport specialization, reliance on other nations’ elite sport systems, and the impact of extreme climatic and geographical preconditions.

Even single case studies can be used to gain such general knowledge if the case is well-chosen (Small, 2009). This represents naturalistic generalization (Melrose, 2010; Ruddin, 2006) rather than statistical generalization through randomized tests. Naturalistic generalization invites readers to apply ideas from in-depth depictions of the case to other contexts. A detailed ‘thick’ presentation of the case is required in order to make it possible for readers to understand the different contexts in order to be able to apply knowledge gained in one case to other contexts.

### **3. A BRIEF REVIEW OF THE LITERATURE**

During the last decade, research into international elite sport has increased significantly (De Bosscher et al., 2015). Macro determinants of international sporting success – i.e., how a nation’s wealth, population size and other factors influence medal portfolios – have been studied employing econometric methods (e.g. Valenti et al., 2019). Other studies have aimed at understanding the characteristics of successful elite sport systems (e.g. Storm et al., 2016). In this context, researchers have been engaged in examining whether there is a trend towards a uniform global elite sports model (De Bosscher et al., 2016), or whether nations aim at finding their own formula for performing better in international competitions (De Bosscher et al., 2009). The evidence suggests that while some homogenization of systems is taking place, there are still major national differences (Andersen & Ronglan, 2012).

Other researchers focus on specific countries or clusters of countries in order to identify the factors leading to international sporting success. Such studies include Australia (Stewart et al., 2004), China (Hu & Henry, 2017; Zheng & Chen, 2016), the UK (Green, 2009; Green & Houlihan, 2004), the US (Sparvero et al., 2008), Iran (Fereidouni et al., 2015), Poland (Zysko, 2008), and Brazil (de Almeida et al., 2012). Houlihan and Green (2008) provide a selection of

papers by various authors with case studies of nine countries: China, Germany, France, Japan, New Zealand, Norway, Poland, Singapore, and the United States.

Several studies have focused on the Scandinavian countries. These studies are particularly relevant in this context because of Greenland's formal relation to Denmark. Augestad and Bergsgaard (2007) and Norberg & Sjöblom (2012) examine the Norwegian and the Swedish system respectively. Studies by Ibsen, Hansen, and Storm (2010) and Storm, Thomsen, and Nielsen (2016) analyze the Danish elite sport system. Andersen and Rongland (2012) examine the Nordic elite sports systems and provide case studies from Denmark, Finland, Norway and Sweden.

Whereas almost all other studies are isolated case studies, the SPLISS project is a systematic comparison of a number of countries with the purpose of identifying national determinants of success (De Bosscher, 2007; De Bosscher et al., 2006, 2010, 2015). Results show that several policy and organizational factors are important in this respect. The absolute level of funding of a national elite sport system is the most significant determinant of a high medal portfolio. However, money may be spent inefficiently. The overall level of funding may mask the actual causal relationships in a specific context between what money is spent on and performance.

Research concerning international elite sport systems and their performance has grown significantly, but there are still only few studies of small nations and, to our knowledge, no studies have previously been undertaken of nations with a population of less than one million.

#### **4. THEORETICAL APPROACH**

Analyzing the elite sport system in Greenland demands a theoretical underpinning. In this paper, a version of the SPLISS framework (De Bosscher et al., 2015), which only applies the overall pillar structure, is used for this purpose. The basic idea in the SPLISS approach is the assumption that international sporting success relies on advantages accrued on three levels: macro-, meso-, and micro-levels (Storm et al., 2016).

Macro-level factors are those determinants that are not easily changeable in the short run. In studies explaining elite sport success, the focus has often been on the population base of a nation and its economic strength (De Bosscher, 2007). Cultural factors, history (sport traditions), religion, population density and climatic factors are other such macro factors. Evidence shows that macro-level factors together explain around 50 percent of a nation's competitiveness (Storm et al., 2016). Prototype nations fitting into this matrix are China (large population base) and the USA (the world's largest GDP). In relation to winter sports, Norway can be seen as a prototype nation (climatic environment predicting success in skiing).

Meso-level factors are the specific elite sport policies and structures in any given nation. The SPLISS approach lists nine such pillars that can help explain a nation's international competitiveness in addition to the macro-level factors. These comprise **P1**: Direct financial input into the system; **P2**: Organization and structure of elite sport policies; **P3**: Sport participation; **P4**: Talent identification and development; **P5**: (Post-)athletic career support; **P6**: Training facilities; **P7**: Coaching provision and coaching development; **P8**: Access to national and international competitions; **P9**: Scientific research. Evidence suggests that the meso-policy level is increasing in importance in relation to international sporting success (De Bosscher et al., 2015).

The meso-level pillars consist of a range of composite indicators and is aggregated in scores of 96 CFSs (Critical Success Factors) and 750 subfactors developed from a wealth of qualitative data augmented with data from surveys. The pillars are used to compare elite sport policies in first 8 (SPLISS 1.0) and later 15 (SPLISS 2.0) nations (De Bosscher et al., 2015).

At the micro-level, factors such as support from parents, clubs and communities forming the specific environment around the athlete also have an impact on the competitiveness of a nation's overall performance in international elite sport.

In brief, it is theoretically anticipated that an elite sport system converts its macro- and micro-level inputs (available resources and athlete environment) through its organizational setup



(the throughputs consisting of the pillars described above) into output (i.e. the international performance of the nation) (De Bosscher et al., 2010). This leads to a preliminary assessment of how well (or bad) the Greenlandic elite sport system converts its available inputs into outputs, and where its core strengths and weaknesses are located.

The current study is explorative considering the lack of available literature on elite sport development in small countries and the resource and time constraints faced by the researchers,. It makes use of the theoretical foundations and the pillars structure of the SPLISS study to frame and steer the analysis. However, instead of the underlying measurement system containing critical success factors, based on inventories and surveys with athletes, data have been collected and analyzed in the way described in the following section.

## **5. DATA AND METHODS**

The analysis is based on mainly qualitative but also quantitative data. The data sources as well as the results of the study are reported in detail in a report written in Danish (Storm & Rask, 2018).

The qualitative data consist of interviews with 17 central stakeholders in Greenlandic elite sport and general sport system. Interviews performed with managers in the general sport system were undertaken in order to obtain an overall and broader understanding of sport in Greenland, while interviews with elite sport managers and athletes aimed at acquiring specific information about elite sport in Greenland. The interviews were undertaken in July–October 2018, and each had a duration of 60–90 minutes. Interviews were based on a semi-structured interview guide (Christiansen, 2011; Kvale, 2008) incorporating the themes outlined in the theoretical framework presented in the previous section. The respondents were asked to assess the actual status and development of the Greenlandic elite sport system with reference to the nine meso-level pillars. The interviews were conducted either by phone and Skype, or during a field trip to Greenland in October 2018. Interviews were recorded and central quotes transcribed. Together with field notes and brief summaries, this guided the analysis. In addition to the interviews, secondary data and

background information, such as policy papers and annual reports have been used to gather information on Greenland's elite sport system. All this data was then used to form a qualitative based assessment of each of the pillars.

The quantitative data cover medal portfolios and performance of Greenlandic athletes extracted from websites and books, supplemented by information from sport federations in Greenland. This is used to examine the output of the elite sport system. In addition, financial reports from Elite Sport Greenland (2014, 2015, 2016, 2017) and the Sports Confederation of Greenland (2013, 2014, 2015, 2016, 2017) were examined covering the period 2013–2017 to obtain a picture of the supply of financial resources on the input side. Detailed quantitative data on facilities were registered through a complete mapping in all five municipalities in Greenland.

In the subsequent sections, the macro-level conditions faced by the Greenlandic elite sport system are briefly outlined, followed by an analysis of the output; i.e., the international competitiveness of Greenland's elite sport athletes. The next section is an analysis of the meso-level; i.e., the elite sport system and policies in Greenland. This analysis searches for explanations of the gap between the actual performance and what could be expected from the macro-level conditions. There are only few data available on the micro-level conditions. Therefore, this is integrated into the analysis in the macro- and meso-levels when relevant.

## **6. MACRO LEVEL CONDITIONS: POPULATION, INCOME AND CLIMATE**

Greenland is located in the Northern Hemisphere close to the North Pole. It is the world's largest island and an autonomous territory with its own parliament within the Kingdom of Denmark consisting of Denmark, the Faroe Islands and Greenland. Greenland has been formally related to Denmark for more than 300 years. It is a highly regulated democracy similar to the other Nordic countries (Udvalget for samfundsgavnlig udnyttelse af naturressourcer i Grønland, 2014).

Denmark provides significant subsidies for Greenland to run its state institutions, education system and so forth. Greenland has 57,000 inhabitants (2020) which correspond to only 1% of the

population of Denmark, slightly less than Andorra, similar level to the Channel island of Guernsey, and a bit larger than the European microstates, Liechtenstein, Gibraltar, Monaco and San Marino. Most inhabitants in Greenland descends from the Inuit people who migrated from Canada in the 13<sup>th</sup> century.

Greenland is a high-income nation with an average income per capita of US\$ 48,300 (2016). Measured by PPP (Purchasing Power Parity) per capita, Greenland has an income level among the richest 30 nations in the world. However, this is a relatively recent development, and in some respects, Greenland has characteristics similar to developing countries. Since World War II, Greenland has progressed from isolated communities where people lived entirely off hunting, to a country with commercial fishing hubs and the beginnings of a large-scale mining industry. Greenlanders living in larger population centers have a standard of living comparable to that of Western Europe. However, many inhabitants have been left behind. At least a fifth of the population still live in small settlements and do not have access to basic services such as adequate emergency health care and schools (Herscher, 2016). Further, the average life expectancy is very low for a high-income country (74 years for women, 69 years for men).

The capital of Greenland is Nuuk with 18,000 inhabitants. Greenland has 12 other settlements with more than 1,000 inhabitants but only one has a population exceeding 5,000. Greenland is extremely thinly populated, and most settlements are isolated with no means of connectivity apart from flights, helicopters and coastal boats. In terms of international links, Greenland also suffers from several significant geographical handicaps. The long distance from major population centers in Europe and Northern America makes international travel long and expensive. Few airlines have interest in providing services and Air Greenland's fares reflect both the thin market and its monopoly position.

Further, the climatic conditions in Greenland constitute a significant handicap for elite sport. Outdoor summer sports are only possible for a few months in the year in all but the most

southern settlements. Indoor sport activities are dependent on the availability of proper facilities. In this context, geography also plays an important role since construction costs are very high as most building materials are imported by means of expensive transport. On the other hand, Greenland has a potential climate-derived relative advantage in relation to winter sports, at least in disciplines that do not require costly facilities such as cross-country skiing, biathlon and to some extent snowboarding and freestyle.

In summary, as far as the macro-level conditions of Greenland are concerned, elite sport competitiveness is constrained by the small population. On the other hand, the high income per capita provides good conditions for generous financial support to elite sport. In addition, the public sector is relatively large in Greenland which provides a better potential for high public expenditure support for elite sport than in countries where this share is low. However, other macro factors have crucial impacts on elite sports in Greenland. The geographical location and low population density constitute significant handicaps and the climatic conditions restrict performance in most summer sports. On the other hand, the climate is a potential advantage in relation to some winter sports.

## **7. OUTPUT: PERFORMANCE AND COMPETITIVENESS**

Often, results at the Olympic Games are used as a measure of a nation's elite sport performance. Greenland is not a member of the International Olympic Committee and does not participate in the Olympic Games as an independent nation. However, Greenlandic athletes have competed in the Olympics as representatives of Denmark. Two of the Danish participants in Summer Olympics originate from Greenland, whereas seven Greenlandic athletes have represented Denmark in Olympic Winter Games in various skiing disciplines. This is a sizeable share (almost 40%) of the total Danish representation in skiing in the Winter Olympics. However, the results have been modest. Only once have a skier from Greenland achieved a ranking in the top half. In total, Greenland has contributed 0.5% of all Danish participants in the Olympic Games (Summer Olympics: 0.1%; Winter Olympics: 10%). This is half of its share of the Danish population (1%).

Greenland participates in two other multi-sport games - the Island Games and the Arctic Winter Games. The performance of Greenlandic athletes in these games is a more relevant indicator of the competitiveness of Greenland's elite sport system than its results in the Olympics. Both games are held biannually. Island Games is an international multi-sport event (14 summer sports) involving more than 20 small island communities (nations, regions and autonomous entities). The Arctic Winter Games is a similar event comprising indoor and winter sports including indigenous Arctic sports. The participating entities are the five Northern Canadian provinces, Alaska, Sápmi (a cultural region populated by the Sami people), a region in Russia, and Greenland.

Greenland has participated regularly in the Island Games since 1989 and has won a total of 80 medals in five different sports, which is 0.9% of all medals in the Island Games. Among all participating islands, Greenland was ranked 16-19 in the Games since 2001. Greenland has 4.5% of the total population of the participating islands and is the 10<sup>th</sup> largest island in terms of population. This suggests that Greenland does not perform as well as might be expected. Another indicator pointing to the same conclusion is a comparison with islands having a similar population size such as the Faroe Islands and Gotland, which have won 8.2% and 8.4% of all medals respectively. In other words, Greenland has won only about one tenth of the medals won by each of those two islands despite having a population of similar size.

The weak medal portfolio in the Island Games can partly be explained by the geographic and climatic factors that constitute huge challenges for outdoor summer sports in Greenland. On the other hand, they should provide it with an advantage in winter sports and a potential to perform better in the Arctic Winter Games. Greenland has participated in the Arctic Winter Games since 1990. In the six Games since 2008, Greenland has won a total of 349 medals. Most successful in terms of medals are Inuit or Arctic sports with disciplines such as Alaskan high-kick, sledge jump and head-pull. Greenland has also been successful in futsal. Greenland has only won a few medals

in traditional skiing disciplines such as alpine skiing, biathlon and cross-country skiing. In the period 2008–2018, Greenland won 7.8% of total medals in the Games and is ranked as sixth of the nine participating nations/regions in the accumulated medal table. It is not possible to judge whether this is better or worse than what could be expected based on its macro conditions (wealth and population). However, it is evident that in this context Greenland has relative strength in a few indoor sports, and that Greenlandic skiers are only seldom competitive in the traditional outdoor winter sports.

The competitiveness of Greenland's elite sport system cannot be judged by the performance of Greenlandic athletes in multi-sport events only. It is also relevant to look at results for each sport in other events. Five of Greenland's sport federations (handball, badminton, taekwondo, table tennis, volleyball) are members of international sport federations, and accordingly Greenland is eligible for participation as an independent nation in international championships organized by these federations. The following section examines the results for the three most prominent of these five sports supplemented with a glance at other sports where the federations in Greenland are part of the respective Danish sport federations.

Handball is the sport in which Greenland is closest to performing among the best nations in the world. Greenland is a member of the Pan-American Team Handball Federation and participates in the Pan-American championships for men and the North American and Caribbean championships for women. The men's team has been ranked no. 3-6 in the ten championships organized since 1998. The women's team has been ranked no. 3 on one occasion. The men's team qualified for the finals of the world championships on three occasions. Among 24 participating nations, Greenland was ranked 20<sup>th</sup> (2001), 24<sup>th</sup> (2003) and 22<sup>nd</sup> (2007) on these occasions. The women's team qualified for the world championships in 2001 where they finished in 24<sup>th</sup> (bottom) place. Some of the best players from Greenland are professionals in the Danish handball clubs. In the 2018/19 season, twelve players from Greenland were in league club squads – five of them in

the top tier. It has undoubtedly improved the competitiveness of Greenland's national handball team that some of the best players hone their skills in Denmark.

The relative strength of handball as a sport in Greenland reflects the historical links to Denmark where team handball is the second most popular sport after soccer. In Denmark, badminton is another sport with relatively high participation, high profile in the media and strong international competitiveness. The links to Denmark explains why this sport also has a high profile in Greenland. In terms of accumulated medals at the Island Games and the Arctic Winter Games, badminton is the most successful Greenlandic sport. However, the best Greenlandic badminton players are still some distance from being competitive at the international level. In 2018, Greenland participated in the European Team Championships for the first time. Although the men's team lost all three group matches, its performance show that Greenland is not far from being competitive among the weakest European nations. However, the distance to the international top is huge, as reflected in the rankings of Greenland's best players on the BWF (Badminton World Federation) ranking list (10<sup>th</sup> December 2019). Only five Greenlandic participants were ranked in top-1000 in the five disciplines. The highest Greenlandic ranking was as no. 593 in the men's singles.

Taekwondo is another popular sport in Greenland. Since 2002, taekwondo players from Greenland have won 31 medals in European Championships, and 6 medals in World Championships. The results should be seen in the specific organizational context. Greenland is member of the International Taekwon-do Federation (ITF) which is the second largest international taekwondo federation. The largest federation is the World Taekwondo federation (WF) which is sanctioned by the IOC and has a much larger number of member states. It is not possible to compare the level of competition in the two organizations in an objective way, but it is no doubt significantly higher in the Olympic style of taekwondo. However, even so Greenland is doing quite well. A total of 795 athletes from 29 countries participated in the ITF European

championships in 2017, including three from Greenland who won two medals. Only six of 29 countries had a higher medals/participants ratio than Greenland.

Apart from the five sports with independent membership of international federations, four other federations are part of the respective Danish federations. Two of these federations (soccer and skiing) are relevant in this context.

Soccer is by far the most popular sport in Greenland. The national soccer federation has 6,600 members; i.e., more than 10% of the population is a member of a soccer club. There is no national league; national championship tournaments for male and female elite and various age group teams take place annually. The competitive activity of the national teams is seldom and infrequent. Without FIFA/UEFA membership, there are no regular tournament activities.

Greenland has taken part in a few tournaments for nations/regions without FIFA membership with limited success. Apart from this and the biennial Island Games, international matches for Greenland's national teams have been restricted to friendly matches. In the period 2014–17, the male national team played eight friendly matches against teams from Denmark, the Faroe Islands and Iceland. The results, including a crushing 7-0 defeat to a Danish tier three club, suggest that there is a wide gap in quality between top soccer in Greenland and national teams in neighboring nations. In 2018 and 2019, there were neither international matches nor any joint training sessions for the national teams. In other words, the level of top soccer in Greenland is very low. The fact that the arctic climate makes it impossible to play soccer outdoors for more than three months a year does not help.

Whereas the climate in Greenland is a major barrier for achieving competitiveness in (outdoor) soccer, this is not an issue with respect to (indoor) futsal. Greenland is well-endowed with appropriate facilities and is not far from being internationally competitive in this sport. Results in the Arctic Winter Games show strength at the youth and junior levels. Since 2016, Greenland has also taken part in the annual Nordic Cup for five Nordic national teams. In the three



first tournaments Greenland finished in 5<sup>th</sup> place but was ranked 4<sup>th</sup> in 2019 after a win over Denmark. The four other counties participating in the Nordic Cup are ranked between 23rd (Finland) and 32nd (Norway) on the official UEFA ranking list 2018/19. If Greenland was a member of UEFA, it is likely that the nation would be ranked around no. 40 among 55 nations.

Whereas Greenland is severely disadvantaged in relation to outdoor sports it has potential advantages in relation to skiing. As far as availability of snow is concerned, Greenland is well covered. Skiing is possible almost all-year round in most parts of Greenland. Skiers from Greenland frequently dominate the Danish championships and there have been many Greenlandic skiers among the Danish representatives at world championships in all Olympic skiing and biathlon disciplines. However, most often the results have been modest. By far the best result by a Greenlandic skier was achieved by the biathlete, Ukaleq Slettemark, who won gold in 10 km individual at the junior world championships in 2019. She has benefited from strong 'micro-level' family support as the daughter of parents who have both been international biathletes. She has also thrived from being part of a top-level training and competition environment in Norway. Her achievements do not reflect the strength of its elite sport system of Greenland. They are rather the result of integration into the best practice environment abroad combined with strong family support. This of course not unique for this case.

There are no objective measures for evaluating how Greenland's elite athletes perform in relation to national macro conditions such as population, economy, climate, population density, and geography, but, overall, it seems that they do not perform as well as one might expect. This is evidently so when only the normally most important macro factors (population size and GDP per capita) are included. Nations and autonomous regions with a similar or smaller population size than Greenland have done much better in multi-sport events and in world and continental championships. The number of Greenlandic athletes representing Denmark in the Olympic Games is relatively low despite favorable climatic conditions for some winter sports. In the Island Games,

the medal tally of Greenland is only one tenth of that achieved by countries of similar size. Greenland has experienced some success in international competitions in a few indoor sports (team handball, futsal and taekwondo). However, the competitiveness is generally pretty low. Climatic and geographical disadvantages may explain the overall underperformance to some extent, but it seems that Greenland also underperforms in skiing where the climatic conditions are relatively advantageous for athletes from Greenland.

#### **8. MESO LEVEL THROUGHPUT: GREENLAND'S ELITE SPORT SYSTEM**

The macro-level conditions facing the elite sport system of Greenland represents a combination of strengths and weaknesses. The low population size is, of course, a major disadvantage. However, income per capita is high which puts Greenland in a potentially advantageous position in relation to the effort for achieving international sporting success. At least, the economic strength should potentially make it possible for Greenland to do better than most other nations with a small population. The output shows that this is not the case. Greenlandic athletes underperform in relation to what one might expect from the traditional macro-level factors. The following analysis explores whether and to what extent this underperformance can be explained by factors located at the meso-level. The presentation is structured according to the nine pillars of elite sport systems and policies presented earlier.

The analysis shows that some of the meso-level factors are heavily influenced by macro-level conditions which are of little importance in most other countries, and accordingly often ignored, such as geographical distance and climatic conditions. The examination includes references to similarities and differences in comparison with the Danish elite sport system.

### **8.1. P1: Direct financial input into the system<sup>2</sup>**

The poor performance of the Greenlandic elite sport system is not the result of a lack of funding. It is difficult to estimate the financial input into the system as there are many direct and indirect sources. However, a good indicator is the revenue figures in the accounts of Elite Sport Greenland (ESG) - the organization responsible for supporting elite sport in Greenland. As in other nations, these figures underestimate the actual amount available for elite sport in Greenland. For example, additional direct support comes from the municipalities which also provide indirect support through financing construction and maintenance of facilities. The sport federations also provide support to their elite athletes in addition to using the funding they receive from ESG for this purpose. However, ESG's revenue covers most of the relevant funding. These figures can also be used for comparison with the revenue of the Danish counterpart, Team Danmark.

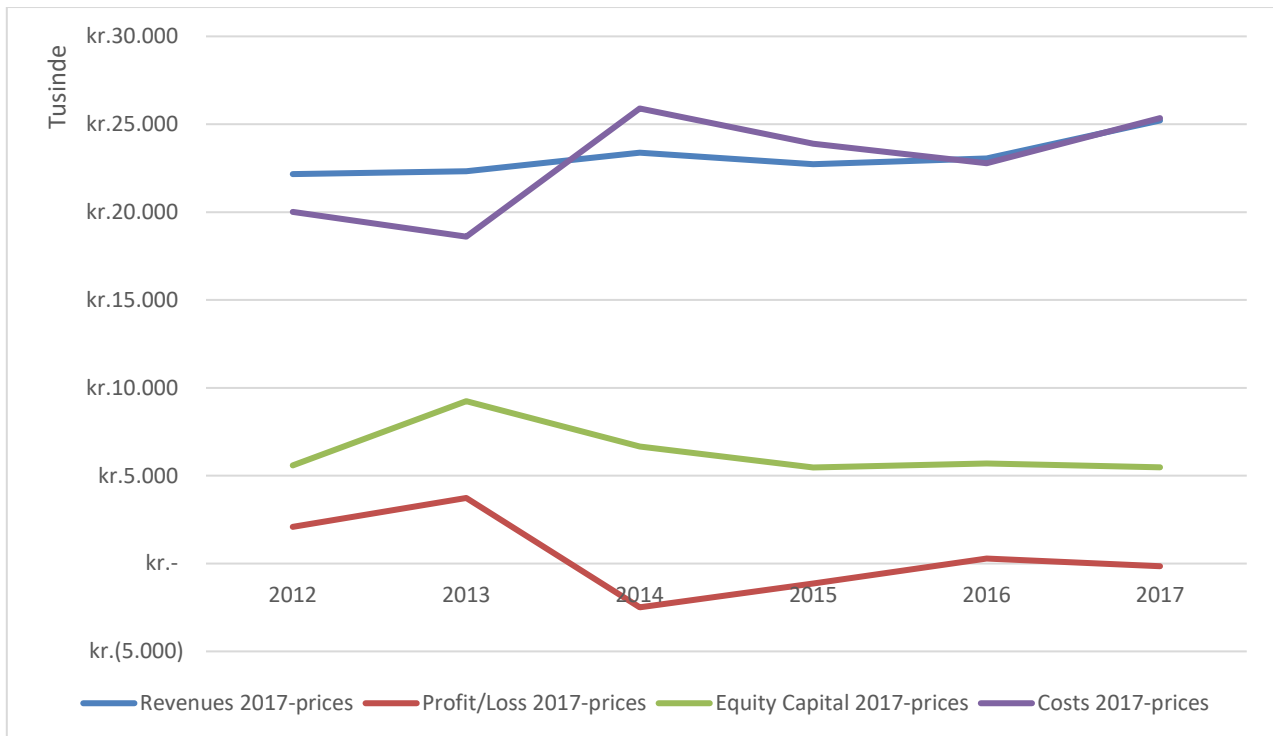
The development of ESG's revenues, profits and equity capital of is seen in Figure 1. More than three quarters of the revenue originates from the (Danish) national lottery profit. The share of sponsor contributions is modest at 12% of total revenues. The government of Greenland contributes the remaining 12%.

### **Figure 1: Revenue, costs, profit/loss and equity capital for Elite Sport Greenland. 2012-2017, DKr. (2017-prices)<sup>3</sup>**

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<sup>2</sup> This pillar is input rather than throughput. It is included in this section because it is part of the meso-level of the system. i.e. the factors that can be influenced by elite sport policy.

<sup>3</sup> One euro is equivalent to around seven Danish kroner (Elite Sport Greenland, 2014, 2015, 2016, 2017).



Compared to the successful Danish system (see: Storm et al., 2016), the elite sport system of Greenland is very well-funded. In the period 2012–2017, ESG had about 2.5 times higher revenue per capita at its disposal compared to Team Danmark. Such differences suggest a potential for a much higher medal portfolio for the Greenlandic system than realized. The interviews document that direct financial support to individual athletes is seen as satisfactory and emphasize that finance is no barrier to achieving the best possible results.

*“I would not claim that there enough money, because this is never the case, but actually we do not lack resources. Other factors, such as improvement of organization and management, coaching and the training culture, constitute more of a barrier than the money available”*

A significant part of the expenditures has traditionally been grants following application for support. In recent years, there have been a falling number of applications. Together with other developments the interviewees see this as a sign of a declining talent mass. New initiatives have been to counteract this development which is expected to increase the expenditures of ESG. This

may change the situation so that funding may not be sufficient “already in three years”, according to an interviewee.

## **8.2. P2: Organization and structure of elite sport policies**

The underperformance cannot be explained by problems with the structure and organization. The sport system in Greenland is a copy of the Danish system with the umbrella organization, the Sports Confederation of Greenland, on top of nine sub-federations covering their respective sports. There is a separate organization for elite sports, which is a copy of the Danish elite sport organization, Team Danmark. The two elite sport organizations are funded in similar ways and regulated by the same Danish legislation. ESG is the administrator of the allocated funds within the framework set by the Danish legislation which has been designed without a concern for the particular Greenlandic context. However, the rules functions well in Greenland according to the interviewees.

Both ESG and the Sports Confederation of Greenland are characterized by a structured and well organized workflow (Storm & Rask, 2018). ESG has employees who work closely with the Sports Confederation of Greenland to develop sport and elite sport in general. The two separate organizations seemingly work efficiently together. Responsibilities and division of work tasks are clear.

ESG has previous acted rather passively as administrator of rules and processor of applications. However, recently it has shown capacity for strategic intervention and development. ESG has developed a new and deliberate ‘Strategy 2020’ aimed at developing performance by strengthening elite sport in general and, in particular, improving talent development. The means to achieve these aims are better cooperation between stakeholders, novel support schemes and specially targeted support for new ideas and initiatives. The interviewed athletes strongly support the new policies. A former athlete explained that previously “there was no system to support talent development beyond the club level”. According to another athlete

*“The direct economic support is good, also when you are residing abroad., but the lack of support in the form of competences, knowledge and access to expert services and coaches is a major constraint”*

Strategy 2020 is seen as a significant step towards improvement.

There are striking similarities between ESG and its Danish counterpart in terms of actual policies aimed at fulfilling the aims of the strategy. One example is the recent development of cooperation agreements and strategy plans with some of the sport federations (football, handball, badminton and taekwondo), linking targeted funding to specific initiatives and performance targets. For instance, the cooperation agreement with Greenland’s football federation regarding the development of futsal for 2017-2020 outlines specific plans regarding talent development, elite focus and development of relevant skills. The goal regarding performance is to be in top-60 in world rankings. An additional goal is that at least five Greenlandic futsal players achieve (semi-) professional contracts with clubs in countries participating in UEFA/FIFA competitions.

Of course, ESG has only limited human resources and is not able to offer the full spectrum of specialist expertise such as physiological, medical and psychological support and dietary guidance for elite athletes as in a more well-resourced system. However, the overall structure is elaborate and well designed. The formal and informal links and inspiration from the Danish system is part of the explanation. Resource allocation and general organizational efficiency seems to be at a high level considering the resource constraints. Further, the recent developments with well targeted strategic initiatives show capabilities for proactive and strategic development. Altogether, the structure and organization of the elite sport system in Greenland is not of the same quality as its Danish counterpart, but it is not far behind.

The conditions regarding pillars P1 and P2 in a comparative perspective are very good in Greenland and cannot account for the low performance level.

### **8.3. P3: Sport participation**

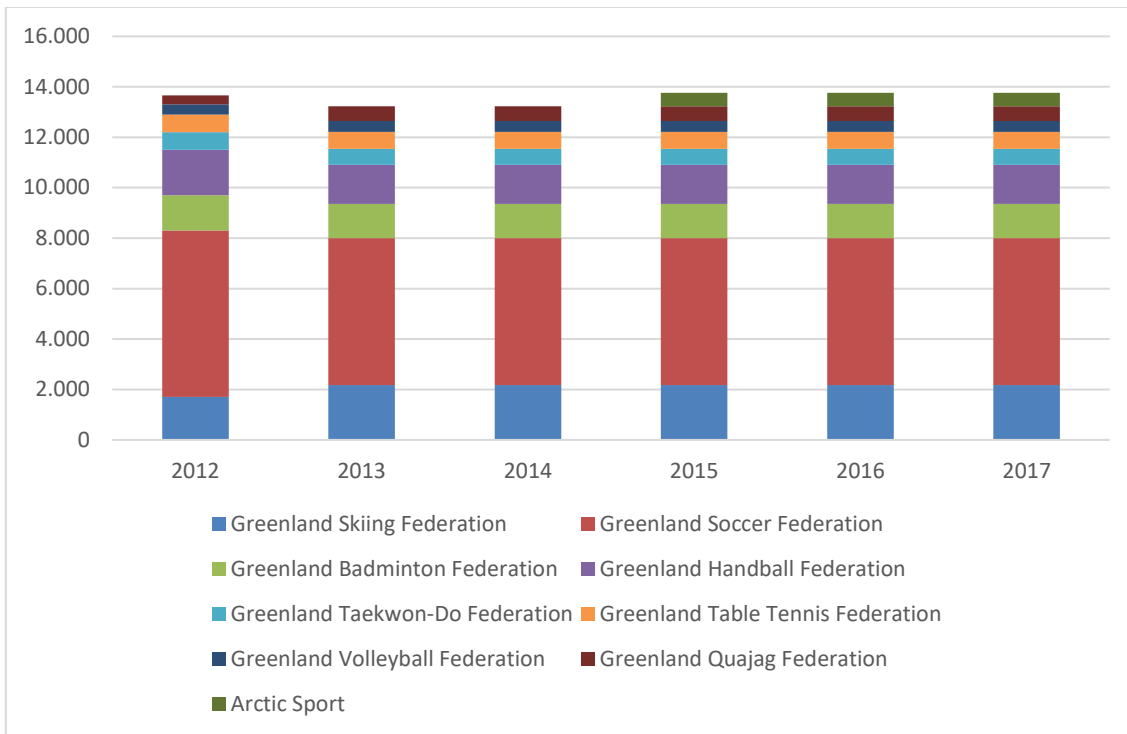
There are significant problems with several of the other factors that our theoretical framework identifies as relevant for gaining competitiveness. With only 57,000 inhabitants Greenland is a small nation with only a limited talent pool. The small population creates obvious constraints regarding elite sport competitiveness. The low mass sport participation rate accentuates this problem. For the 9-16 years age group only 52% participate in sport, and the participation rate is as low as 29% for adults above 16 years. The comparable figures for Denmark are 82% and 61%. The figures for participation rates reflect answers to questions asking if the respondents “normally play sport or engage in physical exercise”. The figures originate from studies using the same methodology (Pilgaard & Rask, 2016).

Further, membership of a sports club, the primary channel for developing elite athletes, is low. Figure 2 presents membership figures from the Greenlandic federations in the period 2012 - 2017.<sup>4</sup>

#### **Figure 2: Membership in Greenlandic sport federations 2012–2017**

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<sup>4</sup> The period is chosen due to lack of reliable data prior to 2012.



There are 15.000 members of sport clubs in Greenland. The total membership of sport clubs has decreased since the 1970s when total membership was around 20,000 (Gabrielsen, 1978). In other words, membership today is 25% lower. Further, there are only nine sport federations in Greenland. There are a few clubs in other sports, but the low number of federations means that Greenland only participates in a small number of international medal events.

The total membership is low in most sports. Apart from soccer, only skiing has above 2000 members. The most competitive sport internationally, team handball, has only 1500 members which is a fragile foundation for building a competitive team. About of third of the membership are passive members which further accentuated the problems of recruitment.

Few organized sports, low and falling membership and low participation rates are thus among the pillars where Greenland is significantly challenged. It is very difficult to develop international competitiveness from such a poor platform in terms of human resources. This is one of the reasons for the poor performance identified in the output section.



#### **8.4. P4: Talent identification and development**

A strong focus on identifying and developing talents may to some extent compensate for a small population and low participation rates. However, this is not the case in Greenland. Talent identification and development is sporadic, poorly organized and only to a limited extent institutionalized. According to the respondents, it is more or less random who are taken up by the system and developed into high-level elite athletes.

*“Some federations do not have a national coach or any set-up that may help potential elite athletes develop. It is typically up to the individual athletes themselves and their families to search and link up with contexts that may help them develop when they have reached a level where local club activities are no longer enough. They approach ESC and ask for support”*

It is left to the individual in question to initiate the process of becoming a high-level athlete.

Support through the system has hitherto been delivered at a late point in the development process.

Talent identification is dependent on well-functioning sport federations and clubs. Organizational weaknesses at this level results in unsystematic, inefficient talent identification and recruitment.

This means that parental and community support is absolutely crucial in the talent recruitment and development process. Although this works well in some contexts, there is little general understanding of what is required to become an elite athlete at an international level.

Interviewees stress the general absence of an appropriate training culture in most clubs and most sports. According to one of the interviewees there is little appreciation of the requirements in terms of training hours and intensity needed.

*“We all know that success is about 1% talent and 99% hard work. I would appreciate if more was invested in the 99% work”.*

Handball, football, badminton and taekwondo are doing better than other sports with respect to talent development and training culture; this is at least partly a result of the exposure to international competition in these sports. However, the skiing federation is lagging behind. ESG is in a contemporary process of strengthening this pillar by deliberately developing strategies of talent development in cooperation with the federations. However, so far pillar 4 is significantly underdeveloped.

### **8.5. P5: (Post-)athletic career support**

The elite sport system of Greenland is well developed in relation to (post)athletic support. It is of crucial importance for elite sport success that athletes are given opportunities to build the foundation for a future post-athletic career at the same time as being an elite sport athlete.

The elite sport system is inspired by welfare state ideals. It stresses that support for elite sport must be socially and ethically responsible. One of the impacts of these ideals is the stress on support for the athlete's career after the end of the athletic career. Most important is support for dual careers, i.e. facilitating education simultaneously to the elite sport career. This has an important part of the Danish elite sports legislation since the 1980s. It also impacts on elite sport policy in Greenland as Greenland is covered by the same piece of legislation.

Some of the interviewees identified weaknesses in the implementation of the dual career policy. More institutional assistance is seen as needed in relation to search for educational opportunities and job options as well more hands-on assistance with the practical issues of moving abroad for further education.

ESG has contributed to the establishment of a new sport specialization at the high school in Nuuk. This makes it possible for talented athletes, 16–19 years old, to stay in Greenland without compromising their elite sport career prospects. However, after high school, educational opportunities in Greenland are limited and it is often necessary to move abroad in order to combine education and elite sport. Athletes who aspire to the elite level seem to get adequate

financial help and guidance in relation to education, and in some cases travel grants to go to Denmark to study and train.

### **8.6. P6: Training facilities**

The available training facilities are relatively good in Greenland. According to the respondents interviewed, accessibility and the required facilities are in place for elite athletes in Greenland. A comparison of facilities in the five municipalities in Greenland with administrative regions of similar size in Denmark shows no difference regarding availability of the most common indoor sport facilities. However, there are far fewer soccer fields in Greenland although the building of 11 fields with artificial turf in recent years has narrowed the gap. Other notable differences are the low number of swimming pools and the absence of facilities for tennis, golf, equestrian and athletics. With respect to the sports with international competitiveness (handball, futsal and taekwondo), the number of indoor facilities available for elite athletes is appropriate. However, training facilities for some winter sports, for example alpine skiing and freestyle, are few and far from the level required to enable athletes to become internationally competitive. Further, there are no shooting ranges in Greenland which makes biathlon virtually impossible.

Several interviewees stress that the sport facilities in Greenland are rather old and worn down. The Greenlandic government has allocated money for upgrading and renovation, thus reinforcing that Greenland is doing relatively well in relation to this pillar.

### **8.7. P7: Coaching provision and coaching development**

The provision and development of coaches is another area in which Greenland's elite sport system is challenged. Due to the remote location, it is difficult to recruit qualified coaches from outside Greenland. In addition, according to the interviewees, many federations experience difficulties attracting coaches for their respective national teams because the federations cannot provide the

relevant financial resources. Nor do they have the relevant expertise in organizing appropriate recruitment processes.

There is no systematic system for training domestic coaches. There are big differences in this respect between the sport federations. Some of them have well developed programs for training of coaches. In other federations, there is no formalized training and there are no formal educational requirements for becoming a coach, even a national coach. The coaches who are available are usually volunteers who have gained their experience from practice or through their former career as elite athlete(s). Usually, they do not have any formal coaching education, or they have only followed a limited set of courses. In some federations, the coaches do not receive a salary but are only compensated for lost income and reimbursed for expenses.

Danish federations have assisted the Greenlandic federations by supplying experts or coaches to provide training for coaching in Greenland. However, this cannot compensate for the deficiencies of the system and Greenland's elite sport system obviously lags behind on this pillar. The consequent lack of skills, knowledge and access to expert knowledge and well-qualified coaches are major obstacles to elite performance.

### **8.8. P8: Access to national and international competitions**

Greenland's elite sport system scores low in relation to access to both domestic and international competitions. Geographical distances and climatic conditions make it difficult to organize permanent tournaments. There are no roads between the larger towns making transportation difficult and very expensive. Consequently, most of the domestic competition that athletes face is concentrated in peak tournaments such as the Greenlandic Championships which are organized in one place for a brief period leaving the rest of year without much competition against other teams or opponents.

Huge transportation costs also create serious limitations regarding participation in international competitions. The problems have been accentuated by the practice of giving priority to sending a relatively large number of participants to the Island Games and the Arctic Winter Games. This has left very few resources for other competitions and limited the available funds for other activities. According to the interviewed respondents, far too many resources are poured into transporting large groups of athletes to these events without any relevant screening of their relevance or potential medal success. To some extent, the purposes seem to have been partly social and touristic rather than strictly performance based. This policy has been changed recently. Now, the sport federations pay half of the costs of sending participants to the events. The consequence has been far fewer participants (23) at Island Games in 2019 compared to previous years (around 80).

Generally, successive training is possible all-year round in most sports, but without continuous competition in relevant tournaments the development of athletes to an international level is virtually impossible. According to some interviewees this is often a cause for prospective athletes to move abroad in addition to the search for education.

Even if the actual competition related domestic and international travelling is far from what is required to achieve an international level, the costs of the actual insufficient travelling is a black hole in the elite sport budget. Transport costs in connection with competitions is a large part of the total costs which severely constrains other activities.

### **8.9. P9: Scientific research**

ESG has no resources allocated to research or innovation in their budget and independent research in sports does not exist in Greenland. The elite sport system relies solely on knowledge provided by Danish researchers and Team Danmark, and no specific innovation processes are in place. There is no research in sports in the Greenlandic knowledge and research institutions and no formal contacts between these organizations and ESG.

The concentration of athletes and educational opportunities in Nuuk offers opportunities for developing the knowledge absorption capacity. However, at present this is low and transfer of up-to-date scientifically based knowledge is limited and unsystematic. The interviewees acknowledge the problem but consider this a less urgent issue than those related to talent and coaching development.

#### **8.10. Summing up: An explorative comparison with Denmark**

The above sections examine the Greenlandic system over each of the nine SPLISS pillars. It is not possible to develop scores for each pillar as in the SPLISS study. Accordingly, it is not possible to make a methodologically well-founded comparison with other countries. However, an explorative comparison of Greenland and Denmark is possible considering the overlap and links between the elite sport systems in the two nations. This comparison provides a useful preliminary indication of the qualities, strengths and weaknesses of Greenland's elite sport system compared to the Danish one.

Based on the above analysis, we believe it is reasonable to suggest that Greenland performs better than Denmark in relation to financial support (P1) and close to Denmark in relation to structure and organization (P2), (post)athletic support (P5) and training facilities (P6). However, our qualitative evaluation indicate that the elite sport system of Greenland is clearly not up to the standards of the Danish system in relation to the other five pillars.

### **9. CASE-SPECIFIC CONCLUSION**

Case studies can have intrinsic as well as instrumental motivations. The case in this study is the elite sport system of a (very) small nation, Greenland. The aims of the paper are both intrinsic and instrumental. Greenland is a unique case which is an interesting case in itself. This is the intrinsic motivation. In addition, interesting conclusions may be drawn from the study as far as elite sport systems and policies in small countries are concerned. Critical reflections regarding the

predominant theories in the area also follows from the analysis. This reflects the instrumental motivation of the study.

First, the case-specific conclusions reflecting the intrinsic motivation are summarized. The study aims to analyze the performance of a small nation's elite sport system. Deploying the theoretical SPLISS framework, it shows the challenges faced by Greenland's athletes and the difficulties encountered in order to become competitive in the international sporting arms race. Our results reveal that the specific characteristics of Greenland show how difficult it can be to overcome climate issues and distances even if a relatively high level of financial resources is available.

The output of Greenland's elite sport system in terms of results in international competitions is not at the level one might expect from the nation's population base and relatively high income per capita. The level of available financial resources enables a satisfactory level of financial support for athletes, and the elite sport system is well organized and structured. However, abundant financial resources and a well-constructed system are not enough to overcome the severe constraints of unfavorable geographical and climatic conditions.

In the case of Greenland, the limited number of inhabitants restricts the level of performance as in other nations with a low population base. However, this problem is accentuated by low and falling participation rates which mean that the other components of the system stand on a fragile platform. The geographic and climatic nature of Greenland makes it difficult/impossible to have year-round tournaments and many of the resources available are wasted on very high transportation costs. The extremely low population density and long distances between settlements create severe problems in relation to access to expertise and manpower. No systematic talent identification and development system is in place, and the provision of coaches and their development are also at a low level. In brief, in addition to funding it is only the organization and structure, (post-)athletic career support and the facilities that are at an appropriate level of

operation.

These problems have implications for Greenland's sport managers and politicians. It is unlikely that merely investing additional resources to raise competitiveness will have any significant effect. Rather, it is important to directly address the issues raised in relation to some of the pillars of the elite sport system in a targeted and cost-effective manner. The disadvantages relating to distance and climate demand specific effort in order to raise performance levels. Strategic efforts to raise mass sport participation and the level of talent development and coaching are crucial. Efforts to install an appropriate training culture are also important.

From an overall perspective it is very difficult to deal with the determinants regarding distances and climate. However, the problem of distance can be partly dealt with by centralizing more activities related to the elite sport system to Nuuk, the capital city of Greenland. To gain momentum it is critical to have the highest possible concentration of athletes in one place so that they get the opportunity to train together and learn from each other. By moving more elite sport to the capital, knowledge from relevant institutions such as the University of Greenland, Elite Sport Greenland and the Sports Confederation of Greenland would serve the elite sport environment better. The specialized sport stream at the high school of Nuuk attracts upcoming talent and contributes to the attainment of a critical level of participants. Having in mind that constructing specialized facilities in Greenland is costly, especially in distant parts of the country, centralizing elite sport facilities in the capital is cost-efficient and beneficial because Nuuk already has many of the relevant facilities and the price of constructing new facilities is cheaper in Nuuk than in other areas of Greenland.<sup>5</sup>

Some sports come closer to being internationally competitive than others. This is a specialization with historical roots. The relative strengths of handball and badminton reflect the

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<sup>5</sup> Nuuk is serviced by large ships regularly in contrast to other parts of Greenland where – for example – delivery of materials for the construction industry is very costly due to difficult access to ports in other parts of Greenland.



links to Denmark whereas the specialization in taekwondo reflects the inspiration and organizational efforts of a Korean grand master with long-term links to Greenland. It is logical to build on this basis and concentrate resources on further improvement within positions of strength. In addition, Greenland has an untapped potential for specialization in winter sports. It would be obvious to invest resources in moving into this direction. The expensive plans to improve the facilities for outdoor soccer make such a specialization policy less likely.

In general, there is a potential for improvement of competitiveness by making elite sport policies more strategic and more performance based. For instance, participation in international events should be limited to the top athletes. This would reduce the financial burden of travel costs and other event-related expenses. If these resources were used on improving the system instead, it is likely that this would benefit the performance output of the system.

These reflections presume that performance output is the (only) relevant success measure for elite sport policy. If Greenland aims for the highest possible international competitiveness in elite sport it is likely that this is the path to go. However, this is by no means the self-evident policy goal. There are other legitimate concerns. Elite sport plays an important role in relation to national identity and results are often not the best measure in this respect. For instance, it may be argued that prioritizing support for soccer facilities such as full-sized indoor artificial fields and a national stadium satisfying UEFA's requirements for taking part in European soccer tournaments is a sensible way of allocating limited resources because soccer is so popular in Greenland, and because participation in international tournaments will boost national pride and identity.

It may also be argued to be against ideals of equality to give priority to Nuuk as argued above. Similarly, an extreme performance-based selection of participants in international competitions may also be considered unfair and a more inclusive approach may have benefits beyond performances. A balance is needed in elite sport policy between the focus on performance and other societal goals.

## **10. GENERAL CONCLUSIONS: ADDED VALUE AND CONTRIBUTION TO THE FIELD OF RESEARCH**

The case of Greenland is interesting as an intrinsic case study. It is also useful as an instrumental case. The case may be used to understand some general mechanisms and, in particular, to gain knowledge of relevance for elite sport policies in (very) small countries. The ‘thick’ description of this particular case should, in principle, make transferability of the results to other contexts possible. In addition to such naturalistic generalization it is possible to draw a number of general conclusions.

Previous research has shown that macro-level factors have a strong influence on the performance of a nation. Research evidence also shows that the meso-level pillars may potentially offset the effects on competitiveness of the disadvantages that appear at the macro-level (De Bosscher et al., 2018). However, the case of Greenland demonstrates that some macro-level factors (in this case, geography and climate) may affect factors at the meso-level in such a way that the compensating potential of the meso-level factors is strongly limited. This highlights mechanisms to which previous research has paid little attention.

Generally, the case shows that the impact on performance of a nation’s high income per capita must be seen in relation to the associated costs. Income as a success factor is only useful when related to costs. High income and high costs have the same effects on performance as low income and low costs.

The case also indicates that previous research may have given too little priority to the importance of other macro factors than population and economic strength. Geographical distance is one such factor. The case shows that geographical distance can be a more severe barrier to the achievement of international competitiveness than expected, considering the general trends of globalization. Airfares have fallen and travel costs no longer seem to affect participation by

geographically remote nations in international championships. In the case of Greenland, however, the combination of remoteness, difficulties related to domestic travel and monopoly pricing, means that rich financial resources end up in a black hole of transportation costs.

The analysis presented here shows the importance of understanding the particular constraints and challenges in each case. Elite sport policies should be designed on basis of such contextual knowledge and not by relying on general recommendations derived from theory only.

Finally, the case shows that there are limits to what elite sport systems in small nations can achieve. There are obvious limits in relation to team sports. The small population size makes it impossible to recruit enough talents to form competitive teams. However, there are also limits in relation to individual sports. Even systems which are relatively well-sourced financially and functioning well organizationally are unable to offer sufficient support to lift exceptional talent into the international elite. In such cases progress requires integration into the elite sport systems of larger countries.

The biathlete, who achieved the best-ever result in international championships of an athlete from Greenland by becoming junior world champion in 2019, is a good example. Her performances do not reflect the strength of Greenland's elite sport system. She moved to Norway at an early age and in effect became a part of the Norwegian elite sport system. Similarly, at least half of Greenland's national male handball team play in the Danish handball league and take advantage of the Danish elite sport system. The performance target for futsal in the cooperation contract between Elite Sport Greenland and Greenland's soccer federation recognizes the limits of the elite sport system in Greenland and the potential of linking up with larger systems abroad.

It can be concluded that elite sport systems in small countries may aspire to support talents in the early stages of their development. However, in order to foster international competitiveness, it is necessary to support the integration of the best athletes into the elite sport systems of larger countries. This should, in principle, be easier when a nation is part of a larger country with a well-

functioning elite sport system. However, the problems linked to geographical distance seem to neutralize this effect in the case of Greenland which further highlights the importance of macro factors such as geography and climate which have hitherto attracted relatively modest attention in the literature on elite sport systems and elite sport policy.

In terms of analytical framework, the study demonstrates both the strengths and the limitations of the SPLISS study. The framework has proven inspirational and useful in structuring the current explorative study. It shows that even by deploying a light version of the framework, interesting insights on specific cases can be achieved. In other words, the pillar system is a fruitful conceptual scaffold capable of providing information on the strength and weaknesses of a given nation even when a full-scale analysis is not provided.

However, the study also demonstrates that the specific context of not only social, cultural, and political factors but also climatic and geographical conditions strongly circumscribe the effectiveness of elite sport policies. This reinforces the methodological conclusions in a recent publication stressing the need for supplementing the quantitative composite indicators of the full SPLISS framework with further qualitative information to deal with context (De Bosscher, 2018).

Anyway, there are of course limits to what an analysis guided only by the nine pillars may achieve. Future studies should aim to combine the full scale SPLISS approach with more qualitative information to investigate how broader social, cultural, political, geographical, climatic, and other aspects of the specific national contexts could be built better into the framework. Further, a proper comparison of Greenland's elite sport system with relevant other systems requires a more in-depth, systematic analysis such as the full SPLISS approach.

## **11. REFERENCES**

Andersen, S. S., & Ronglan, L. T. (2012). Same ambitions—different tracks: a comparative perspective on Nordic elite sport. *Managing Leisure, 17*, 155–169.

<https://doi.org/http://dx.doi.org/10.1080/13606719.2012.674392>

Augestad, P., & Bergsgard, N. A. (2007). *Topidrettens Formel: Olympiatoppen som Alkymist [The Recipe of Elite Sporting Succes: The Case of Norway]*. Novus Forlag.

Christiansen, A. V. (2011). Interview. In L. T. Friis & U. Wagner (Eds.), *Grundbog i idrætsociologi [Handbook on the sociology of sports]* (pp. 157–165). Munksgaard.

de Almeida, B. S., Coakley, J., Marchi Júnior, W., & Starepravo, F. A. (2012). Federal government funding and sport: The case of Brazil, 2004-2009. *International Journal of Sport Policy*, 4(3), 411–426. <https://doi.org/10.1080/19406940.2012.735687>

De Bosscher, V. (2007). *Sports Policy Factors Leading to International Sporting Succes: Dissertation presented in partial fulfillment of the requirements for de degree of Doctor in Physical Education*. VUBPRESS.

De Bosscher, V. (2018). A mixed methods approach to compare elite sport policies of nations. A critical reflection on the use of composite indicators in the SPLISS study. *Sport in Society*, 21(2), 331–355. <https://doi.org/10.1080/17430437.2016.1179729>

De Bosscher, V., De Knop, P., & Bottenburg, M. V. (2009). An analysis of homogeneity and heterogeneity of elite sports systems in six nations. *International Journal of Sports Marketing and Sponsorship*, January, 111–132.

De Bosscher, V., De Knop, P., Van Bottenburg, M., & Shibli, S. (2006). A Conceptual Framework for Analysing Sports Policy Factors Leading to International Sporting Success. *European Sport Management Quarterly*, 6(2), 185–215. <https://doi.org/10.1080/16184740600955087>

De Bosscher, V., Shibli, S., van Bottenburg, M., De Knop, P., & Truyens, J. (2010). Developing a method for comparing the elite sport systems and policies of nations: a mixed research methods

approach. *Journal of Sport Management*, 24(5), 567–600. <https://doi.org/10.1123/jsm.24.5.567>

De Bosscher, V., Shibli, S., & Weber, A. C. (2018). Is prioritisation of funding in elite sport effective? An analysis of the investment strategies in 16 countries. *European Sport Management Quarterly*, 0(0), 1–23. <https://doi.org/10.1080/16184742.2018.1505926>

De Bosscher, V., Shibli, S., Westerbeek, H., & Van Bottenburg, M. (2015). *Successful Elite Sport Policies: An International Comparison of the Sports Policy Factors Leading to International Sporting Success (SPLISS 2.0) in 15 Nations*. Meyer and Meyer Sports.

De Bosscher, V., Shibli, S., Westerbeek, H., & Van Bottenburg, M. (2016). Convergence and Divergence of Elite Sport Policies: Is There a One-Size-Fits-All Model to Develop International Sporting Success? *Journal of Global Sport Management*, 1(3–4), 70–89. <https://doi.org/10.1080/24704067.2016.1237203>

Elite Sport Greenland. (2014). *Elite Sport Greenland: Årsrapport 2013 [Annual Report 2013]*. Elite Sport Greenland.

Elite Sport Greenland. (2015). *Elite Sport Greenland: Årsrapport 2014 [Annual Report 2014]*. Elite Sport Greenland.

Elite Sport Greenland. (2016). *Elite Sport Greenland: Årsrapport 2015 [Annual Report 2015]*. Elite Sport Greenland.

Elite Sport Greenland. (2017). *Elite Sport Greenland: Årsrapport 2016 [Annual Report 2016]*. Elite Sport Greenland.

Fereidouni, H. G., Foroughi, B., Tajaddini, R., & Najdi, Y. (2015). Sport facilities and sporting success in Iran: The Resource Curse Hypothesis. *Journal of Policy Modeling*, 37(6), 1005–1018. <https://doi.org/10.1016/j.jpolmod.2015.05.003>

- Flyvbjerg, B. (2006). Five Misunderstandings About Case-Study Research. *Qualitative Inquiry*, 12(2), 219–245.
- Gabrielsen, H. (1978). Glimt fra GIF's historie gennem 25 år. In H. Grabielsen (Ed.), *Idrætten i Grønland*. Grønlands Idræts-Forbund.
- Green, M. (2009). Podium or Participation? Analysing Policy Priorities under Changing Modes of Sport Governance in the United Kingdom. *International Journal of Sport Policy and Politics*, 1(2), 121–144. <https://doi.org/10.1080/19406940902950697>
- Green, M., & Houlihan, B. (2004). Advocacy Coalitions and Elite Sport Policy Change in Canada and the United Kingdom. *International Review for the Sociology of Sport*, 39, 387–403. <https://doi.org/10.1177/1012690204049066>
- Green, M., & Houlihan, B. (2005). *Elite Sport Development: Policy Learning and Political Priorities*. Routledge.
- Green, M., & Oakley, B. (2001). Elite Sport Development Systems and Playing to Win: Uniformity and Diversity in International Approaches. *Leisure Studies*, 20, 247–267. <https://doi.org/10.1080/02614360110103598>
- Grønlands Idræts-Forbund. (2013). *Grønlands Idræts-Forbund: Årsrapport 2012 [Annual Report 2012]*. Grønlands Idræts-Forbund.
- Grønlands Idræts-Forbund. (2014). *Grønlands Idræts-Forbund: Årsrapport 2013 [Annual Report 2013]*. Grønlands Idræts-Forbund.
- Grønlands Idræts-Forbund. (2015). *Grønlands Idræts-Forbund: Årsrapport 2014 [Annual Report 2014]*. Grønlands Idræts-Forbund.

- Grønlands Idræts-Forbund. (2016). *Grønlands Idræts-Forbund: Årsrapport 2015 [Annual Report 2015]*.
- Grønlands Idræts-Forbund. (2017). *Grønlands Idræts-Forbund: Årsrapport 2016 [Annual Report 2016]*. Grønlands Idræts-Forbund.
- Herscher, R. (2016). *Numbers lie even more than usual in Greenland*.  
<https://www.npr.org/sections/goatsandsoda/2016/04/21/475003055/numbers-lie-even-more-than-usual-in-greenland?t=1577056700911>
- Houlihan, B., & Green, M. (2008). *Comparative Elite Sport Development. Systems, Structures and Public Policy*. Butterworth-Heinemann.
- Houlihan, B., & Zheng, J. (2013). The olympics and elite sport policy: Where will it all end?  
*International Journal of the History of Sport*, 30(4), 338–355.  
<https://doi.org/10.1080/09523367.2013.765726>
- Hu, X., & Henry, I. (2017). Reform and maintenance of Juguo Tizhi: governmental management discourse of Chinese elite sport. *European Sport Management Quarterly*, 17(4), 531–553.  
<https://doi.org/10.1080/16184742.2017.1304433>
- Ibsen, B., Hansen, J., & Storm, R. K. (2010). Elite Sport Development in Denmark. In B. Houlihan (Ed.), *Routledge Handbook on Sport Development* (pp. 386–398). Routledge.
- Kvale, S. (2008). *Doing Interviews*. SAGE Publications Inc.
- Melrose, S. (2010). Naturalistic Generalization. In A. Mills, G. Durepos, & E. Wiebe (Eds.), *Encyclopedia of Case Study Research* (pp. 559–601). SAGE Publications Inc.  
<https://doi.org/10.4135/9781412957397.n224>



- Norberg, J. R., & Sjöblom, P. (2012). The Swedish elite sport system - or the lack of it? In S. S. Andersen & L. T. Ronglan (Eds.), *Nordic Elite Sport: Same Ambitions, Different Tracks* (pp. 62–82). Universitetsforlaget.
- Raudsepp, L., Ööpik, V., & Lusmägi, P. (2013). Estonia. In K. Hallmann & K. Petry (Eds.), *Comparative Sport Development. Sports Economics, Management and Policy* (pp. 33–45).
- Ruddin, L. P. (2006). You can Generalize Stupid! Social Scientists, Bent Flyvbjerg, and Case Study Methodology. *Qualitative Inquiry*, 12(4), 797–812.
- Small, M. L. (2009). “How many cases do I need?": On science and the logic of case selection in field-based research. *Ethnography*, 10(1), 5–38. <https://doi.org/10.1177/1466138108099586>
- Sparvero, E., Chalip, L., & Green, C. B. (2008). United States. In B. Houlihan & M. Green (Eds.), *Comparative Elite Sport Development: Systems, Structures and Public Policy* (pp. 242–271). Elsevier Ltd.
- Stake, R. E. (2005). *Multiple Case Study Analysis*. The Guilford Press.
- Stewart, B., Nicholson, M., Smith, A., & Westerbeek, H. (2004). *Australian Sport: Better by design? The Evolution of Australian Sport Policy*. Routledge.
- Storm, R. K., Nielsen, K., & Thomsen, F. (2016). Can a small nation be competitive in the global sporting arms race? The case of Denmark. *Managing Sport and Leisure*, 21(4), 181–202. <https://doi.org/10.1080/23750472.2016.1243993>
- Storm, R. K., & Rask, S. (2018). *Idrættens Økonomi i Grønland [The Economic dimension of Sport in Greenland]*. Danish Institute for Sports Studies.
- Udvalget for samfundsgavnlig udnyttelse af naturressourcer i Grønland. (2014). *Til Gavn for*

*Grønland*. [http://vbn.aau.dk/files/208241394/Til\\_gavn\\_for\\_Gr\\_nland.pdf](http://vbn.aau.dk/files/208241394/Til_gavn_for_Gr_nland.pdf)

Valenti, M., Scelles, N., & Morrow, S. (2019). Elite sport policies and international sporting success: a panel data analysis of European women's national football team performance. *European Sport Management Quarterly*, 0(0), 1–21. <https://doi.org/10.1080/16184742.2019.1606264>

Zheng, J., & Chen, S. (2016). Exploring China's success at the Olympic Games: a competitive advantage approach. *European Sport Management Quarterly*, 16(2), 148–171. <https://doi.org/10.1080/16184742.2016.1140797>

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