

Master's thesis



Where Are All The Fish?

A Political Ecology Analysis of Local Fish Networks and the
Gift Economy in the Westfjords of Iceland

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Declaration

I hereby confirm that I am the sole author of this thesis and it is a product of my own academic research.

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Abstract

Local Food Networks (LFN) are re-emerging throughout the industrialized world as a means of counteracting negative effects of the industrialized food system and helping communities increase control over food supply. Given the importance of fisheries to Iceland's economy and the high frequency of fish consumption among Icelanders, it is important to include fish within the larger study of LFN development in Iceland. However, outside of Iceland's densely populated capital, there are few market channels for obtaining fresh fish caught locally. This is especially the case in many fishing communities in the Westfjords, Iceland's most remote and sparsely populated region.

This thesis aimed to determine the ways in which local networks for fish are already in existence in Westfjords fishing communities and the benefits that could result from expanded retail access to local fish. A fish consumption survey, distributed in two case study towns, was used to investigate local residents' fish consumption habits and preferences, as well as their overall satisfaction with access to fresh fish and cultural identification with fish consumption. Results were interpreted within a political ecology framework, which was used to analyze the ways in which fisheries management policies and internationalized food distribution chains may have affected consumer-level access to local fish resources.

Results indicate that preference for local fish sources and cultural linkages to fish consumption remain high among residents. Fish consumption is largely embedded within a gift economy reliant on personal connections to the fishing industry. Individuals lacking personal connections and access to the commercial outlets (i.e., specialized fish shops and supermarket fish counters) must source their fish from the large-scale structures designed for the globalized food system.

It is suggested that fish gifting serves for some as a pragmatic means of circumventing these globalized structures and fisheries management regulations, which are not constructed at a scale suitable for LFN development in small communities. The role of the specialized fish shop is to fill gaps left by the weaknesses of and inequalities produced by fish gifting practices. Coastal communities benefit from the expanded access to local fish offered by such small-scale commercial outlets.

Key words: Local Food Networks, fish consumption, gift society, political ecology, Iceland

Útdráttur

Staðbundnir matarklasar (ens. Local food networks (LFN)) eru að koma fram að nýju hvarvetna um hinn iðnvædda heim sem leið til að vinna gegn neikvæðum áhrifum hins iðnvædda matvælakverfis og til að auka sjálfsstjórn samfélaga yfir eigin matarforða. Þessari rannsókn er ætlað að greina núverandi grenndarkerfi fyrir fisk sem eru nú þegar til staðar í Vestfirskum sjávarbyggðum og kostina sem gætu fylgt því ef verslanir hefðu aukinn aðgang að þeim fisk sem kemur að landi á svæðinu.

Könnun á fiskneyslu var lögð fyrir á Patreksfirði og Ísafirði var notuð til að kanna fiskneyslu íbúa á svæðinu, sem og hvort íbúar væru almennt sáttir við aðgengi að ferskum fisk og hvort menningarleg kennsl væru til staðar gagnvart fiskneyslu. Niðurstöðurnar benda til þess að svarendur kjósi frekar staðbundinn fisk og að menningarleg tengsl við fiskneyslu séu áfram sterk meðal íbúa. Fiskneyslan fellur að stóru leyti inn í gjafakerfi sem byggir á persónulegum tengslum við fiskiðnaðinn. Einstaklinga sem skortir persónuleg tengsl og aðgengi að sérhæfðari verslunum (t.a.m. fiskverslun eða fiskborði verslana) þurfa að treysta á að nálgast fisk frá stærri aðilum sem hannaður er fyrir alþjóðlega matvælakefnið.

Mögulega eru fiskgjafirnar hagnýt leið til þess að sniðganga þessi alþjóðakerfi og fiskveiðistjórnunarreglur, sem eru ekki hönnuð til að taka tillit til þróunar staðbundinna matarklasa í smærri samfélögum. Hlutverk sérhæfðra fiskverslana er að fylla í götin sem verða til vegna veikleika og ójafnvægis sem fylgir fiskgjöfunum. Sjávarbyggðir hagnast því á auknu aðgengi að fisk í gegnum slíkar smærri verslanir.

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1 Introduction

1.1 An Unusual Problem

This thesis begins with the statement of a seemingly simple issue: it can be difficult to access fresh fish in many coastal communities in Iceland. This statement holds true even in those communities that are still highly economically dependent on fisheries and in which the acts of fishing and fish consumption are deeply embedded in history and culture, such as those in the Westfjords. As the variety of food choices in Iceland have increased over recent decades, fish consumption has fallen (Amelien, 2012). However, even though fish consumption levels are not as high as were recorded in a 1939 national nutrition survey, wherein adult males in Reykjavík reported consuming on average 200 grams of fish per day (Amelien, 2012), Icelanders still consume a large amount of fish relative to other nations. According to recent studies, Icelanders include fish in their diet in some way on average two times per week (Sveinsdóttir et al., 2011).

Given these facts, it is striking that it can be difficult for consumers to access the few formal market outlets for local, fresh fish that exist outside the capital area of Reykjavík. According to data compiled for price comparison purposes by the Iceland Confederation of Labour (ASÍ), as of 2013 there were 19 specialized fish shops¹ in Iceland (“Price survey comparison of fish shops,” 2013). Only five fish shops were located outside of the southwest areas surrounding Reykjavík, with one having opened in the Westfjords town of Ísafjörður in July 2011 (“Finally a fish shop in Ísafjörður,” 2011) and another in Akureyri in July 2013 (“Finally a fish shop in Akureyri,” 2013). Many residents of coastal fishing communities lack direct market access to local, fresh fish, relying instead on informal channels, such as personal connections, to obtain access to fish resources. This informal access can be limited, however, as the types of species available are generally limited to those fished by these

¹ This thesis defines a specialized fish shop as a commercial outlet whose primary business is the sale of fresh fish and seafood to consumers. This definition excludes diversified shops, e.g., supermarkets such as Samkaup, which may offer a selection (generally one or two species) of fresh fish at a fish counter or packaged fresh fish.

personal connections, and access can be inconsistent, with a large temporal variation. Would-be fish consumers without these connections must generally rely on larger retail outlets selling frozen fish products, sourced mostly from outside the community or even imported, or choose from a narrow selection of fresh fish in larger stores and supermarkets.

In many countries, information about coastal residents' access to fish for consumption is not thoroughly documented. An exception is a recent study from the Canadian Ecology Action Center, which suggests that coastal fishing communities in Nova Scotia encounter similar difficulties in accessing fresh fish (Nikoloyuk & Adler, 2013). At the present moment, there exists a considerable body of literature focused on the economic, environmental, social, and political factors at play in Iceland's fisheries management system, as well as on the socio-economic impacts of that system on coastal communities. However, there is a paucity of research on the ways in which residents of fishing villages access local fish resources as consumers, and whether expanded commercial access to locally caught, fresh fish—that is, the expansion or establishment of local food networks focused on fish and seafood in these coastal areas—would satisfy an unmet need among residents. The “local food” movement continues to grow in market importance worldwide amid popular perception that local food is healthier and has less environmental impact (see Martinez et al., 2010; Blouin, Lemay, Ashraf, Imai, & Konforti, 2009; Marsden, Bank & Bristow, 2000). Therefore, it is worthwhile to investigate the potential of localized food systems in the Westfjords, a place where fish resources have been the staple of both diets and livelihoods in the region for generations.

1.2 Aims and Research Questions

This thesis aims to provide a foundation of knowledge that will aid in exploring the benefit and feasibility of increasing coastal communities' access to local fish resources. In order to do this, this thesis seeks to address the following question: *In what ways are local networks for fish already in existence in Westfjords fishing communities, and what benefits could expanded retail access to locally-caught fresh fish bring to these communities?*

In the process of answering this driving question, this thesis will also explore the following sub questions:

1. *What practical and logistical factors affect local access patterns of fish resources for consumers (e.g., availability of commercial vendors, availability of informal access channels and the gift economy, prices, etc.)?*
2. *Are Westfjords residents generally satisfied with their level of access to fish, and what factors have the greatest effect on their satisfaction levels?*
3. *How do Westfjords residents conceptualize their relationship with fish resources, and what factors most affect this conceptualization (age, gender, links to seafood industry, etc.)?*

1.3 Thesis Outline and Scope

The Icelandic context for fisheries is very specific and differs considerably from both the context for fisheries in other countries and the mostly agricultural context that underlies most scholarly discussions of food systems. In Chapter 2, I provide some information on the Icelandic and Westfjords backdrop of commercial fishing, which was used to inform the design of my thesis and to structure the analysis of my results. Then, in the theoretical framework developed in Chapter 3, I discuss the three main bodies of thought supporting this thesis, rooting a discussion of local food networks (LFN) within a superstructure informed by theories adopted from the highly flexible and varied field of political ecology. The methodology I employed to answer the research question was primarily structured around a survey of fish consumers in two case study towns in the Westfjords region. In order to design the most appropriate questions for use in this survey and provide context for the data acquired through the survey, I also conducted a series of unstructured, informal interviews with fish consumers and suppliers when the occasion arose. This methodology is explained in more detail in Chapter 4, and the survey results are described in Chapter 5.

In the discussion found in Chapter 6, I describe the nature and significance of already existing Westfjords local networks for fish distribution and consumption. I will place particular emphasis on what I see as the intersections between concepts in political ecology, the LFN and the so-called “gift economy” for fish that appears to be in operation in Westfjords villages. This theoretical integration of LFNs and the gift economy is suitable for the realities of fish access as they exist in the Westfjords and adds to the literature on LFNs. Finally, I will provide some recommendations for how communities might bridge existing

gaps in fish access, using community-based mechanisms that could potentially integrate the commercial and gift economies.

1.4 Conceptual Frameworks

In the initial stages of research and project design, I approached these questions using a combination of two driving conceptual frameworks, which will be described in detail in the conceptual framework in Chapter 3: Local Food Networks (LFN) and Political Ecology.

LFN studies seek to analyze and strengthen knowledge about emerging local food systems, often focusing in particular on their potential for achieving localized food sovereignty and reducing environmental impacts from the globalized food system. Analyses of LFNs are typically focused on agricultural systems. However, the LFN approach seemed especially applicable to this thesis given a recent call from Nelson, Lowitt, Nagy, and Bavington (2013), who, in the *Journal of Agriculture, Food Systems, and Community Development*, suggested that the literature on LFNs would benefit from a more integrated dialogue that considers the roles of marine and freshwater fish as important components of the food system.

Political ecology, which considers relationships between political, economic, cultural, and social factors when societies are confronted with environmental issues and changes, also provides a useful lens through which to examine the dynamics of local consumer access of fish resources in the Westfjords. Political ecology can be particularly useful in understanding the ways in which access patterns have been affected by political, historical and cultural factors and the inequalities—for example in resource use—that can emerge or be exacerbated by these factors. Political ecology serves as a sort of superstructure in this thesis.

In the later stages of my research, the importance of the gifting of fish among family and friends emerged from the results. As the centrality of these gifts became increasingly clear, I began to incorporate theories concerning gift economies into my understanding of the local networks for fish in the Westfjords and within the political ecology superstructure. As the gift economy aspect was added only in the latter stages of this research, and because scholarly discussions of LFNs so rarely touch directly on the idea of the gift economy, I do not dwell on the gift economy in the conceptual framework in Chapter 3. Instead, I will elaborate more fully on the idea of the gift economy, and how it interacts with the commercial (both local and non-local) economy for fish in the Westfjords in the discussion of results in Chapter 6.

2 The Historical, Economic and Cultural Context for Fish Consumption in Iceland and The Westfjords Region

*A fatty haddock is a superb dish,
when it is both hot and fresh,
boiled in saltwater.
I also praise fatty halibut.²*

- Hallgrímur Pétursson

*My fish,
Yummy yummy yum!³*

-Jóhann G. Jóhannsson

The quotations above are two examples of the abundance of representations of fish found within Icelandic popular culture, from two very distinct periods of Iceland's history. The first is from a somewhat humorous but entirely sincere ode to fish entitled "Psalm for The Fish," written by the 17th Century poet Hallgrímur Pétursson, most famous for his religious works. The second is the refrain in the playful, popular 1970s-era rock song "Stína's Fish," written and sung by the musician and artist Jóhann G. Jóhannsson.

In a more recent and, perhaps, more complicated example, the song chosen by Icelanders for entry into the 2013 European Eurovision song contest, entitled "I Am Alive," featured in its accompanying music video the story of a fictional fishing boat captain. As the video proceeds, the young fisherman, conflicted and uneasy with his lot in life, begins to reconnect with memories of his relationship with his father and their shared history with fish and the sea. Through these recollections, the fisherman seems to overcome his feelings of meaninglessness and apathy and embrace his life anew. The Icelandic public's reaction to the video reflected both acceptance of and derision toward the themes presented in the video.

² The translation is my own. See "Fiskætasálmur Hallgríms Péturssonar" (2013, November 13), from Byggðasafn Vestfjarða. Original text: "Afbragðsmatur er ýsan feit, / ef hún er bæði fersk og heit, / soðin í sjóarblandi. / Líka prísá ég lúðuraf.

³ The translation is my own. Original text: "Fiskinn minn, nammi nammi nam."

This derision was expressed toward all manner of things, with music critics dismissing the very emotional presentation and fishermen expressing “outrage” for the video’s inaccurate depiction of redfish anatomy (Steinsdóttir, May 27, 2013).

Countless other manifestations abound throughout Iceland’s society, economy, and culture. For example, the obverse side of Icelandic coins carries engravings of Atlantic cod, dolphins, capelin, shore crab, and lumpfish, effectively equating fish resources with riches. In another example, Seamen’s Day is a holiday celebrated annually to honor Icelandic fishermen and commemorate those who lost their lives at sea, in many ways similar to the way other countries might celebrate the lives of military veterans. These examples tend to portray, as the fisherman’s vignette does above, a deep kinship and appreciation for the sea and the bounty of resources found therein. At the same time, these cultural representations convey a certain unease with the dangers and hardships in the life of the fisherman and with the dominance of the fisheries in Iceland’s recent past. Discussions of fish and fisheries tend to strike very emotional chords within Icelandic society.

In the following chapter, I seek to provide a general context for the subject of fish consumption in Iceland and in the Westfjords. In the first part, I will explain the historical context for fishing in Iceland. This explanation will include a broad overview of: 1) The social and economic dynamics surrounding fishing prior to the 20th Century; 2) the technological and economic advances that spurred the “heyday” of fisheries in coastal towns in the post-war period; and 3) the further technological advances and the policy decisions made during the 1980s and 1990s, which have contributed to loss of employment and depopulation in many of these fishing towns and villages. Against this backdrop, I will then outline the current economic value of fisheries in Iceland as well as the importance of fish to the Icelandic diet. I will conclude the chapter with a discussion of the Icelandic food shed for fish, emphasizing the substantial ambiguity that surrounds the origins of fish sold to consumers in Iceland.

2.1 Current Value of Fisheries in Iceland and the Westfjords Region

Iceland is a Nordic island nation lying between the North Atlantic Ocean and the Greenland Sea at 65 degrees north in latitude. At the beginning of 2014, the country’s small population numbered 325,671, 64% of whom live in the Reykjavík capital area (Statistics Iceland:

Population, 2014). Although approximately 93% of Icelanders currently reside in urban areas (CIA World Factbook, 2013), the dominant means of employment for the majority of Iceland's history—since the island's settlement in the 9th Century until the early 20th Century—have been farming and fishing, along with sea trade (Þór, n.d.). Blessed with 4,970 kilometers of coastline (CIA World Factbook, 2014), Iceland has from the beginning of the country's settlement benefited from its proximity to rich fishing grounds.

Marine products comprised 36.7% of total export value of merchandise in 2013 (Statistics Iceland: External Trade, 2014).⁴ At the same time, the value of the total catch harvested has increased sharply, particularly during the first decade of the 21st Century. The increase in value can be attributed to basic economics: the decreasing supply of Icelandic fish has not been met with a similar decrease in demand, and the result has been a steady increase in value. This rising value has also translated into high prices for consumers. During the nearly 20 year period between 1993 and 2012, the value of the total catch of Iceland's fisheries increased by 214%, from 50.6 trillion ISK to 159.3 trillion ISK (Statistics Iceland: Fisheries and Agriculture, 2013).

On the other hand, employment in the fishing industry has also been decreasing steadily, due largely to the changes to fisheries management and technological changes, which will be elaborated in later sections of this chapter. As of 2012, there were approximately 9,000 people employed in Iceland's fishing industry, 4,900 involved in fishing and 4,100 in fish processing, comprising 5.3% of the country's labor force. This is a drastic decline from 1991, for example, when the fisheries employed more than 14,000 people (Statistics Iceland: Wage Income and Labor, 2014).

The population of the Westfjords region, the mountainous northwestern corner of the island, grew from the development of the fishing industry. The Westfjords' long coastline and excellent harbor locations facilitated the growth of small urban nuclei surrounding harbors and trading posts, connected to the rest of Iceland and the world via the sea. Remote and largely cut off from the rest of the country, the Westfjords' economy and culture have thus always centered heavily on the fisheries and on sea-based transport. The Westfjords is the

⁴ The total value of marine products was estimated at 2.1 billion Icelandic Krona (ISK) in 2013, while the value of total export merchandise was estimated to be 5.6 billion ISK (Statistics Iceland: External Trade, 2014).

most sparsely populated region in Iceland, with a population of 6,972 in 2014, approximately 2% of the total population (Statistics Iceland: Population, 2014).

There is a large disparity between the capital region and other regions in Iceland when it comes to the importance of fisheries to the local economy, and the economic importance of fish is most apparent in the Westfjords. For example, in the area surrounding Reykjavík, the total percentage of persons employed in the fisheries was merely 1.5% in 2012. Outside the capital region, that proportion increases to an average of 12.4%. The highest rate of employment in the fisheries is found in the Westfjords region, totaling approximately 27.9% of the working age population, or 17.6% of the total population, in 2009 (figure calculated based on data from Þórisson, 2012 and Statistics Iceland, 2013). Of equal or even greater importance, the fisheries sector (including aquaculture) made up 41% of total wages paid to workers in the Westfjords in 2009 (Þórisson, 2012; p. 10).

2.2 A Brief History of Fishing in Iceland

The emphasis on fishing as an industry and primary occupation is relatively new in Icelandic society. Throughout much of Iceland's history, fishing was considered supplemental to farming; indeed, fishing was not viewed as serious work in the way agriculture was. The reason for this state of affairs has been attributed in part to purposeful policies constructed by the Icelandic elites—many of whom were farmers—in order to maintain a steady and abundant supply of farming labor (Sveinsson, 2000). These elites sought to prevent farm labor from being enticed from the farms by the financial rewards of fishing through perpetuation of the ancient *vistarband* laws. These laws, in effect until 1894, mandated that Icelanders who did not have access to their own farmland must contract themselves into service each year at a farm. The majority of the population thus spent a period of time during early adulthood in service, with some eventually accumulating enough capital to lease their own farmland and marry and others enduring a life of servitude to others (“What was *vistarband*,” 2002).

Fishing was carried out within the constraints of this system for centuries, with the class divisions between landowners and the servant-class just as apparent on sea as on land. When laborers were not needed for farm work during winter months, many women as well as men were sent great distances to fishing stations along the coastline (Willson, 2013). Despite the

harsh and dangerous conditions for fishing—primarily on rowing boats—during the wintertime, the cold season was considered optimal for popular fish preservation methods, such as drying and salting. Although some of this fishing was for subsistence, most went toward international trade, with Bergen in Norway a common destination for much Icelandic fish. Prior to the end of the 18th Century, boat ownership was strictly limited to farmers, the Danish king,⁵ and the church—in other words, individuals and institutions that owned land around the fishing stations. With the cease in activity of royally-owned boats in the second half of the 18th Century and the abolishment and selling of church land during the early 19th Century, ownership of these fishing stations was transferred into the hands of individuals, mostly farmers and merchants (Þór, n.d.).

The end of the *vistarband* system in 1894 precipitated the advent of industrialized fishing, with the first motorized fishing boat setting out from the Westfjords region in 1902 (Þór, n.d.). With the advent of industrialized fishing came larger boats and the potential for higher profits from the fisheries. The need for larger harbors accompanied the growth in the size of fishing boats. New towns grew around these harbors, and work in the fisheries provided an attractive and freer alternative to life on the farm. Employment in the fisheries offered many people their first opportunity to work for wages, and men and women flocked to fishing boom towns, enjoying there “a previously unimagined degree of economic and social freedom” (Hamilton, Jónsson, Ögmundardóttir, and Belkin, 2004; p. 328). With the farming monopoly on labor broken, the farming elites were powerless to do more than criticize these rapidly growing towns for their “immorality” (Ibid).

Thus, fishing—in particular the industrialization of fishing—has shaped much of Iceland’s modern development (Sveinsson, 2000). Although Iceland was slow to urbanize, the growth of coastal fishing villages by 1880 led to rapid urbanization during the last decades of the 19th Century and throughout the 20th. Hamilton et al. (2004) cite Siglufjörður in northern Iceland is an example of the fishing industry’s—in this case the herring fishery’s—impact on urban development. The site’s proximity to herring fishing grounds and natural harbor provided the perfect conditions for this “herring town” to grow from tiny village to a town with more than two thousand residents during two decades at the beginning of the 20th

⁵ Iceland was a colony of the Danish Colonial Empire from the end of the 14th Century. It was granted home rule in 1874, but did not experience complete independence from Denmark until 1944 (Júliusson, 2007).

Century. Sveinsson (2000) notes that the development of the fishing and fish processing industries formed the basis for capitalist development and the labor market in Iceland.

The 20th Century was a period of rapid growth in Icelandic fisheries, particularly in the decades immediately following the Second World War. In those years, fishing vessels increased steadily in size, with sizes in the hundreds of tons. Traditional methods of preparation, such as drying and salting, were replaced to a large extent by freezing (Þór, n.d.). Economies of coastal towns relied on the abundance of jobs to be found and money to be earned on fishing vessels, as well as in processing plants, freezing plants, baiting stations, and equipment manufacturing.

However, by the end of the 20th Century, as was the case in fisheries throughout the world, Icelandic fishing vessels were increasingly equipped with the necessary facilities to process and freeze fish onboard. The use of factory ships such as freezer trawlers, as well as automatic baiting on long lining vessels, allowed ships to remain at sea for weeks at a time and transport their frozen catch directly to hubs of commerce for transport, often across long distances. These innovations removed the need for vessels to return frequently to nearby onshore communities to take care of activities that were once necessities, such as processing of fish and baiting of lines. These innovations proved immensely profitable to the fishing industry, which seized these opportunities for technological advance. However, these decisions to prioritize new technologies resulted in the decreasing need for many forms of employment in previously vibrant coastal communities (Þór, n.d.). The resultant depopulation in many areas heavily reliant on fisheries employment and cultural dislocation of coastal towns in many ways mirror the picture we find in rural communities and villages in developed countries in general.

Yet the growing demand for fish worldwide and the increased ability to harvest massive volumes of fish within short periods of time yielded extensive environmental implications, including the endangerment of the long-term sustainability of fish stocks. As we will see in the following section, the policy changes implemented to ensure fish stock sustainability—while largely deemed to be successful in achieving their environmental objectives—exacerbated existing problems involving the social and economic sustainability of fishing communities.

2.3 Changes in Fisheries Management in Iceland

Certain restrictions on fisheries had been in place since medieval times. According to Matthiasson (1997), traditional practices and restrictions in fisheries management “aimed at guarding the interests of occupationally or geographically defined groups in Iceland” (p. 108). Prior to 1948, these restrictions emphasized primarily the protection of small-scale fishers and the prevention of destructive gear usages. After 1948, fisheries management practices emphasized maximizing the growth potential of demersal fish stocks (Matthiasson, 1997). Pálsson (1998) notes that during these periods, Icelandic fishing was carried out under a system of common-use rights.⁶ However, in the 1970s and 1980s, attention in management policy turned to economic profitability and fish stock environmental sustainability, and emphasis was placed increasingly on the property rights-based theories of environmental resource management that became popular during that era (Pálsson & Helgason, 1995).

This shift has had broad impacts on Icelandic fisheries and on society more generally, particularly in fishing communities. Coastal communities in Iceland have faced significant challenges since the implementation of the Individual Transferable Quota (ITQ) system. ITQ systems are designed to manage fisheries in an economically efficient manner, making the right to fish a tradable and limited commodity (Carothers & Chambers, 2012). In the Westfjords of Iceland, a region historically dependent on fishing resources, the implementation of ITQs and resulting consolidation of fishing quota rights in the hands of a decreasing number of large holders have had numerous negative socio-economic impacts, such as the sudden increases in unemployment with the selling of quota between regions, which have contributed to regional depopulation and social division (see e.g., Benediktson and Karlsdóttir, 2011; Pálsson, 1998; Eypórsson, 1996; Helgason & Pálsson, 1995).

2.3.1 Implementation of the Quota System

The last half century of fisheries management policies in Iceland have emphasized ensuring national control over fishing grounds, economic efficiency of the fishing industry, and

⁶ Although we should recall here that, as was discussed previously in this chapter, the choice to be a fisherman, and in particular to be a boat captain, was restricted within Iceland’s class system, and thus there have almost always been restrictions placed upon who can fish for trade and profit, with the exception being the approximately 90 years between the end of the *Vistarband* system in 1894 and the onset of property-rights based resource management policies in the 1980s.

ecological sustainability of fish resources. In the early 1980s, Iceland had just emerged victorious from a decade engaged in the second round in the so-called “Cod Wars” against Great Britain and the former West Germany, in which it unilaterally claimed and was finally granted exclusive fishing rights within an Exclusive Economic Zone (EEZ) of 200 nautical miles from its coastline (Pálsson & Helgason, 1995). Although this was a decisive step for Iceland toward claiming control over the fish resources in surrounding waters, which had previously been viewed as “open access” resources without any access restrictions whatsoever, in many ways Iceland’s victory in the Cod Wars served as a first step in restricting access, leading to the implementation of private access rights for resources commonly held by the Icelandic nation. Hersoug et al. (2007) calls this process of progressive restriction one of “trial and error” in which the final outcome—a management system characterized by catch limits and freely tradable catch quotas—was largely an “accident” (p. 8).

Indeed, the argument for exclusive fishing rights for Icelandic vessels during the international disputes of the 1970s transitioned quickly into a debate over fishing rights within Icelandic society during the 1980s and 1990s. This new debate was driven by several reports published during the 1970s. The so-called “Black Report,” issued by Iceland’s Marine Research Institute in 1975, warned that Icelandic cod stocks would collapse if fishing continued to be carried out at the same level of effort. The second report on the “Development of Marine Fisheries,” issued only weeks later by the Governmental Science and Research Council and nicknamed the “Blue Report.” It stated that the so-called “tragedy of the commons”⁷ was applicable to Iceland’s fisheries, regardless of whether the fishing vessels operating in Iceland’s coastal waters were of Icelandic or foreign origin (Matthiasson, 1997; p. 108).

After experimenting with several management tools (e.g., effort restrictions and Total Allowable Catch targets) to prevent such a “tragedy” from taking place (Matthiasson, 1997), attention turned to the idea of a boat quota system, which was initially proposed by the Union of Boat Owners (Pálsson, 1997). Pálsson and Helgason (1996) write that interest groups within the fishing industry “were rather unexpectedly in favor” of such a quota system during

⁷ The “tragedy of the commons” is a term coined by ecologist Garrett Hardin in 1968 to describe the depletion of commonly held or open-access resources that takes place when individuals, acting out of economic self-interest, seek to maximize their extraction of that resource without consideration of resource sustainability for future generations.

an annual conference of the Icelandic Fisheries Association in 1982 (p. 64).

Iceland began implementation of its quota system in 1984 (Benediktson & Karlsdóttir, 2011). Although individuals could still fish freely for their own personal consumption using hand line gears, fishing for commercial purposes was thereafter restricted (Fisheries Management Act, 1990). Total Allowable Catch (TAC) limits were set on an annual basis by the government, based on annual fish stock estimates from Iceland's Marine Research Institute, with this total catch divided into quota shares. Quota shares for each fish species were initially allocated free of charge to vessel owners who had been fishing during the previous three years (Benediktson & Karlsdóttir, 2011; Hersoug, 2007). Interestingly, fish resources were still considered common property, as the Fisheries Management Act of 1990 stated that the "exploitable marine stocks of fish resources" were "commonly held by the Icelandic nation. However, the *right to harvest* these resources was mostly privatized from 1984 onward (Árnason, 2008). Still, given the fact that those who hold fishing quota are the only ones permitted to use their fishing rights for profit, critics of the system argue this distinction is semantic and that Iceland's fish resources are now effectively privately owned.

Initially, the Icelandic public was told that this system was a temporary measure (Skaptadóttir, 2000; Pálsson, 1998). However, with the implementation of the Fisheries Management Act in 1990, the quota system was extended into the distant future, and an increased emphasis was placed on marketing the quota in order to increase economic efficiency of the nation's fisheries. Many among the Icelandic public were taken by surprise by the extent of marketization, particularly the transferability of quota shares (Skaptadóttir, 2000). Gísli Pálsson, one of the foremost critiques of the quota system, describes the gradualism of the quota system's implementation as intentional, in order to avoid public controversy and opposition. Einarsson (2000) asserts likewise that the environmental conservation arguments that were made in support of the quota system were largely a smokescreen, intended to "[conceal] the nature of the social changes taking place, the introduction of a whole new system of property rights and the transferral of public-access common property into tradable and transferable private property rights" (p. 140). One of the system's most vocal proponents, Ragnar Árnason, seems to concede to this assessment, writing that the gradual implementation was necessary in order to prevent an inordinate amount of opposition based on "traditional values and vested interests rather than rational arguments" (Pálsson, 1998; p. 285).

Under this new system, quota holders were permitted to trade and sell quotas under a system of Individual Transferable Quotas (ITQ), and all restrictions on trading between firms were lifted (Benediktson & Karlsdóttir, 2011). Rights holders were thereupon able to sell, rent, trade, and mortgage their quota holdings at will, with only a small tax levied upon holders of fish harvest rights (Hersoug et al., 2007). No restrictions were placed on quota sales or trades between regions. This made quota increase rapidly in value, resulting in a “flurry of mergers and acquisitions” as quota holders sold their rights for high profits, and small fisheries quickly merged with or were acquired by larger companies (Benediktson & Karlsdóttir, 2011, p. 231).

2.3.2 Monitoring and Enforcement of the Quota System

The management system attempts to strictly monitor and enforce catch restrictions. A vessel’s total catch must be landed and weighed, and discards are prohibited. Article 5 of Iceland’s Statement on Responsible Fisheries (2007) explains the catch control and enforcement process fish must undergo subsequent to landing and prior to purchase:

Any catch brought ashore is to be weighed by accredited harbor officials. Upon completion of weighing, the relevant harbor authorities register the catch in the central database of the Directorate of Fisheries, which ensures a steady overview of the status of the allowable catch of every vessel and how much has been taken from the fisheries quota. The fisheries inspectors of the Directorate of Fisheries monitor the correct weighing and registration of the catch. Information on each vessels allowable catch and quota use is regularly updated and made public and accessible to all on the Directorate’s web-site, as mandated by law, thus ensuring transparency.

A vessel that has caught species for which it does not own sufficient quota is required to purchase or trade for temporary quota. Once a vessel’s catch has been landed, the fishers are completely uninvolved in selling the fish, as all fish is purchased in large volumes via online auction. After the fish are sold, enforcement is similarly strict:

Anyone purchasing and/or selling catches is obligated to present reports to the Directorate of Fisheries, containing information on the purchase, sale and other disposition of fish catches. If discrepancy materializes in the database of the Directorate of Fisheries between the information stated in the reports and the information received from the harbor weighing, measures are taken when this is deemed appropriate. (Article 6, Statement on Responsible Fisheries in Iceland, 2007)

This high degree of monitoring and enforcement is intended to ensure the effectiveness of the TAC and quota mechanisms. However, the level of bureaucracy and large volumes of fish involved in all auction transactions necessitates large-scale purchases of fish.

2.3.3 Environmental and Economic Benefits

Among many economists involved in environmental resource management, private property rights have thus been viewed as motivation for rights holders engaged in resource extraction to become “environmental stewards,” invested in the continued sustainability of the resource in order to generate sustained returns on investment. Advocates of property rights in fisheries management argue that the private allocation of access rights to fish resources among individuals or entities in society, combined with a scientifically-defined limit placed on the total amount of the resource which may be accessed annually, will lead to a situation in which rights holders have an economic interest in ensuring the sustained availability of the resource over time (Árnason, 2008). According to this theory, there should also be less waste in property-rights regimes, as fishers who operate less efficiently will transfer their quota to those who operate more efficiently, and there will be less waste in resources (Pálsson, 1998). Ragnar Árnason, professor of economics at the University of Iceland, hailed the quota system, and attributed the country’s rapid wealth creation and unprecedented economic growth to the ability to use quota as collateral for loans, fueling, among other things, the booming (in retrospect, actually overheated and on the road to collapse) housing market in Reykjavík, Iceland’s capital and largest city (Árnason, 2008).

However, critics hold doubts regarding the system’s ecological impacts. For example, Pálsson argues that a commodity-based approach that determines the maximum sustainable yield for individual fish species in a given year cannot incorporate the full complexity of an ecosystem-based understanding that accounts for factors such as species interactions. Moreover, he speculates whether the system provides fishers with a true incentive for “stewardship.” He gives as example the issue of bycatch, which according to law must be landed and accounted for by fishers with temporary quota. What incentive do fishers truly have, Pálsson wonders, for legally landing low-grade fish species, for which they will have to obtain quota, when the financial returns on such species might be extremely low? As yet, though restrictions on total catch appear to have helped in sustaining individual fish stocks, and although the property-rights regime as designed has led to the vast amassing of wealth among quota holders, the ecosystem benefits of the system are unclear. According to Skaptadóttir, “the privatization of the fish stocks, not conservation, has been the most important goal of the ITQ system and economic efficiency its main measurement of success” (2000; p. 314).

2.3.4 Social Impacts of Icelandic Fisheries Policies

The design of Iceland's quota system had numerous negative repercussions for livelihoods in coastal communities, particularly as they compounded technological advances in fish processing. Quota owners were able to sell their quota for much more—according to Skaptadóttir (2000; p. 314) as much as 10 times more—than the amount they would earn through landing their catch. This led many owners to “sell, invest the money elsewhere, or move away” (Ibid). Some trawling vessels, faced with an insufficiency of the quota shares needed to sustain fishing year-round, transformed into freezing trawlers, which enabled them to stay at sea for much longer periods of time, and thus fish in international waters outside of Iceland's control.⁸ As these trawlers process and freeze their catch onboard, this change served to decrease the producers' need for onshore fish processing. It also made fishing with small boats less economical (Willson, 2013; Skaptadóttir, 2000).

The mergers and acquisitions of fishing quota by larger companies led to the closing of hundreds of fishing companies. Approximately 428 fishing companies were closed and 282 merged between 2003-2007 (Benediktson & Karlsdóttir, 2011). In Figure 2.1, below, Benediktson and Karlsdóttir map the regional changes in ITQ allocation during the first decade of the 21st Century. At the end of this period, the regions in the southern part of the country had attracted the largest transfers of quota. The fishing companies that remained held enormous economic power—and political influence—within Icelandic society, with 10 of the largest quota holders controlling 51.7 percent of the quota (Benediktson & Karlsdóttir, 2011).

⁸ Due to this loophole, fishing by Icelandic vessels has actually increased (Skaptadóttir, 2000; p. 314).

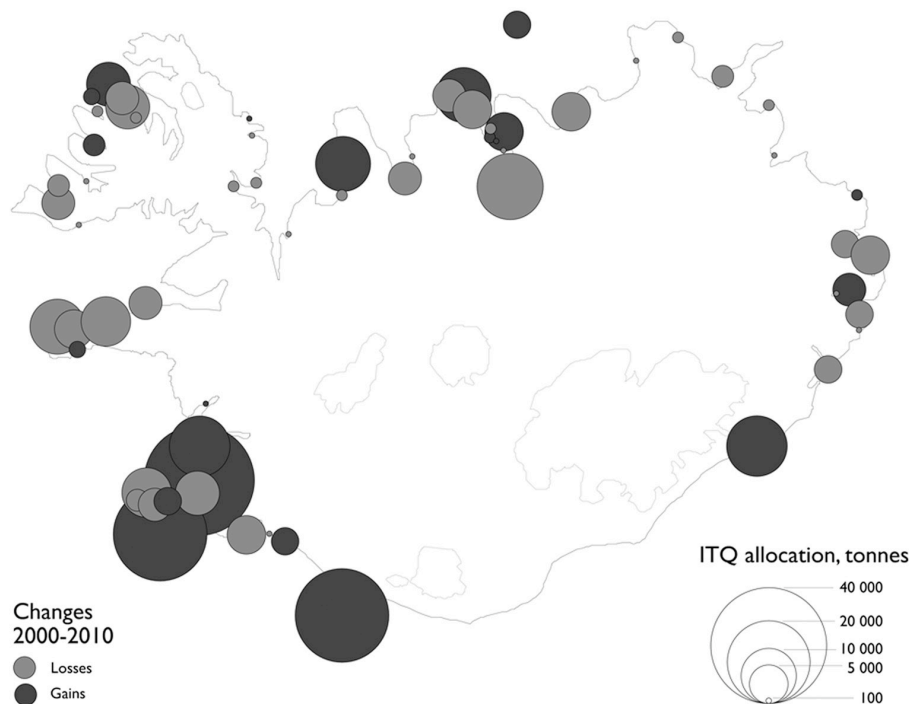


Figure 2-1: Changes in ITQ allocation in Iceland (from Benediktson and Karlsdóttir, 2011)

Many small communities found it difficult to purchase or even rent a sufficient amount of quota in order to sustain the local fishing industry. The losses in employment resulting from these sales, mergers, and closures contributed to depopulation in many coastal areas. As many fishing villages had been built around the fishing industry, the closure of a processing plant would not only impact the plant's workers. Unnur Dís Skaptadóttir (2000) provides an extensive discussion of the results of ITQ system implementation in one Westfjords fishing village. As fisheries jobs dwindled, people began to move away. With the main industry in decline, the sectors that had developed to service fisheries workers declined as well, e.g., in commerce and food services, schools, and hospitals. Housing prices fell, and buyers in the market for homes in areas with uncertain futures were in short supply.

Those in favor of the ITQ system argue that the access rights to and profits from fish resources should belong rightfully to the individuals and companies who have most invested in harvesting the resource (i.e., those who paid the high amounts necessary to purchase quota). However, Eypórsson points out that coastal communities also invested considerable amounts to build up the fishing industries:

Those who have put their lifetime savings into building a home in a fisheries community and have paid municipal taxes to build common infrastructure, also find their livelihood punctured when companies leave and take the fishing rights with

them. Contrary to boat owners, fish workers, crew members and other community residents hold no valuable rights. Consequently they get no compensation if the right-holders find that the community is no longer necessary for their operations. (Eypórssón, 2000; p. 489)

It can be argued, therefore, that in the design and implementation of a fisheries quota system, it is important to recognize such investments made by diverse actors in society. The fact that the ITQ system has not recognized this wide variety of contributions has, according to Unnur Dís Skaptadóttir, introduced conflicts into Icelandic society between those who hold quota shares and those who do not.

In the end, many of Iceland's fishing villages have faced the same issues as those confronting small-scale communities and businesses around the world in an age of globalization and increasing economies of scale. According to Skaptadóttir, such villages are "considered to be too small a productive unit to be economical" within the current economic paradigms (2000; p. 320). Rational market economists emphasize the importance of profits and efficiency to ensure maximum well-being, and providing jobs for a relatively small number of people in Iceland's fishing villages will never be considered an "efficient" use of resources against this theoretical context and in the global economy. Skaptadóttir asserts that the socio-economic transformations in the fisheries and fishing communities have been "commonly described as an historical inevitability" in media discussion, and that dominant political and media discourses reflected "an increasing acceptance of the differentiation created by a competitive system in which some gain and others lose" (2000; p. 314).

However, given Iceland's small population and relatively large landmass, it can be easy to take the efficiency argument to the extreme. Indeed, the most efficient and rational use of resources in a country with such a small population and rugged landscape as Iceland might be, as one writer joked, to simply have the entire population of 325,000 reside in "a single apartment complex in Breiðholt [a district in Reykjavík]" (Magnússon, June 7, 2011). This seems absurd when discussing the population of an entire nation, but it presents an interesting point: When compared against a worldwide population estimated at 7.125 billion (United States Census Bureau, 2014), the proportion of Icelanders in the world is not that much larger than the proportion of Westfjords residents in the world. To take the economic rationalist analysis even further, one could ask whether the entire nation is also "too small a productive unit to be economical." Whereas a national government can implement protectionist economic measures to safeguard national interests in the world economy, local governments

have few similar options to protect local interests.

Opposition to the ITQ system in Iceland has been widespread. Iceland's Supreme Court declared the national fisheries laws on ITQs to be unconstitutional in 1998, based on the fact that the current laws "privileged those who derived their fishing rights from ownership of vessels during a specific period over which their 'fishing history' was established" (Copes and Pálsson, 2000; p. 1). Fisheries laws were thus deemed to be in violation of the 65th article of Iceland's constitution, which prohibits discrimination. In 2008, the United Nations Human Rights Committee (UNHRC) stated Icelandic authorities were violating the 26th article of the UN treaty, which also prohibits discrimination. The UNHRC recognized the legitimacy of the goals of protecting fish stocks using a quota system, but stated that the permanent quota allocations that characterize the Icelandic system were unjust and in contradiction of international law (see Einarsson, 2011).

Numerous proposals have been made to redistribute some of the quota to coastal areas, to place time constraints on quota holdings or levy higher taxes on resource use. Quota fees for vessel owners were increased in 2012, sparking opposition by vessel owners, who sounded their ships' horns on a daylong protest in June 2012 in Reykjavík's harbor and threatened fishing strikes ("Örtröð í Reykjavíkurböfn, mörg skip bíða eftir viðleguplássi," 2012). These fees were decreased after new government came to office in national elections in 2013 ("Fishing Tariff Petition Handed to President of Iceland," 2013).

Most recently, in order to alleviate the effects of fisheries privatization in coastal communities, a coastal fishery system has been implemented throughout Iceland since 2009. This system is separate from the quota system, and a certain annual allotment is set aside for coastal fisheries by the government. Under this system, small vessels using hand lining gears are allowed to fish up to 750 kg per day for five days each week during the months of May through August, until the total annual allotment has been fished. In 2012, the most recent year for which Iceland has reported statistics on coastal fisheries, the catch of vessels participating in coastal fisheries in Iceland totaled approximately 0.6% of total catch and 1.6% of total value. In the Westfjords, coastal fisheries were more important in terms of raw numbers, with coastal fishing vessels harvesting 4.3% of total catch in the region, worth 5.2% of the total value of Westfjords fisheries (Statistics Iceland: Fisheries and Agriculture, 2014). The catch from coastal vessels undergoes the same closely monitored and centralized process as fish harvested by boats with quota, as described above in Section 2.3.2—it is landed,

weighed, and sold via the national online fish auction to fish factories and other large-scale buyers.

Despite these tentative attempts at making the ITQ system more equitable, the combined economic and political influence now wielded by quota holders and large fishing companies make the current system difficult to dismantle. Despite the controversy and opposition detailed above, for the present moment, Iceland's ITQ system seems well entrenched.

2.4 Dietary Importance of Fish

Despite the dramatic changes in the Icelandic fish industry during the last 30 years, fish remain highly important to the Icelandic diet, particularly relative to the rest of the world. Historic fish consumption levels were extremely high, as can be seen by the results of a 1939 national nutrition survey, wherein adult males in Reykjavík reported consuming on average 200 grams of fish per day. As late as the 1970s and 1980s, Icelanders consumed fish as often as three to five times a week (Amelien, 2012).

Icelanders still eat a relatively large amount of fish, consuming it on average two times per week (Sveinsdóttir et al., 2011). According to data from the Food and Agricultural Organization (FAO) compiled by the Bank of Iceland in 2013, per capita fish consumption in Iceland in 2010 far exceeded fish consumption in other countries, with the average Icelandic consumer consuming 90.94 kg of fish per annum (Figure 2.2). This surpasses the per capita fish consumption in Japan, the second highest fish consuming country, by more than 50%. Icelanders consume four times as much seafood as the average European (the European average being 22kg per capita per year) and five times as much as the average person globally (Bank of Iceland, 2013).

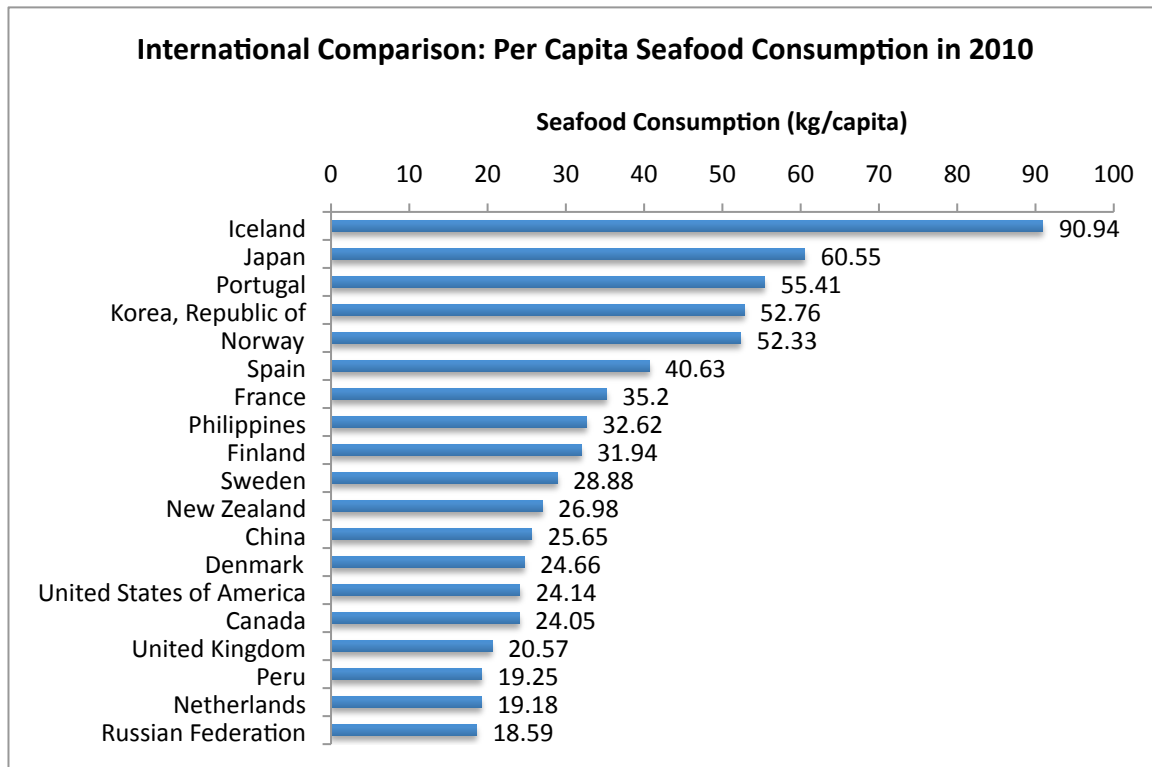


Figure 2-2: International comparison of per capita seafood consumption in 2010. Numbers compiled by the Bank of Iceland using Data from the United Nations Food and Agricultural Organization (FAO).

Despite this relative abundance of fish in the Icelandic diet, some Icelanders have become concerned about the decrease in fish consumption and the increase in consumption of more recent gastronomical imports, such as pizza, pasta, and hamburgers. Spurred by concerns that decreases in fish consumption in Iceland might have serious health impacts, particularly among Icelandic youth, several studies have attempted to better understand the motivations related to fish consumption in Iceland. Data from a recent study conducted by Matis, an Icelandic food and biotechnology research and design institute, found through a nation-wide, web-based survey that attitudes toward fish consumption were generally positive, and that women are more likely to place more emphasis on fish consumption. In addition, they found that people believed that easier access to fresh fish, access to a larger variety of fish, and better finances could positively influence their fish consumption (Sveinsdóttir et al. 2011).

Regarding youth, the Matis study also found that that fish consumption among 18-26 year olds is increasing, that this age group is willing to pay more for their seafood, that younger consumers place more emphasis on variety, and that they would be influenced to eat more fish if it is sold ready-made or in restaurants. Research by Þórsdóttir et al. (2012) into the fish consumption practices and attitudes of Icelanders ages 18-26 found that fish consumption in

this age group correlates to social pressure, personal attitude towards fish consumption, and fish preparation and cooking skills. Indeed, one growing food trend in Iceland has been toward fish and other food products that are pre-prepared and ready for the pan (Steingrímsson, 2011).

The most popularly consumed fish species in Iceland has traditionally been haddock, a preference that continues in the present day (Sigurgeirsson, 2001). Although Icelandic fisheries have always concentrated on harvesting cod, this was to supply the high demand for cod in the foreign market. Icelanders have historically eaten little of it, with the exception of salted cod, which was a staple of Iceland's international trade for centuries. The Icelanders' preference for haddock has been described as extreme. Gastronomist Steingrímur Sigurgeirsson states, with only some facetiousness, that: "Legend has it that in earlier centuries, when no haddock was available, whole communities preferred to starve rather than consume cod, flounder, or other species deemed inedible, even though abundant" (2001; p. 87). A wider variety of species are consumed today, particularly in Reykjavík restaurants, where sushi has become popular among younger residents (Sveinsdóttir et al., 2011).

2.5 Supply of Fish in Iceland

The vast majority of the amount of fish caught and processed in Iceland is exported and sold on the world market. The domestic supply of fish is supplied predominantly by Icelandic companies and is likely to be predominantly domestic in origin as well. However, three main factors complicate the issue of traceability for Icelandic consumers.

Firstly, Iceland does import fish. Between 40,000 and 100,000 tons of fish and seafood were supplied from domestic production between the years 2000-2009 (Figure 2.3). Imports of fish and seafood began to increase dramatically during the 1990s, with the import of crustaceans comprising the largest portion of those imports. The amount of imported seafood peaked in the year 2000 at more than 150,000 tons, before falling to levels of approximately 80,000-100,000 tons later in the decade, when imports exceeded domestic supply (FAO Iceland Food Balance Sheet, 2009).

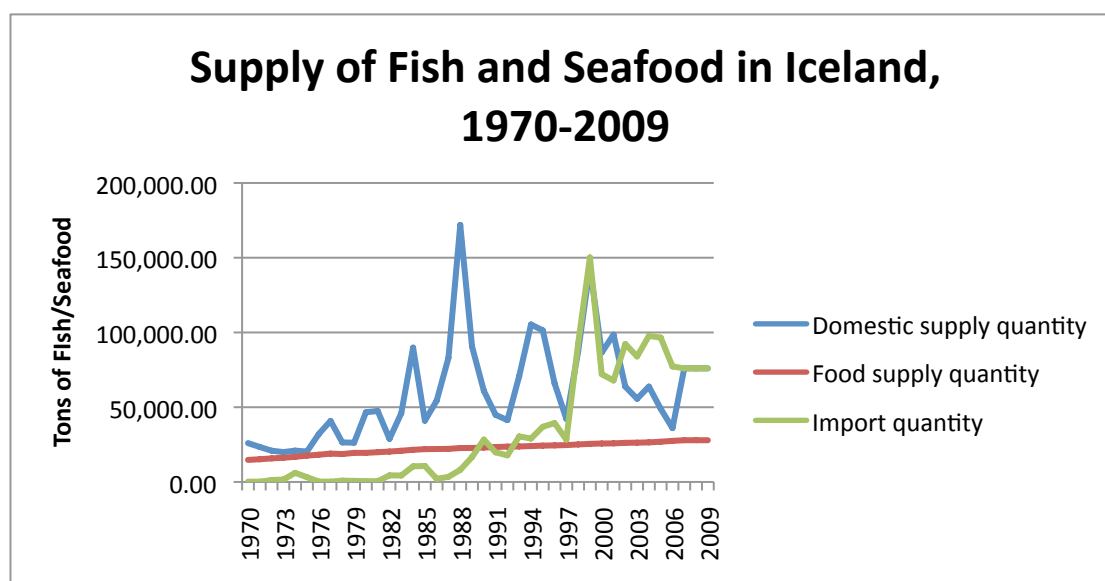


Figure 2-3: Supply of fish and seafood in Iceland (tons), from the UN FAO Food Balance Sheet.

It should be noted that from the available data, it is currently impossible to determine the amount of domestic seafood versus imported seafood going into the Icelandic food supply, as the majority of the seafood that is imported into Iceland is used for feed, bait, or raw material processing for export (FAO Iceland Food Balance Sheet, 2009).

Secondly, a certain percentage of the fish processed by some larger Icelandic fishing companies has been caught by Icelandic trawlers in fishing grounds near Norway, Russia, and the Flemish Cap. In 2012, 86.6% of fish processed in Iceland were caught in Icelandic waters, though this percentage varied considerably by region. Nearly all of the fish processed in the Western and Westfjords regions in 2012 had been caught in Icelandic fishing grounds (100% in the West and 99% in the Westfjords). In the South, East, and Northeast of the country, the percentage was considerably lower (86%, 82%, and 81%, respectively), likely to due to the proximity of foreign fishing grounds in these regions.

Lastly, a certain percentage of fish landed abroad is imported into Iceland for processing. The amount of fish imported for processing has varied considerably from year to year in the previous ten years, with a peak at 50,000 tons imported in 2005, but decreased sharply after the financial collapse in 2008. Approximately 13,000 tons of imported fish were processed in Iceland in 2012, the most recent year on record (Statistics Iceland: Fisheries and Agriculture, 2014).

2.6 Emerging Themes

In researching the history of fish consumption in Iceland, it becomes apparent that for much of Iceland's history, fishing—and production in general—has been shaped by various forms of restriction. Fishing for commercial gain has been restricted to certain segments of society for the majority of Iceland's history. Prior to the beginning of the 20th Century, the *Vistarband* laws restricted the type of person who might engage in commercial fishing, with landowners being the sole segment of society possessing the right to own a fishing boat and practice self-determination with regard to fishing. Following the abolishment of this law in 1894 until the institution of the current fisheries management system in the 1980s, the entirety of the Icelandic population was faced with the unique opportunity to profit from commonly held fish resources. The implementation of the quota system resulted in the concentration of commercial fishing rights once again into the hands of a minority population—this time, the quota owners. Niels Einarsson has written about the narrowing effect that this concentration of rights has had on Icelandic fishing communities, stating that “the impact of ITQs is to decrease social and economic flexibility and choices not only for subsistence, but also for personal and cultural self-realization” (2011; p. 139).

The next chapter will provide an overview of the main concept informing development of this thesis, Local Food Networks (LFN). This overview will discuss LFNs, mostly as they relate to agricultural products, using theories and approaches adopted from the field of political ecology. Political ecology attempts to describe the dynamic interactions taking place between human institutions and environmental-ecological systems. In reading the following chapter, it would be beneficial to keep in mind this theme of restriction as a tool of elite power. In their most ideological form, LFNs represent an attempt at circumvention—or even resistance—against these forms of restriction as they reverberate in the realm of consumption.

3 Conceptual Framework

3.1 Political Ecology Approach

A political ecology framework provides a useful lens through which to examine the dynamics of local consumer access of fish resources in the Westfjords. It is particularly useful in understanding the ways in which access patterns have been affected by historical and cultural factors, and in exploring how political tools developed for sustainable fisheries management perpetuate and amplify existing inequalities on the consumption side of the Icelandic fisheries system.

3.1.1 Definitions of Political Ecology

Political ecology is the study of the relationships between political, economic, cultural, and social factors when confronted with environmental issues and changes. Scholars in the field hail from a wide variety of disciplines, such as anthropology, geography, development studies, political science, sociology, forestry, and environmental history (Robbins, 2004). It has been described as a field that seeks to describe the interactions between power relationships and human-environment relations (Biersack, 2006). Scholarship in the field often deals with issues of social and economic inequalities, including inequalities in access to environmental resources resulting from political decisions over environmental issues. It also addresses the ways in which political institutions and power structures shape and delimit this environmental decision-making.

Perhaps due to its interdisciplinary nature, the definitions ascribed to political ecology have been diverse, with some scholars placing emphasis on political economy, others on political institutions, others on social reactions and upheaval, and yet others on environmental change as key drivers in the sets of interrelationships explored (Robbins, 2004). Several definitions of political ecology are relevant to the development of this thesis project.

- An early definition from Ernest Gruening (1951) in his “Political Ecology of Alaska” defines his undertaking as “the relation of the human organisms that have

constituted and still constitute Alaska's population to their institutions, public and private and to their physical surroundings" (p. 376).

- According to Blaikie and Brookfield (1987), political ecology "combines the concerns of ecology and a broadly defined political economy. Together this encompasses the constantly shifting dialectic between society and land-based resources, and also within classes and groups within society itself" (p. 17).
- Hempel (1996) stressed the interrelationships between political actors and environmental change in his description of political ecology as "the study of interdependence among political units and of interrelationships between political units and their environment... concerned with the political consequences of environmental change" (p. 150).
- Watts (2000) framed political ecology as concerned with equity issues, particularly with regard to equity of access to environmental resources, arguing that the field's aim is "to understand the complex relations between nature and society through a careful analysis of what one might call the forms of access and control over resources and their implications for environmental health and sustainable livelihoods" (p. 257).
- Paul Robbins (2004) attempts a broader definition of the field that incorporates the main themes from these various emphases in scholarship. To him, the many definitions of political ecology attempt to describe "empirical, research-based explorations to explain linkages in the condition and change of social-environmental systems, with explicit consideration of relations to power", with the intention to "expose flaws in dominant approaches to the environment favored by the corporate, state, and institutional authorities, working to demonstrate the undesirable impacts of policies and market conditions, especially from the point of view of local people, marginal groups, and vulnerable populations" (p. 12).

3.1.2 "The Hatchet and the Seed"

Although there is a heavy emphasis in political ecology placed upon critique, there is also growing recognition in much of the literature of the need for political ecology to explore alternatives to the criticized systems and to articulate pathways toward the realization of these alternatives. Robbins calls this dual focus the "hatchet and the seed" approach to formulating critique. Robbins (2004) states that political ecology "explores these social

and environmental changes with a normative understanding that there are very likely better, less coercive, less exploitative, and more sustainable ways of doing things”, and that the field “attempts to do two things at once: critically examining what is wrong with dominant accounts of environmental change, while at the same time exploring alternatives, adaptations, and creative human action in the face of mismanagement and exploitation” (12).

This thesis seeks to place itself within this frame by simultaneously: 1) Exploring the ways in which a multitude of factors, ranging from historic and cultural to socio-economic and political (e.g., social and economic inequities produced in the Westfjords by Iceland’s fisheries management policies), may have affected local consumer-level access to fish resources in the Westfjords; and 2) Exploring alternatives that would attempt to expand commercial access to local fish resources.

3.2 Political Ecology and Local Food

In order to better understand the utility of the political ecology framework to consumer-level access to local food resources, we must first define and conceptualize *local food*, which, depending on the context, is often used interchangeably with *quality food*, *natural food* (Murdoch, Marsden, and Banks, 2000), and, for the most environmentally-minded, *sustainable food*. In the first part of this review, I will thus undertake a discussion of the concept of the *Alternative Food Network* (AFN) and its offshoots, the *Local Food Network* (LFN) and the *Short Food Supply Chain* (SFSC). I will define these concepts and describe their development in the academic literature against the context of the globalization and industrialization of the conventional food system. From there, I will discuss the motivations behind the development of LFNs from the standpoint of both consumers and producers, the debates surrounding the economic viability of local food networks, their utility in enhancing local autonomy, and benefits to environmental sustainability. I will outline the potential barriers to LFN development, highlighting the ways in which they are dependent on political and managerial decision-making and conclude with an overview of the extremely limited amount of literature available about alternative systems in the fisheries sector.

3.3 Context for the Development of Alternative Food Systems

Before undertaking the task of defining the concepts related to local food, we must consider the context: the rapid industrialization, internationalization, and consolidation in the food system that has taken place since the end of World War II. The industrialization of agriculture, spurred by advances in farming and transport technology, cheap fuel costs, the development of highly effective pesticides and antibiotics, and the production-line mentality, completely transformed and replaced the work of the small family farm. Small-scale farming was replaced in large part by larger, specialized, industrial farms practicing monoculture crops, requiring large capital investment, and selling raw product to corporate depositories and customer bases hundreds or thousands of miles away (Berry, 1977). As a consequence, the number of farms and the income of food producers have increased drastically in both industrialized and industrializing countries. According to Canadian statistics, for example, an average of 67.5 farms disappeared each week between the years 2001 and 2006, and in the United Kingdom, farm incomes decreased a total of 75% during a three year period in the 1990s, returning these incomes to levels not seen since the 1930s (Blouin, Lemay, Ashraf, Imai, and Konforti, 2009).

This transformation coincided with the rise of neoliberal capitalism and its dogma of free trade. As farms became larger and fewer, so did large-scale economic actors, such as multinational food companies. These factors led to a state of affairs in which production and profits were increasingly consolidated in the hands of multinational food conglomerates, consolidation that was supported by deregulation and the weakening of antitrust laws (Hauter, 2012). These economic transitions have been accompanied by dramatic social shifts, including the depopulation of rural areas and rapid urbanization and the alienation of food consumers from producers (Berry, 1977).

In this manner, as noted by Dicken (1998), the industrialization and globalization of the agro-food system has in many ways followed the same path as industrialized production in general. Yet other scholars (see Page, 1996) argue that there are some clear distinctions borne out of the nature of the food system itself, in particular “the desire by industrial capitals to ‘outflank’ the biological systems that have traditionally lain at the heart of food production” (Murdoch et al., 2000; p. 108). This attempt at domestication “requires the

constant application of science and technology to the limits imposed by nature and space” (Friedland, 1997; p. 166) and has resulted in “precision agriculture” (Murdoch et al., 2000; p. 109), which strives to maintain control over all stages of agricultural production and delivery to the consumer. In many ways, however, these attempts at domination and control have resulted, perversely, in numerous unintended consequences to health and safety, such as food borne illnesses, risks from pesticides, and antibiotic resistance. Murdoch et al (2000) call these consequences the “boomerang” effect of nature and argue that they have played a primary role in driving an increasingly large segment of the population in industrialized countries to consider both the negative effects of conventional food production and the potential benefits of a re-localized food system, with the concept of “local” often perceived in the public imagination as more natural, of higher quality, and safer (Nygard and Storstad, 1998).

Another consequence of the increasingly globalized and consolidated food system in many industrialized countries has been decreased consumer knowledge about their food. With the onset of the globalized food system, choice and variety in the type of food available have increased, and the prices for this wide assortment of foods have decreased dramatically. Consumers have had less say in terms of its origins and the manner in which food is produced, particularly lower-income consumers with less access to niche alternative markets. Consumers are thus “increasingly distanced from the physical, social, and intellectual origins of their food by the cheap food system that privileges quantity and short-term efficiency over taste, sustenance, quality, and the environment” (Blay-Palmer, 2008; p. 1). As producers attempt to gain complete control over the natural processes involved in agricultural production, consumer control has effectively decreased. Consumers are thus driven for a variety of reasons, both pragmatic and philosophical, to alternatives, in the hopes that “a local food system that effectively integrates health, sustainability, and the economy may support equity in food distribution, justice in access and availability of healthy nutritious foods, and ecological practices in food producing, processing, and distributing” (Nelson, Lowitt, Nagy, and Bavington, 2013; p. 178). Many producers have thus responded to the quality concerns of consumers by attaching a local identity to their products (Murdoch et al., 2000; p. 111).

3.4 Local Food Networks: Definitions and Objectives

In the 1990s, a new branch in food studies began to emerge that focused on what Whatmore and Thorne (1997) termed an “alternative geography of food.” A local food network (LFN) is a subset of the alternative food network, in which consumers seek local sources of food consumption for a variety of social, political, environmental, and health-based reasons. The commercial exchange can sometimes (but not necessarily) occur directly between the producer and the consumer (Mathijs, 2012).

Local food systems seek to integrate many wide-ranging issues related to food production and consumption in order to ameliorate perceived faults and damages wrought by the internationalized and industrialized food system. According to the Sustainable Agriculture Research Program at the University of California, local food systems constitute a “collaborative effort to build more locally based, self-reliant food economies—one in which sustainable food production, processing, distribution, and consumption is integrated to enhance the economic, environmental and social health of a particular place” (Feenstra 2002, p. 100). Local food systems often are also sought for their connection to bonds of community or region, with the goal of both producers and consumers being “self-reliant, locally or regionally based food systems comprised of diversified farms using sustainable practices to supply fresher, more nutritious foodstuffs to small-scale processors and consumers to whom producers are linked by the bonds of community as well as economy” (Kloppenburg, Hendrickson, and Stevenson, 1996; p. 2).

It is this emphasis on locality that distinguishes the local food system from other subsets of “alternative food network,” for which the definitions are unclear and may be somewhat overlapping, including “sustainable,” “organic,” “quality,” and “fair trade” systems. These terms should not be confused or used lightly as synonyms, however, as in some cases the objectives and realities of these different forms of AFN can stand somewhat in contradiction with each other (Blay-Palmer, 2008).

The term “organic” suggests primarily a set of principles or regulations governing the manner in which the product is grown and produced, for example limiting or banning the use of pesticides on crops or antibiotics for animals. “Fair trade,” on the other hand, suggests a set of fair labor principles or price regulations governing the relationship between primary producers such as farmers and the middlemen who stand between the

producer and the consumer. These terms are often used in conjunction with certification labels, such as USDA Organic or Fairtrade International, which provide an external type of “branding,” which the producers hope will be recognized and trusted by consumers as in alignment with their principles of sustainability and quality. “Sustainable” and “quality” are more fluid terms, which may or may not be supported by regulations and which describe an underlying dedication to sustainable agricultural practice and high-quality food. Although these subsets might also, depending on the philosophy and practice of individual systems, include an emphasis on local sources or direct contact between producers and consumers, they do not do so by definition. For example, many certified organic and fair trade products are transported across national and even continental borders to reach consumers (Blay-Palmer, 2008).

The “local” label can be equally vague in definition. The fact that one’s produce was grown on a nearby farm does not necessarily mean that the farm avoids use of pesticides. In addition, what distance is sufficiently close to the consumer to be categorized as “local”? When the New Oxford American Dictionary included the term “locavore” in its lexicon for the first time in 2007, it was defined as “a local resident who tries to eat only food grown or produced within a 100-mile radius” (Thilmany, Bond, and Bond, 2008; p. 1303). Indeed, some consumers may limit purchases from farms within no more than a 50-100 km distance from their homes. However, others will view all regionally produced foods as local (Renting, Marsden, and Banks, 2003). In spite of the looseness of this term, a local food system generally provides embedded location information to the consumer, with the consumer possessing the knowledge to make the choice, “how local is right for me.” Moreover, a short distance between actors in the system also provides consumers with the opportunity to research their sources for food, going so far as to visit the farm or urban garden, to investigate growing methods. Pretty (2002) describes the building of relationships between producers and consumers as intrinsic to the nature of the local food system, arguing that in addition to trying to eliminate the “negative transport externalities by shortening the supply chain,” local food systems aim to “help build trust between producers and consumers, ensuring that more of the money spent on food actually gets back to farmers” (Mathijs, van Hauwaermeiren, Engelen, and Coene, 2006; p. 6).

The concept of the “short supply chain” is thus of great importance to the discussion of local food systems. Mathijs et al. (2012) note that “the central theme of local food systems

is that the distance from producer to consumer is as short as possible” and, as such, local food systems are often seen as synonymous with short supply chains (p. 2). Renting, Marsden, and Banks (2003) use the term “short food supply chain” as an umbrella term that encompasses systems three essential types of systems with varying amounts of contact between producer and consumer. These types entail various means of delimiting boundaries for what constitutes “local” and comprise various distribution mechanisms, which can be seen in Table 1 below.

Table 1: Types of Short Food Supply Chain (agriculture), synthesized from Renting, Marsden, and Banks (2003), Blouin et al. (2009), and Chinnakonda and Telford (2007)

Type of Agricultural SFSC	Means of Defining Boundaries	Distribution Mechanisms	Organizational and Management Responsibility
Face-to-face contact	Consumer and producer are in direct contact.	Farm Shop (online or physical location)	Producers: Individual farms
		Farmer's Market, groupings of multiple vendors	Mostly intermediary organizations and/or local municipalities; occasionally by vendors themselves.
		CSA/box scheme, in which the consumer prepays for a certain share of the seasonal yield, lessening the financial risk to the producer	Producers: Individual farms, gardens
Spatial proximity	Products are produced and sold in the same general area.	Retail outlets (small- or medium-scale or big-box)	Producers and/retailers
	Local boundaries delimited by geographic or temporal distance. Consumers understand the local origins of the product when the retail transaction is made.	Institutional procurement, which links institutions such as schools, daycare facilities, and hospitals to local producers that are already participating in CSA programs.	Various institutional levels. May be supported by policies, e.g., which mandate associated educational programs on local food issues and/or the requirement of the use of local ingredients in foods served in schools.
Extended proximity	Information about the place of production and the people involved in its production is embedded in the product in some way, e.g., labeling.	Retail outlets (small- or medium-scale or big-box)	Producers and/retailers

Given this relatively broad definition of the short food supply chain involved in the production and consumption of local food, as well as the dynamic nature of food systems and the actors they comprise, it is unwise to submit to the temptation of understanding the conventional and alternative production models in opposition to each other. Indeed, as large-scale producers realize the potential value in heretofore niche markets such as organic, for example, they are incorporating features of these “alternative” systems into their conventional models of production, blurring the lines considerably as almost identical products can emerge from both systems (Marsden, 2003).

The most basic component of the SFSC and LFN, however, seems to be that the food arrives in the hands of the consumer embedded with information, but the focus on the type of information to be included can vary by place. Harris (2009) distinguishes between two types of information that consumers can commonly find embedded in local food: 1) “Product and place,” which “embeds food *products* with a sense of geographical place or provenance” (emphasis in the original, p. 56); and 2) “Process and place,” which embeds specific information about the production and consumption processes (e.g., organic) into the *place*. The former, which is perceived to stimulate regional economic growth and development, is found most often in European AFNs, whereas the latter is more popular in North America and aims to “emphasise social and ethical values associated with particular supply chains” (Harris, 2009; p. 56). According to Watts, Ilbery, and Maye (2005), the embedding of both process and place within the food product are optimal, conveying more information about the product and further decreasing the asymmetry of information between producers and consumers. Chinnakonda and Telford (2007; p. 6) makes a further distinction between the priorities of northern and southern Europeans in their local food consumption, contending that northern Europeans focus more on process-related issues such as health, product traceability, and food security, while southern Europeans attach more importance to factors associated with place, such as conceptual linkages between the food with the local culture, land, traditional production methods, and flavors.

One of the primary motivations of the consumer in purchasing local food would thus be to have access to information that is most helpful in helping her to make choices that are in line with her consumer priorities, whether those priorities are based in pragmatic (e.g., health concerns over heavy pesticide use) or values-based (e.g., concerns for the environment, workers’ rights, local economic development and food sovereignty, etc).

This suggests a wide array of underlying concerns and motivations, ranging from the mundane to the socially idealistic. Smithers and Lamarche (2008) notes that consumer objectives can be as simple and pragmatic as the desire to purchase a special item the producer is offering or they can have overtones of local or regional solidarity, in which the consumer seeks specifically to support a local vendor or the economy of the local town or region as a whole. In purchasing local food, consumers may also be seeking to support producers they view as more environmentally sustainable or to engage in a form of market that gives them a sense of community spirit and camaraderie (e.g., at farmer's markets).

3.5 Impacts of Local Food Networks

The following sections will provide an overview of some of the literature detailing the effectiveness of local food systems in fulfilling the value-based and philosophical ideals that motivate consumers to purchase local food. These ideals include: environmental sustainability, local economic development and fair trade, and the social wellbeing of local communities.

3.5.1 Environmental Impacts of Local Food

The main positive environmental impacts associated with local food are: a smaller carbon footprint due to shorter transportation distances; the reduction of waste, particularly packaging waste; and the more sustainable practices commonly associated within an integrated vision of local food production (Blouin et al., 2009).

The carbon footprint argument in support of local food has yielded mixed results. It is true that food transported shorter distances will decrease the carbon needed in transporting the good. A study by East Anglia Food Link found that produce transported by air transport emits 33 times the amount of carbon as produce that is sourced and consumed within the same local area (Blouin et al., 2009; p. 13). However, other studies have made clear that these transport-related carbon emissions comprise only a small fraction of total emissions. Findings from Germany indicate that in agriculture, food production accounts for more than half of total carbon emissions, with transportation-related emissions being more marginal (Ibid). In a report compiled by the Agribusiness and Economics Research Unit of New Zealand's Lincoln University, Saunders, Barber, and Taylor (2006) argue that in spite of the shorter distance involved in transporting local food, the total carbon footprint of

small-scale local farms in producing the food can be conversely higher than that of larger, more efficient farms. Their findings indicate that if one considers carbon footprint as the sole indicator of environmental sustainability, imported meat from New Zealand is more environmentally sound than meat produced and marketed as local in English communities. Other factors, such as consuming produce in season and using organic inputs (particularly for livestock feed), are of high importance. In addition, the findings of Coley et al. (2007) contend that when consumers travel more 7.4 km round trip in obtaining local food, the carbon emissions involved in such a trip surpass those that would result from a trip to a big-box retailer (Blouin et al., 2009).

Thus, from an environmental standpoint, the benefits of local food cannot be regarded as merely a function of distance, but also of a multiplicity of factors operating together within an integrated system. In a United States Department of Agriculture (USDA) study of local food systems, Martinez et al. (2010) stated that the literature regarding the environmental impacts of local food systems is sparse and inconclusive, particularly as these systems relate to green house gas emissions and energy use.

3.5.2 Health Impacts of Local Food

Advocacy for LFNs often cites their perceived health and nutrition benefits. One sees this argument particularly with regard to expanding access to fresh food with minimal processing in so-called “food deserts” as well as in school cafeterias, where “farm-to-school” programs are increasingly commonplace in North America. The fact that food is “local” does not in itself imply nutritional benefit. However, other qualities are often associated with the concept of local, such as increased freshness due to short supply chains. The argument has been made that fresher foods may retain more nutrients (Lea, 2005), but this has not been empirically proven, and there are many factors that may also help to determine the nutrient content and overall health of certain foods (Martinez et al., 2010). Another argument, cited by Morland et al. (2002) and Moore et al. (2008) is that people make healthier choices in their diet when they have improved access to healthy foods. However, Martinez et al. (2010) point out that it is difficult to determine whether dietary choices might in some cases improve due to the local nature of the food or due merely to the expanded access.

3.5.3 Economic Impacts of Local Food

Assessments of the economic impacts of LFNs indicate that there is economic benefit to both producers and consumers who engage in them, as well as to the local economy, though the impact to the economy as a whole is less clear. Martinez et al. (2010) note that the substitution of local goods for imported (non-local) goods is the most direct and obvious effect of LFN development. In addition, such networks often lead to indirect effects to the locally economy, for example via the higher utilization of local services, source materials, and local labor.

In turn, individuals obtaining income indirectly from local food businesses also contribute a portion of this income to the local economy. In one study of farmer's markets in the U.S. state of Iowa, Otto and Varner (2005) estimated that each dollar spent at farmers' markets generated 58 cents in extra income to the local economy, while each dollar of personal income earned at farmers' markets generated an additional 47 cents. Another study from Great Britain found that every GBP 10 spent in local food networks brings GBP 25 within the local economy, compared to the GBP 14 that is brought to the local economy through purchases in supermarkets (Blouin et al., 2009). In addition, the development of LFNs can help to improve the business capacity and entrepreneurship skills among residents in the local community, as small-scale entrepreneurs must gain capacity in direct marketing, among other skills, in order for their businesses to survive (Martinez et al., 2010).

Another benefit is that primary producers such as farmers have more control over prices and a higher proportion of the overall profit is taken by them, rather than by middlemen. Given this enhanced control, they are thus less vulnerable to market fluctuations (Blouin et al., 2009). When Renting et al. (2003) compared the socioeconomic impact of organic farms engaging in direct sales to consumers with conventional farms in several Western European countries, they found that the organic farms using direct sales obtained an additional 7-10% of net value. This aspect of LFN development has also been considered with regard to fisheries. According to a study by Canada's Ecology Action Centre, localized distribution networks and direct marketing are urgently needed in Nova Scotia fisheries, where fishermen find it increasingly difficult to remain in business. This study concluded that: "The most successful strategy identified to increase direct return to small-scale fisheries requires product differentiation and regional marketing of the seafood

products that support and empower low-impact, owner-operator fishermen” (Nikoloyuk and Adler 2013, 1). Even given this higher level of price control by producers, prices can also be lower for consumers than when making purchases via local food outlets such as farmers’ markets and CSA schemes than via conventional markets, although the case varies (Martinez et al., 2010).

However, Martinez et al. (2010) also note that effects on the larger economy are less clear, as the added sales and incomes within the local economy will inevitably decrease the sales and associated economic benefits from other geographic areas (i.e., the areas from which goods and services were sourced previously). In addition, as local networks develop, other economic sectors in the local area may lose in sales, income, and jobs, for example conventional food outlets such as supermarkets.

3.5.4 Social Impacts of Local Food: Connection, Community, and Identity

The social impacts desired by consumers and producers in LFNs are perhaps the most varied and complex of all, depending highly on the history of the areas in which they are found and the attitudes of the people living there. As the most direct social effects is a closer relationship between producers and consumers. This relationship may remain impersonal and one-sided, based on embedded information conveyed to consumers via labels. It may also become highly personal, based on direct contact and a bidirectional flow of information, with consumers and producers able to engage in a dynamic exchange to convey information related to, among other issues, production process and consumer preferences and concerns. Such interpersonal contact can have multiplier effects, such as a heightened sense of community, greater education among consumers about health and nutrition issues (or even about producing their own food) and increased capacity among producers, as consumer input may help them to tailor their direct marketing approaches (Blouin et al., 2009). LFN initiatives in schools (e.g., farm-to-school) help to foster such contact and understanding at earlier ages.

The local identity of food can also create psychological links between local consumers and the food itself, particularly in times when a sense of local identity is perceived to be under threat. Happel (2012) argues that food can serve as a distinguishing factor between social groups and can even be seen as a political statement.

3.6 Issues of Power in Local Food Networks

Alternative food systems have in large part come about in reaction to perceived shortcomings of the globalized and industrialized systems, and as such local food advocates and much of the academic scholarship on the subject has conceptualized the AFN model as a challenge to the conventional system. For example, Vittersø et al (2005) discuss the potential for local foods to challenge the dominant systems of power in food production and distribution. LFNs are often described not only in terms of benefit for the consumer, but also for the often smaller-scale producers, as there is now the “potential for shifting the production of food commodities out of their ‘industrial mode’ and to develop supply chains that can potentially ‘short-circuit’ the long, complex and rationally organized industrial chains within which a decreasing proportion of total added value in food production is captured by primary producers” (Marsden, Banks, and Bristow, 2000; p. 425).

Advocates often make the case that local food networks can serve to redistribute not only money, but control over the product and production method from international markets to individual localities. Implicit (or explicit) in some of these arguments is a critique of modern global capitalism and the perception that redistribution of power over food production to localities is revolutionary. Harris (2008, p. 56) notes that AFNs are particularly politicized and viewed as a means of “oppositional activism” in North America, whereas they do not take on this politicization as much in Europe. This distinction may be related to the fact that institutions such as farmers and food markets have a longer tradition in Europe, particularly in southern Europe, where they have been viewed as part of the culture rather than in opposition to it. Their argument is for “food sovereignty,” a term developed in 1996 by La Via Campesina, an international movement and coalition of 148 organizations, which states that its goal is to coordinate “peasant organizations of small and middle-scale producers, agricultural workers, rural women, and indigenous communities from Asia, Africa, America, and Europe” (La Via Campesina, 2013). At a 2007 conference on food sovereignty in Mali, more than 500 delegates from more than 80 countries accepted the Declaration of Nyéléni, which states that:

Food sovereignty is the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems. It puts the aspirations and needs of

those who produce, distribute and consume food at the heart of food systems and policies rather than the demands of markets and corporations. It defends the interests and inclusion of the next generation. It offers a strategy to resist and dismantle the current corporate trade and food regime, and directions for food, farming, pastoral and fisheries systems determined by local producers and users... Food sovereignty implies new social relations free of oppression and inequality between men and women, peoples, racial groups, social and economic classes and generations. (Declaration of Nyéléni, 2007)

This declaration advocates clearly for re-localized food systems as a means for revolutionary social and economic change. However, scholars are more hesitant to make these linkages, emphasizing that much of the local food movement seems firmly rooted in the consumerist and productionist discourses of the dominant neo-liberal paradigm. Noting that not all local food initiatives “have the same ‘DNA,’” Mathijs (2012, p. 7) articulates this difficulty:

Are [AFNs] one of many strategies *within* the prevailing capitalist system of a post-political consensus? Or are they strategies *outside* the prevailing system, governed by a new set of rules and institutions, and challenging the capitalist system in a grassroots way, and thus political per definition?

In his reading of differing scholarly discourses on the “100 mile diet,” Harris (2008, p. 61) argues that “the ways in which academics analyse alternative food politics have the potential to reinforce the alleged dominance of discursive neoliberalism, and thus to close down openings for constructive socio-environmental change.” However, Harris concludes that this is likely due to the discursive power of neoliberalism and that for many, this power “can blind academic commentary and critique to the specific political actors and organisations in question, in this case specific AFN projects, and in doing so, blind us to new political opportunities” (p. 60). From the academic perspective, it is thus only through “our reading of these new forms of social action that I argue we might be able to imagine, and in so doing, start to enact, a politics of possibility in the landscape of contemporary food politics” (p. 61).

Scholars such as Weinert (2010) have discussed potential for the creation of alternative food networks and short food distribution systems to distribute power more evenly, although Weiner, as well as Brown and Pucell (2004), warn against automatically assuming “local is better,” which they assert has been a common and problematic assumption among political ecologists.

3.7 Practical Challenges to Local Food System Development

Lingering questions on the very identity of AFNs and the nature of the relationship between conventional and alternative food systems may be one of the factors hindering not only the development of AFNs but also the development of a coherent body of academic literature on AFNs. Mathijs (2006) identifies a number of other factors inhibiting the development of local food systems. This list includes: 1) Infrastructural failures, including physical infrastructure, scientific and technological infrastructure; 2) Institutional failures, including “hard” institutions (e.g., laws and regulations) and “soft” institutions (e.g., culture and values); 3) Interaction failures between actors, featuring interactions that can be too strong and thus myopic or too weak, “resulting in lack of cooperation and blind spots”; and 4) Capabilities failures, characterized by a lack of capacity or resources that can be particularly prevalent in smaller systems (in Mathijs 2012, p. 6).

Adapting these system failures to LFNs, Mathijs emphasizes firstly the importance of institutional failures, arguing that regulations based on the old system (e.g., those governing food safety, the transportation system, zoning, etc.) are misapplied or forced onto the alternative systems, in which these regulations may or may not be necessary. For example, while the industrialized model is characterized by completely separate production stages that require a certain set of regulations, not all of these rules might be needed within local food systems in which these production stages are reintegrated, and, in fact these rules might be counterproductive to their development. Secondly, he identifies infrastructural failures in the dominance of university scholarship on mainstream production, with local food research remaining largely an academic niche. Thirdly, Mathijs suggests that the people involved in local food systems tend to remain somewhat insular and peripheral, which he identifies as an interaction failure. Lastly, he points to capabilities failures in the relative lack of managerial experience and competence to develop initiatives on the part of producers (Mathijs 2012, p. 6).

Thus, many of the difficulties facing LFN development and proliferation can be directly linked to political choices that have been made to preference industrial production. According to Stephenson (2008), a study conducted in 1996 by the United States Department of Agriculture (USDA) appointed National Commission on Small Farms

concluded that, despite the popular presumption that small farms operate at a disadvantage due to an inability to compete with the economies of scale enjoyed by larger farms, market forces did not force small farms out of business. Rather, U.S. federal government policies favoring large farms placed small farms at a competitive disadvantage. Another study by Tim Lang in 2000 in Britain reached the similar conclusion that policy and political choices are the largest determiners of the nature of food systems. Stephenson (2008) conducted a comprehensive survey of farmers' markets in the U.S. state of Oregon, with emphasis in determining ways in which policies and political factors help in determining success or failure for markets.

3.8 Alternative Food Network Development in Iceland

Discussions regarding efforts to increase domestic food production in Iceland have taken place in policy circles and have centered on increasing agricultural production to meet domestic needs. One of the aims of the government that came into office in May 2013 was indeed to increase domestic production (Icelandic Parliament, 2013), though this interest might have roots in the political background of one of the two prevailing political parties, which is agrarian-centrist and relatively nationalistic.

However, very little research can be found on the subject of AFN development in Iceland, and there is equally limited research on Icelandic attitudes toward local, organic, and sustainable labels. One graduate thesis by an Icelandic master's student at the University of Lund is the exception. In "Local Food in Iceland: Identifying Behavioural Barriers to Change Toward Increased Production and Consumption," Þórhildur Halldórsdóttir (2013) seeks to determine the current extent of domestic food production, the potential for the island's environment and resources to meet the dietary needs of the entire population without relying on imported food, and Icelanders' understanding of and attitudes toward local versus imported food. Halldórsdóttir's interpretation of "local" in this case is "domestic," using as justification for this scope the country's small size and the concentration of two-thirds of the population in the Reykjavík capital area.

According to the UN Food and Agricultural Organization statistics that Halldórsdóttir uses, the meat and dairy consumed in Iceland is almost entirely domestic, while the consumption of cereals, fruit and, to a large extent, vegetables is almost entirely reliant on imports. As

noted in Chapter 2 of this thesis, the FAO data on Iceland's food imports would seem to indicate a sharp rise in imported fish from the late 1980s onward. However, it is difficult to determine based on the presentation of this data exactly how much of this imported fish goes into the food supply and how much goes toward animal feed or is merely imported for processing before being exported elsewhere.

In her thesis, Halldórsdóttir finds that all of the dietary needs of the current Icelandic population could be met by domestic production. For example, she determines that the land available to grow wheat could supply the country with 70,000 tons, far exceeding the current supply of 55,000 tons, which is supplied entirely by imports. Halldórsdóttir also addresses the topic of fish in Iceland's food shed, pointing out that Iceland's current harvest of fish is more than sufficient to supply the domestic market. However, she does not pursue the point further. Halldórsdóttir estimates that if no additional food production were to take place, the variety in available food would decrease significantly—by 100% for cereals, fruits, and beans and by 14% for fish.

She also found that attitudes toward local food among Icelandic consumers were positive and that Icelanders in general seemed to link local food in general to high sustainability. However, her results indicated that consumers made justifications when it came to actually purchasing local food and that they seemed doubtful that local food in Iceland could be sustainable, suggesting that insufficient awareness among Icelandic consumers as to the production capacity of the landmass impeded further development.

Halldórsdóttir's work is useful in advancing a more academic understanding of LFN development in Iceland. However, she does not address one critical factor to LFN development in Iceland. Her study centers heavily on the Reykjavík capital area, around which the national road network is centered and where consumers have the best access to a large variety of fresh, domestically produced food. This leads Halldórsdóttir to discount out of hand the idea that transportation is a barrier to LFN development. Although only a third of the country's population live outside of this area, transportation difficulties might indeed prove an impediment to accessing food—domestically-produced or not, particularly while that food is still fresh. This is especially the case in the Westfjords region, where most towns are located far from the main road system and transportation on mountain passes is frequently impeded by weather conditions. In this case, the interpretation of

“local” to encompass the entire (albeit small) nation does not account for certain difficulties.

3.9 General Literature on Alternative Networks for Fish Distribution

Literature on alternative networks for fish consumption is also sparse. The inclusion of fish within the framework of alternative food networks has just begun (Nelson et al. 2013). This might be due to some inherent differences between the act of fishing and the act of farming, which significantly alter the way the two are conceptualized.

One report that stands out comes from Nova Scotia’s Ecology Action Centre, titled “Valuing Our Fisheries: Breaking Nova Scotia’s Commodity Curse.” In it, Nikoloyuk and Adler (2013) argue that the worldwide “race to produce high-volume, low cost protein for global commodity markets” (p. 1) has decreased the survival capacity for the businesses of small-scale, independent fishermen and resulted in the closing of processing plants and a loss of employment, which was devastating to fishing communities in the province. They argue in favor of increased regionalization of processing and production, shortening of supply chains and an increase in direct marketing among Nova Scotian small-scale fishermen. Nikoloyuk and Adler also articulate the systemic shift that needs to take place to make way for these changes: “If the seafood industry in Nova Scotia is to thrive, it must transition away from a single focus on exporting high volumes of commodity products for low prices” (p. 2).

There is also the emergence of a small but growing activist base, for example the European Union Commission-funded “Slow Fish Initiative,” which, as part of the larger slow food movement, promotes “local sustainable fish.” Since 2013, a similar Slow Fish Campaign has also emerged in Canada (see websites for Slow Food and Slow Food in Canada). Another example is the emergence of Community-Supported Fisheries (CSF), which was based on the cooperative-based Community-Supported Agriculture (CSA) model. CSF was first attempted in the state of Maine in the northeastern United States and has since been replicated in other parts of the United States and in Europe. In exchange for a pre-paid membership fee into the CSF, CSF members receive weekly shares of fish and seafood. According to the North American organization Local Catch, the primary goals of CSF

initiatives are: 1) To establish “a transparent ‘chain-of-custody’ from boat to fork”; 2) Increase access to local seafood; 3) Ensure fair prices for fishers; 4) Encourage the involvement of fishers and community members in “robust, viable, local food systems”; and 5) “Provide a framework through which fishers and customers alike can creatively steward our marine resources” (Local Catch, 2014). The organization emphasizes that CSFs can differ considerably. For example, one CSF might involve a group of fishers offering a variety of species sold as whole fish to consumers, while another might involve only one fisher who provides filets. Some may emphasize low-cost, while others might emphasize the environmental and community-building benefits of the program.

The objectives of such schemes are to reduce the distances between the “producers” and consumers, as was discussed earlier in this chapter in the discussion of the nature of LFNs and SFSCs. With this distance reduces, consumers are better able to obtain information about the products in question, in order to make choices that are most in line with their personal needs and values. In the next chapter, I will describe the methodology used in this study, which was developed in order to determine the ways in which LFNs for fish are already in existence in Westfjords communities and the ways in which these communities might benefit from their expansion. The themes introduced in this theoretical framework will be discussed with regard to Westfjords fishing communities in Chapter 6, based on the results summarized in Chapter 5.

4 Methodology

4.1 Overview

This thesis employed primarily quantitative methods, in the form of a fish consumption survey distributed randomly to residents who live and/or work in two case study towns in the Westfjords region, Ísafjörður and Patreksfjörður. The collection of survey data took place in Patreksfjörður from July 15-19 and October 3-4 and in Ísafjörður throughout the months of September and October 2013. Ninety-one surveys were collected in Patreksfjörður and 291 were collected in Ísafjörður.

Survey questions were designed to elicit responses relevant to three major areas of investigation: respondents' current fish consumption habits; their attitudes and satisfaction level with the freshness, quality, and variety of fish they consume; and their perceptions of changes in the availability of fresh fish relative to the level of access residents' may have enjoyed in past years.

Throughout the data collection period, qualitative methods were also used in order to supplement and provide context to the quantitative data. Informal, open-ended, information-gathering conversations were held with fish consumers and suppliers who, upon participating in the fish consumption survey, displayed an interest in the survey topic and suggested they had more to say on matter.

4.2 Choice of Case Study Towns

The case study towns of Ísafjörður and Patreksfjörður were chosen for several reasons: size, location, and the presence or absence of a local fish shop specialized in selling fresh fish.

Ísafjörður, located in the northernmost inhabited fjord system of the Westfjords region, is unique in that it is the only town in the region to have a shop specialized in the sale of a

variety of fish, offering consistent supply and open year-round since 2011. Ísafjörður, by far the largest town in the Westfjords with a population in January 2014 of 2,527, is also the economic capital of the region and the administrative seat of the larger Ísafjarðarbær municipality, which also includes the neighboring towns of Suðureyri (population 271), Þingeyri (pop. 247), Hnífsdalur (pop. 203), and Flateyri (pop. 204) (Statistics Iceland, 2014), as well as surrounding farms.⁹ Given these factors, as well as the fact of the researcher's residence in and familiarity with the town, the choice of Ísafjörður was immediately apparent as one of the case study towns.

As one of the primary objectives of this thesis is to compare the impact of the presence of such a shop on people's consumption habits and attitudes, it was necessary to choose a second case study town that was sufficiently large in population to have developed a larger number of amenities, services, and market-based resources. The two other Westfjords towns that fit best these criteria were: 1) Bolungarvík, the region's second largest town and independent municipality with a population in 2014 of 933, located at a distance of 14 km (or approximately 15 minutes drive) from Ísafjörður; and 2) Patreksfjörður, the third largest town in the Westfjords, with a 2013 population of 662, located in the southernmost fjord system in the region and completely isolated from Ísafjörður in winter months due to unpaved, mountain roads made impassable by snow. Although the size of Bolungarvík would seem to make it the most likely choice for second case study town, it was thought that its proximity to Ísafjörður, and thus to services like the fish shop, would not make for the most useful comparison study. Thus, Patreksfjörður was ultimately chosen as the second case study town.

Patreksfjörður is also the administrative seat of Vesturbyggð municipality (pop. 949), which also includes the towns of Bildudalur (pop. 171), Krossholt (pop. 19) and surrounding areas. Patreksfjörður is also in the midst of a period of population growth for the first time in decades, as job opportunities in the area expand due to the growth of the aquaculture sector. Since 2011, the population of Patreksfjörður has increased by 35

⁹ As of January 2014, the total population for the Ísafjarðarbær municipality was 3,639, a significant decrease from 3,748 people reported living in the municipality in 2013. Extensive population and other data may be accessed in English via the website Statistics Iceland (<http://statice.is/>). All population data reported in this chapter were accessed via Statistics Iceland in April 2014.

individuals, and the population of the larger municipality of Vesturbyggð by 58 (Statistics Iceland: Population, 2014). It was thought that the presence of these newcomers also provided the potential to assess the habits and attitudes of people who were perhaps less familiar with the area and the primary methods of fish consumption.

4.3 Survey Questionnaire

4.3.1 Choice of Paper-Based Survey

A paper-based questionnaire was chosen as the primary methodology for this thesis. Quantitative methods were made the primary means of research due to the desire to determine some general trends in fish consumption for the region, rather than engaging in a more in-depth line of inquiry that would prove less representative of local habits and attitudes (Bernard, 2006). This desire for a broad range of responses also drove the decision to design a paper-based, rather than online, questionnaire. Although the Icelandic people are highly “internet-literate” and many people are quite used to responding to online surveys of students and researchers on a fairly regular basis, this researcher deemed it more important that the methodology made certain to include all segments of the population, including, for example, elderly people who might be less likely to fill out online questionnaires (see Salant & Dillman, 1994). The researcher also found that in-person dissemination and collection of the surveys were valuable, as they allowed the opportunity to confirm individuals’ willingness to participate, gauge participants’ reactions, field questions, and, occasionally, elicit interesting verbal responses that shed light on issues of fish consumption, which would not have been as possible if the survey had been online.

However, an online version of the survey was created using Google documents, with the same question order. The intent was to provide the link to any individuals who, upon being approached personally, expressed a preference for an online survey. This occurred only once, however.

4.3.2 Content of Survey

The 4-page long survey consisted of 21 questions related to fish consumption and five demographic questions, which requested the respondent’s gender, age range, size of

household, weekly food expenditure, and monthly household income. In Ísafjörður, two extra questions were included to gain insight into whether the presence of the fish shop may have changed fish consumption habits as well as general satisfaction with the fish shop itself. The survey was distributed primarily in Icelandic, Polish, and English. The English version of the survey can be found in Appendix C, and the Icelandic version can be found in Appendix D.

The questions addressed both the consumer behavior of respondents' households as well as the attitudes of the respondents' themselves. The main 21 questions in the survey were designed to address the following main themes:

- 1) Fish consumption habits in the towns, including frequency and monetary expense of total consumption, as well as the frequency of consumption of fish of various species and types (i.e., frozen or fresh; pre-prepared, cut, or whole);
- 2) Local consumer methods for accessing fish, including the frequency of each method employed (i.e., 3-4 times each week or 1-2 times each year);
- 3) Perceived changes to access over consumers' years of experience;
- 4) Perception of fish resources in relation to identity (e.g., in relation to personal, regional, and national identity);
- 5) Consumers' level of satisfaction with the current access to fish resources enjoyed by themselves and fellow residents; and
- 6) Consumers' interest in purchasing—and potentially paying higher prices for—locally-caught, fresh fish, in addition to their hypothetical level of consumption in a fish shop were one to exist in Patreksfjörður and actual level of consumption in the fish shop in Ísafjörður.

4.3.3 Driving Hypotheses

The construction of the survey was driven by three main hypotheses: 1) That age could be a determining factor in the fish consumption habits and attitudes of Westfjords residents, particularly their sense of identification with fish consumption; 2) That individuals' household connections to the seafood industry and the amount of time they have resided in

one place might be determining factors in their ability to access to local, fresh, and high quality fish; and 3) That the presence of a specialized outlet for fish sales to the local populace would increase consumers' satisfaction with their access to fresh, high-quality, and locally-caught fish, and that such an outlet could also have an effect on consumers' fish consumption habits.

4.3.4 Targeted Populations

The fishing industry remains the most economically important for the Westfjords, and as fish remains one of the staples of the regional diet, the research intended to engage the participation of respondents across age groups and occupations. As people under the age of 35 have been described as being exposed to a larger variety of food choices and thus less likely to regularly consume fish, it was deemed important to gauge attitudes toward fish among younger populations. Thus, the researcher sought participation among young people, even those who might still be living with their parents and would not be likely to have a thorough understanding of consumption patterns in their household or past experience of fish consumption. Less attention was paid to the gender of the respondents, and this is reflected in the fact that the majority of respondents in both case study towns are women. However, as participants were reporting household, rather than individual, consumption habits, this gender imbalance did not skew the data with concern to household consumption habits.

Special attention was also paid to engage participation from both individuals who possess personal or professional ties to the fishing industry and those who do not, as well as from both long-time residents and newcomers to the communities, as the latter group might be particularly lacking in local connections and, thus, access to fresh fish.

As more than 10% of the Westfjords population is of foreign origin, with the vast majority of these originating from Poland and working in the fishing industry (Iceland Statistics, 2014), a Polish translation of the survey was developed and disseminated when necessary, with a total of 17 individuals completing the survey in Polish. An English survey was also developed and disseminated to three foreign residents originating from Thailand, Canada, and Germany. Two hundred eighty-five respondents completed the survey in Icelandic.

Given the fact that Ísafjörður and Patreksfjörður are both economic centers for their respective areas and offer more employment opportunities than other nearby towns, one often encounters individuals who, for example, make the daily 25-minute commute to work in Ísafjörður from neighboring Flateyri, a smaller town in the same Ísafjarðarbær municipality. Although the primary intent of the survey was to elicit responses from individuals living and working in each case study town, surveys responses were accepted from individuals who worked in Ísafjörður and Patreksfjörður but lived in neighboring towns. It is expected that though these respondents would not necessarily make all their consumption choices in Ísafjörður, these choices were at least readily available to them on a daily basis.

4.3.5 Sampling Process

The surveys were disseminated in a "convenience sampling" method, which is a form of non-probability sampling in which the primary criteria for sample selection relates to the ease of obtaining the sample (Battaglia, 2008). Participants were recruited primarily during weekdays in their places of employment. These places of employment included banks, post offices, shops, seafood processing plants, schools, restaurants, professional offices, hospitals, police stations, and city halls in each of the case study towns. Participants were also sought in other settings where large gatherings of people were found, such as the retirement home in Ísafjörður, cafes and restaurants, and among students (mostly long-term immigrant) in an advanced Icelandic language course.

In each of these places, the researcher approached a supervisor or available staff, explained the purpose of the survey in Icelandic and requested whether she might be able to ask individuals working in the establishment to complete surveys or, alternatively, to leave a number of surveys at the establishment for staff to fill out at home, to be retrieved at a later date.

This method proved very effective at receiving high response rates, as it afforded the researcher the opportunity to answer any questions and immediately address any misconceptions a participant might have. For example, a common question asked by respondents pertained to whether he/she should take a "fish consumption" survey given that they buy fish rarely, obtaining it instead from a family member who is a fisherman or as gifts. One man approached in Ísafjörður cited his occupation as a fisherman as a reason

not to take the survey (although when pushed, he responded that he did not have enough time). Another woman, upon being asked to take the survey, suggested that she “might be a little bit special,” in that she received all her fish for free. With face-to-face contact, the researcher was able to immediately respond that the survey was definitely applicable to them, and that there were survey questions intended to capture this data as well. Fielding questions like these also made it possible for the researcher to incorporate more relevant descriptions of the survey into the introductory speech (e.g., that it was important to know whether the respondent receives fish as gifts). These questions and conversations were normally conducted in Icelandic, a language in which the researcher is not fully conversant. However, the questions and issues addressed were most often quite basic, and mutual understanding did not appear to be a problem.

In most instances in Patreksfjörður, where many of the workplaces have one or two staff, the researcher gained verbal confirmation of willingness to participate from each individual asked and waited in the same room as the participant completed the survey. This method was employed in some larger workplaces as well, in which the coffee break room proved effective and time-efficient locations to approach potential participants, such as banks, schools, and factories. In the vast majority of these cases, the individuals approached were very willing to complete the survey, and several even offered to take surveys with them for extended family members and friends. Only two respondents in Patreksfjörður and two in Ísafjörður immediately declined to take the survey when asked, citing lack of time and, in the case of Ísafjörður, survey fatigue, due to an unusual abundance of surveys circulating through the town one week.

However, in other large workplaces, such as schools and banks, the preferred method was for the researcher to leave copies of the survey for respondents to complete at their leisure, with the researcher returning to the workplace to pick them up the following day or week. Although it was not possible to gauge the number of people who were declining to take the survey in these cases or to obtain confirmation of willingness to take the survey from each individual, it proved in many cases to be an extremely efficient way to obtain large numbers of surveys at once.

The ideal method for carrying out a household consumption survey may be to go door-to-door to request that one person from each household, most likely the person in charge of

purchasing or otherwise obtaining fish, fill out the survey. This method might elicit the most accurate and relevant responses with regard to consumer behavior. It would also remove the risk that more than one person from each household has completed a survey (Salant & Dillman, 1994). However, due to several research-related and logistical factors, the researcher ultimately rejected this method. Firstly, the door-to-door method can be very time consuming, and it was deemed that, due to the limits on time and manpower, it risked eliciting considerably fewer responses. Secondly, participation in this manner is dependent mostly on who is at home when the doorbell is rung. This research was conducted primarily during the workday, when few people in charge of making purchasing decisions are likely to be home. Finally, the questions pertaining to the relationship between fish and self/regional/national identity are particularly interesting when assessed across age groups, and as such the researcher did not want to limit the research to only those individuals in each household who are responsible for obtaining fish, who are likely to be somewhat older. Although it was impossible to rule out the possibility that two members may have filled out the survey from the same household, it is hoped that the sample size and other positive outcomes of the sampling process provide advantages that outweigh or balance the downsides.

4.3.6 Data Collection Time Frame

Due to constraints on time and expense, the time frame in which to collect survey data in Patreksfjörður was short, consisting of a total of six days over two different trips to the town, the first in mid-July and the second in early October. Fifty-five of the surveys for Patreksfjörður were completed in mid-July and 36 were completed in October. One downside of spreading the data collection over two separate months (indeed, two seasons) is that the month of August marks the end of the fishing quota season and the coastal fisheries season in Iceland.

As the Icelandic summer draws to a close, some vessels are fishing less, and there is a possibility that individuals could perceive limited consumer access to fresh fish more acutely in this period. However, this distribution could also provide the research with more credibility, as it lends the opportunity to assess habits and attitudes across a broader time frame and in potentially different circumstances. It also afforded the ability to access different groups of survey respondents, especially given this researcher's process of

entering places of employment to engage survey respondents. For example, in July, a larger number of residents were found working in the local tourism office, some of whom were relatively new to the area, while it became easier to find teachers to respond to the survey in October after school had resumed.

The researcher's residence in Ísafjörður facilitated a larger time frame for data acquisition, with surveys distributed and collected at a more leisurely pace throughout the months of September and October. Although this was more ideal for the purposes of the researcher, it may have been better for the purposes of the research to a percentage of the Ísafjörður data were to have been collected prior to the end of the quota season as well.

4.4 Data Analysis

Results for each of the two case study towns were compiled and assessed using Microsoft Excel. Any surveys that were found to be missing one page were kept in the sample. However, the two surveys missing more than one page were discarded. Data were analyzed for trends in demographic variables in relation to responses.

Given the driving hypotheses described in Section 4.3.3, all data related to survey respondents' fish consumption habits, attitudes, and satisfaction with access were analyzed in Microsoft Excel using the Chi Square test for independence by the following three groups: 1) Respondents 45 years of age and younger and respondents 46 years of age and older; 2) Respondents with household connections to the seafood industry and respondents with no household connections; and 3) Respondents who had lived in their town of residence for twenty years or fewer and respondents who had lived in their town of residence for more than 20 years. Given the findings by Sveinsdóttir et al. (2011) indicating that women tended to make more health-conscious decisions in purchasing fish, I also tested respondents' reported habits and attitudes for independence between males and females.

In addition, given the aforementioned hypotheses, it was useful to determine whether fish consumption habits and attitudes were found in more than one town, as well as whether a town with access to a specialized outlet for sales of local fish would have a higher level of satisfaction with general access to fresh and local fish. As such, the responses from each

case study town were analyzed for statistical difference in Microsoft Excel using Chi Square tests.

Although all respondents to the survey in Ísafjörður were found working in Ísafjörður, 18.22% claimed residency in nearby towns and municipalities. Frequencies of response reported for Ísafjörður in the following chapter include the responses of both residents and non-residents who work in Ísafjörður. However, in analyzing the data, it was recognized that there might be a difference in responses between Ísafjörður residents and non-residents. For example, Ísafjörður has an abundance of commercial access to fish in comparison to Þingeyri, a smaller town in the same municipality located nearly 50 kilometers away from Ísafjörður and its food retailers. As such, in addition to testing for significance across age groups and by industry affiliation, the Ísafjörður respondent group was tested twice, once with non-residents included and again with non-residents excluded. When testing for significance of length of residency, the testing was only conducted for Ísafjörður residents.

5 Results

The following sections will detail survey results from the populations sampled in Patreksfjörður and Ísafjörður, dividing the results by three factors: 1) fish consumption habits, 2) attitudes toward fish consumption (including linkages between consumption and identity), and 3) satisfaction with levels of access among participants.

5.1 Patreksfjörður Survey Results

In Patreksfjörður, attitudes toward fish consumption are very positive, conceptual linkages between fish consumption and identity are strong, and the satisfaction level for the overall populations sampled is high. The most important general findings are found in Table 2.

Table 2: Summary of results from Patreksfjörður survey (n=91)

The typical survey respondent in Patreksfjörður...
...Was female (73%) ...Between ages 26-65 (67%) ...Had lived in Patreksfjörður for more than 20 years (39.8%) ...Spent 20,000 ISK per month for food for her household ...Lived in a 3-person household ...Had household members employed in the fishing industries (55%)
...had the following fish consumption habits:
...Spent nothing (46%) or less than 2,000 ISK (39%) on fish consumption in average week ...Received fish as gifts from family and friends (71%) ...“Always” consumed locally caught fish (74%) ...Obtained fish from fishermen (36% at least once a month), fish processing plants/fish farms (43% once a month), or from the supermarket freezer (26% once a month)
...had the following opinions about fish consumption:
...Agreed that fish consumption is part of self-identity for Westfjords residents (69%) ...Expressed overall satisfaction with the current supply of fish for consumers in Patreksfjörður (44%) ...Would consider paying higher prices for fish caught locally (76%) ...Would consider purchasing at least one quarter of their fish from a specialized fish shop, were one to exist in town (55%)
...Believed (among those over 45 years of age) that consumer access to fish had become more difficult over the last 20 years (59%).

When tested for independence among the four different groupings discussed in Section 4.4 of the previous chapter (age, gender, length of residency, and household connections to the fishing and seafood industry), results indicated the following trends:

- Attitudes toward fish consumption were consistently positive across all groups.
- Association of fish consumption with identity was generally strong across all groups, including age groups, although younger respondents were more reluctant to associate fish consumption with an Icelandic national identity.
- Fish consumption habits were affected by age, as older respondents reported eating fish more often, consumed frozen fish more often, and were more likely to be aware of the origins of the fish they consume than younger respondents.
- Age also seemed to have an effect on respondents' satisfaction with their access to fish, with older respondents being less satisfied with their access to fresh fish and fish in general.
- The presence of someone connected to the seafood industry within the household affected fish consumption habits, as respondents lacking household connections tended to report a lower frequency of fresh fish consumption (though there was no effect on overall fish consumption), a lower frequency of consumption of locally-caught fish, and more money spent on fish consumption.
- The most striking differences were found in levels of satisfaction between respondents with household connections and those without. Participants without household connections were less likely to be satisfied with their access to both fresh and high-quality fish. This group had also encountered more difficulties with the availability of fish and was more likely to anticipate higher expenditures in a specialized fish shop, were one to exist in Patreksfjörður.
- Although the giving of fish as gifts was very high among most groups, length of residency did have a certain effect, as longer-term residents were more likely to report having received fish as gifts.
- Older residents were more likely to believe consumer access to fish had become more difficult in recent years and that the reasons for this difficulty stemmed from the changes to Iceland's fisheries management and the implementation of the quota system.

5.1.1 Demographics of Sampled Population

The population sampled (n=91) in Patreksfjörður was predominantly female, with only 27% participation by males. Respondents ages 18-25 were overrepresented, while the 66-and-older group was underrepresented. Out of all respondents (n=91), 26% were between the ages of 18-25; 36% ages 26-45; 31% ages 46-65; and 7% 66 and older. This sampling can be compared to the age distribution of the general population of the town of Patreksfjörður, among whom 14.2% are between the ages of 18 and 24; 34.1% ages 25-44; 35.6% ages 45-64; and 16% are 65 and older (Statistics Iceland, 2013).

The number of household members (n=87) ranged from 1-8, with an average and median number of 3 and mode of 2. Out of those surveyed, 39.77% had lived in Patreksfjörður for more than 20 years, 32.95% had lived in the town for less than five years, 9.09% had lived there for six to 10 years, and 15.19% had lived there for 11-20 years. Out of those respondents who reported average monthly income (n=79), 18% earned less than 250,000 Icelandic Krona (ISK) per month; 24% earned between 250,001 and 400,000 ISK; 27% earned between 400,001 and 650,000 ISK; 16% earned between 650,001 and 900,000 ISK; and 15% earned 900,000 ISK or more.

Survey responders were also questioned as to the average weekly food budget for their respective households. As this question was open-ended, respondents (n=63) sometimes answered with an exact number, but often reported an approximated range (i.e., 20,000-25,000 ISK). When such a range was given, the average value of the two extremes was calculated (i.e., for the given range of 20,000-25,000 ISK, a value of 22,500 was recorded in the data input phase. The average household budget was 20,056 ISK, with the median falling at 15,750 ISK, and a mode of 10,000 ISK.

Survey responders were also questioned regarding their personal affiliations with the seafood industry. A personal affiliation was defined as either the respondent or someone in his/her household working in the industry. Fifty-five percent of all respondents (n=91) stated that they possessed such a personal affiliation. Out of this 55%, 30 respondents reported having a fisherman, 19 reported having someone who worked in fish and seafood processing, and 5 reported having someone who worked in aquaculture in their households. Two survey takers were themselves senior management in fish and seafood

processing. Five survey takers stated that they had multi-sector households (e.g., with household members working both in fishing and processing).

5.1.2 Fish Consumption Habits

The vast majority of individuals (n=91) surveyed reported eating fish on average at least once per week, with 56% reporting that they eat fish 1-2 days per week and 28% reporting that they eat fish 3-4 days per week. Only 16% reported eating fish less often than once per week, with 14% reporting an average fish consumption of 1-3 days per month and 2% stating they ate fish less than once per month or never ate fish. None of the individuals surveyed responded that they consumed fish five times per week or more.

When responses were analyzed across age groups, majorities of respondents in all age groups reported eating fish on a weekly basis, though fish consumption increased with age among survey participants, with the number of individuals reporting fish consumption at least three days per week increased markedly after age 45. Indeed, when fish consumption was tested for significant difference between age groups of those 45 years and younger and those 46 years and older, the older age group was more likely to consume fish more often ($p < 0.0003$). No significant difference was found when data were tested by industry affiliation, time lived in Patreksfjörður, or gender of respondents.

5.1.3 Expense of Fish Consumption

Although the vast majority of individuals surveyed eat fish on a weekly basis, the majority reported relatively low expense associated with fish purchase when asked the question, “How much money do you spend on fish in an average week?” Out of these respondents (n=87), 46% percent stated that they spent no money on fish purchases in an average week, and another 39% declared that they spent less than 2,000 ISK on fish per week on average. Only 15% of respondents spent more than 2,000 ISK on fish purchases, and for all but one respondent, weekly purchases remained less than 4,000 ISK.

When the amount of money spent on fish was analyzed across two groups of individuals, those who had a household connection to the seafood industry and those who did not, responses were found to be significantly different between groups ($p < 0.01$). In particular, 56% percent of those respondents with household connections spent nothing on their fish consumption, with another 40% stating they spent less than 2,000 ISK per week and a

mere 4% spending more than 2,000 ISK. In comparison, out of those individuals surveyed with no household connections, 32% spent nothing on fish, 38% spent under 2,000 ISK per week, 27% spent between 2,001-4,000 ISK per week, and 3% spent more than 4,000 ISK. No significant differences were found when data were tested between age groups, time lived in Patreksfjörður, or gender of the respondent.

A major source of fish consumption seemed to be gifts from family and friends, with 71% of respondents (n=89) stating that they sometimes received fish as gifts. This percentage did not change when analyzed by household connections to the seafood industries, with 71% of both those with connections and 71% of those without connections reporting having received fish as gifts. Out of those who received fish as gifts, the frequency ranged from once a year to daily, with an average of 2.38 times per month and a median and mode value of 1 time per month (n=55). When tested for significance by time of residency in Patreksfjörður, long-term residents of more than 20 years were more likely to report having received fish as gifts than those who had lived in town for 20 years or fewer ($p < 0.04$). Whereas 82.35% of long-term residents reported receiving fish as gifts, only 55.17% of newer residents had received gifts of fish. Females were also slightly more likely than males to report having received fish gifts ($p < 0.04$): 76.9% of women said they had received fish gifts, while only 54.2% of men said they had done so. Neither age group nor household affiliation with the seafood industry was found to have a significant effect on results.

5.1.4 Variety of Species Consumed

Survey participants were questioned regarding the species of fish they consumed and the frequency at which they consumed them. This question was posed in chart form, with respondents questioned about 15 specific fish and seafood species. Frequency of consumption was also coded into six categories: five times or more a week, three to four times a week, one to two times a week, one to three times a month, one to two times a year, and never. Very few respondents reported the highest frequencies of consumption, even for the most commonly consumed species, or the purposes of data analysis. As such, for the purposes of clarity in data reporting and analysis, I have combined these frequencies into three broader categories: 1) Consumed on a weekly basis, for consumption that takes place at least once a week; 2) Consumption on a monthly basis, for consumption

that takes place one to three times a month; and 3) Consumed on a yearly basis, for consumption that takes place one to two times a year.

When questioned regarding the species of fish consumed, haddock was by far the species the most commonly consumed, particularly on a weekly basis. A large majority, or 61.54% of respondents, reported eating haddock at least once per week. A further 21.98% stated they tended to eat haddock at least once a month, and a small additional number of 5.49% consumed haddock at least once per year. Cod was the second most frequently consumed species, with 31.87% consuming cod at least once per week, a further 25.27% eating cod at least once a month, and 13.19% eating cod at least once per year. All other fish species were consumed with far less frequency, particularly with regard to weekly consumption. However, at least 20% of respondents reported eating catfish, tuna, salmon, arctic charr, and shrimp at least once per month as well. See Figure 5.1 below for further detail on the frequency of consumption of specific species.

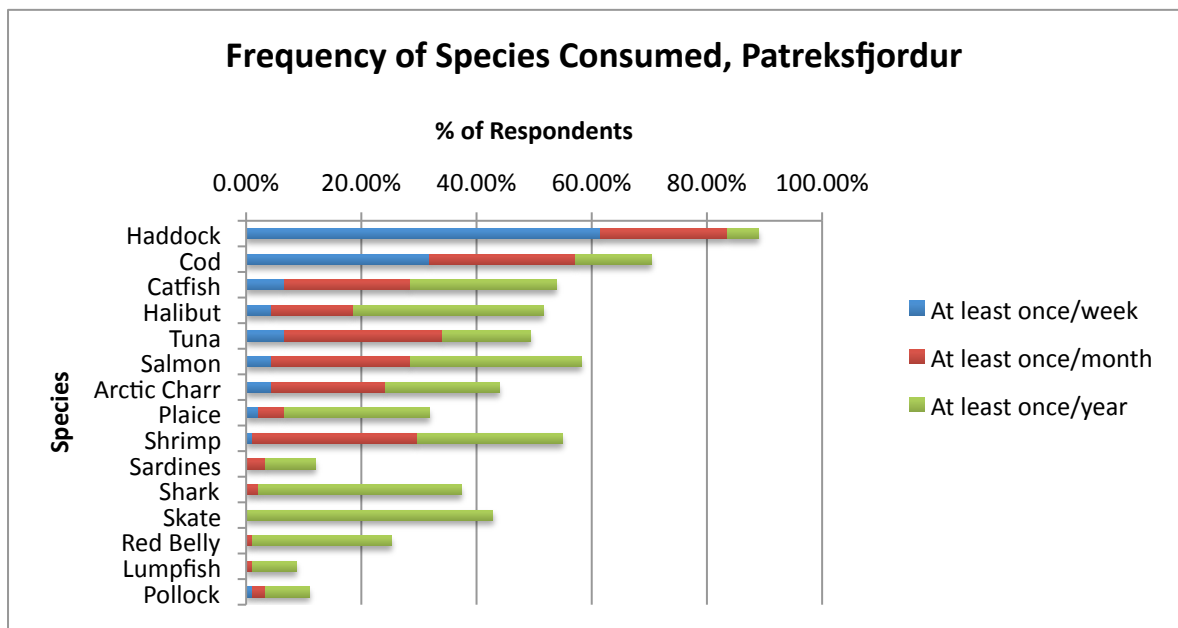


Figure 5-1: Frequency of fish species consumed by respondents in Patreksfjörður

5.1.5 Consumption of Fresh and Frozen Fish

When asked about their frequency of consumption of fresh and frozen fish, respondents' answers indicated a slightly more frequent consumption of fresh fish (Figure 5.2). Ten percent of respondents stated that they “always” ate fresh frozen fish, while 42% said they “often” did, 20% “sometimes” did, 11% “seldom” did, and 3% “never” did. In contrast, a larger percentage of 21% of respondents stated they “always” ate fresh fish, while 35% stated they “often” did, 25% “sometimes” did, 9% “seldom” did, and 2% “never” did.

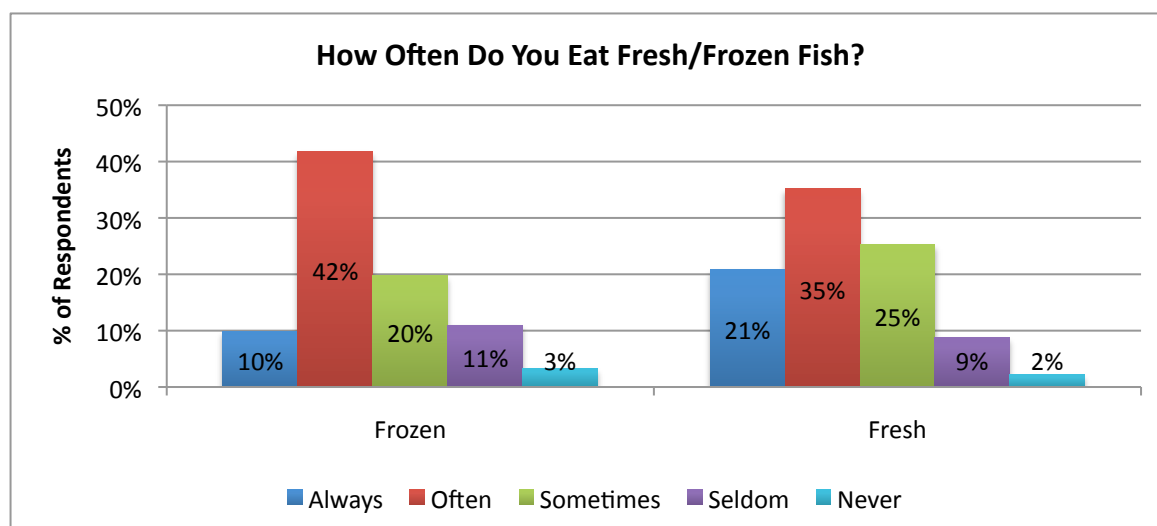


Figure 5-2: Frequency of consumption of fresh and frozen fish in Patreksfjörður

When the respondents' answers were analyzed by groups, however, it was found that respondents lacking household connections to the fish and seafood industry were less likely to consume fresh fish ($p < 0.008$). Among those without connections, 8.1% said they “always” ate fresh fish, 32.4% often did, 43.2% sometimes did, 13.5% seldom did, and 2.7% never did. Among respondents with household connections, 34.0% “always” ate fresh fish, 42.6% sometimes did, 14.89% sometimes did, 6.38% seldom did, and 2.13% never did. No differences in consumption of fresh fish were found when data were analyzed by age group, gender or length of residency.

When it came to the consumption of frozen fish, respondents ages 46 and older were more likely than younger respondents to state that they “always” or “often” consumed frozen fish ($p < 0.008$). In particular, 22.6% of older respondents said they “always” ate frozen fish and 61.3% “often” did, with only 12.9% saying they “sometimes” did, 3.2% saying that “seldom” did, and none of the older respondents saying they “never” ate frozen fish. In contrast, only 4.3% of younger respondents stated that they “always” ate frozen fish, while 40.4% said they “often” did, 29.8% “sometimes” did, 19.1% “seldom” did, and 6.4% “never” did.

No statistical difference in frozen fish consumption was found between those who had household connections to the fishing industry and those who did not, nor was any difference found in terms of length of residency in Patreksfjörður or by gender of the respondent.

5.1.6 Sources of Fish Consumption

Individuals surveyed were also questioned regarding the sources of the fish they consumed while in Patreksfjörður, as well as the frequency of their usage of these sources. The question took the same format as that used in determining the frequency of consumption of different fish species. Respondents typically cited more than one source of fish, with certain sources exploited with more frequency. Responses to this question are summarized in Chart 5.3.

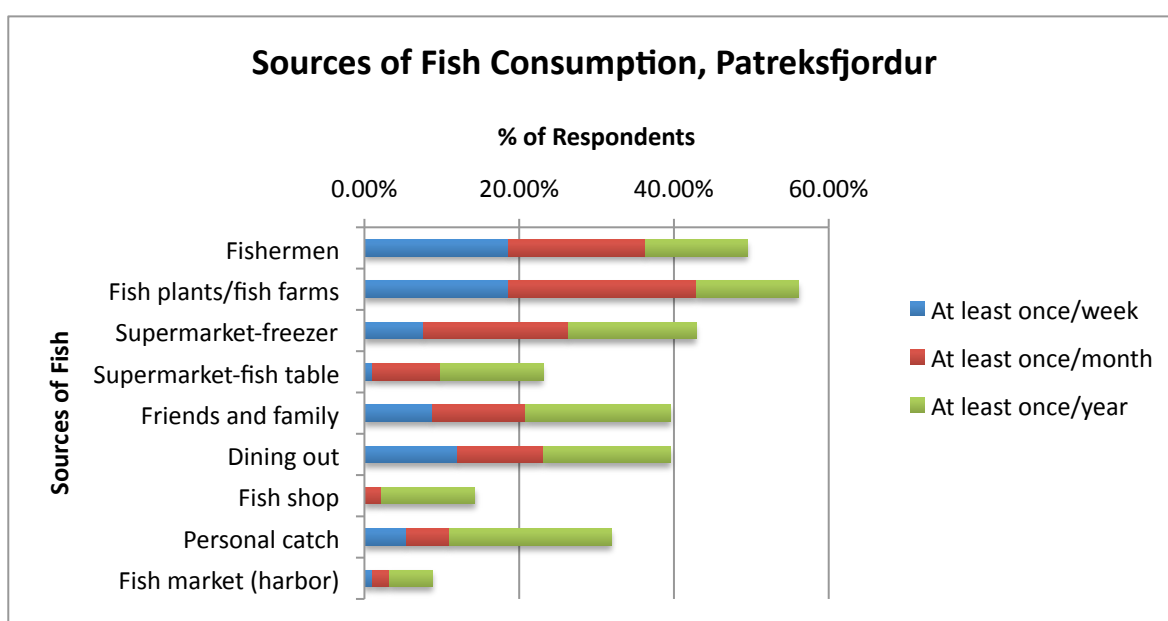


Figure 5-3: Sources of fish consumption in Patreksfjörður

Fish processing plants and/or fish farms obtained the highest frequency responses, cited by 56.05% of respondents as one of their sources to obtain fish (18.68% sourced their fish from plants/farms on a weekly basis; 24.18% on a monthly basis; and 13.19% on a yearly basis). The second most popular source were fishermen, cited by 49.45% of respondents (18.68% sourcing their fish from fishermen on a weekly basis; 17.58% on a monthly basis; and 13.19% on a yearly basis). The supermarket freezer was the next most common source, cited by 42.85% of survey takers (7.69% sourcing their fish frozen from supermarkets on a weekly basis; 18.68% on a monthly basis; and 16.48% on a yearly basis). Respondents also cited family and friends as a source of fish, although at a proportion of 39.56% (8.79% on a weekly basis; 12.09% on a monthly basis; and 18.68% on a yearly basis), much lower than the 71% of respondents who at another point in the survey reported having received fish as gifts from family and friends. The same percentage of respondents (39.56%) stated that they ate fish through dining outside the home, for

example in restaurants, friends' homes, and work cafeterias (12.09% on a weekly basis; 10.99% on a monthly basis; and 16.48% on a yearly basis). Obtaining fish via personal catch (i.e., fishing for personal consumption) was also cited often, with 31.86% of those surveyed exploiting this option (5.49% on a weekly basis; 5.49% on a monthly basis; and 20.88% on a yearly basis). Only 8.79% of those surveyed obtained fish from the fish market at the harbor (1.10% on a weekly basis; 2.20% on a monthly basis; and 5.49% on a yearly basis).

The only other options given in the survey, a fresh fish table in the supermarket, a fish shop, and a fish subscription, do not currently exist in Patreksfjörður. However, a certain number of survey participants reported that they had sourced fish via both a fish table and a fish shop in recent memory. This suggests that although the question specified sources in Patreksfjörður, some respondents may have reported their sources of consumption when out of town, for example in a larger town with more options. In all, 23.08% stated they had purchased fish from a supermarket fish table (1.10% on a weekly basis; 8.79% on a monthly basis; and 13.19% on a yearly basis) and 14.29% stated they had purchased fish in a fish shop (2.20% on a monthly basis and 12.09% on a yearly basis).

Among respondents lacking household connections to the fish and seafood industry, fish was obtained less frequently from fishermen. Within this group, the most commonly cited source of fish was the supermarket freezer, with 15% obtaining fish at least once per week, 32.5% at least once per month, and 20% at least once per year. The next most commonly cited source was fish factories and/or fish farms, with 10% of respondents stating they obtained fish from there at least once a week, 25% at least once a month, and 17.5% at least once a year. The source frequented most often on a weekly basis was “dining out,” referring to dining outside of the home in restaurants, friends' homes, and workplace cafeterias. Out of this group of respondents, 22.5% of respondents stated they consumed fish outside of the home at least once per week, another 15% at least once a month, and 12.5% at least once a year.

On the other hand, among respondents who reported living in the same household as one or more fisherman, the sources most frequently cited by far were fishermen (38.7% at least once a week, 29.0% at least once a month, 3.2% at least once a year), personal catch (16.1% at least once a week, 16.1% at least once a month, 9.7% at least once a year), and friends and family (19.3% at least once a week, 3.2% at least once a month, 16.1% at least once a year).

5.1.7 Attitudes toward Fish Consumption in General

Survey participants also answered a number of questions aimed at understanding general attitudes toward fish consumption, including their perceptions of the importance of fish consumption and of the linkages between fish consumption and identity.

Survey participants were posed the “yes/no” question, *“Is eating fish important to you?”* They were also asked to explain perceived importance in an open-ended question. Respondents (n=91) answered overwhelmingly in the affirmative, with 94.51% stating that eating fish was important to them, and only 5.49% stating that it was not. No significant difference between groups was determined when results were analyzed by age group, gender, seafood industry affiliation, or length of residency in Patreksfjörður.

In explaining the perceived importance of eating fish, many respondents combined two or more reasons in their answers. However, the majority of respondents cited reasons related to health and good taste. Specifically, 50 respondents mentioned “health” in general. An additional four mentioned that fish are high in vitamins, six cited specifically the importance of the Omega 3 fatty acids or “good fat” present in fish, three cited the presence of protein, one cited the presence of iron, and two mentioned the presence of “nutrients.” Taste was another commonly cited factor, with 30 respondents mentioning the good taste of fish in general. Two respondents mentioned the relative cheapness of fish, and two others mentioned ease of access, with one of these two specifically citing the “ease of access for Icelanders.” One participant mentioned the local origins of fish in explaining the perception of importance. Several others found their reasoning difficult to explain, explaining that “fish just suits me best,” and “I just love fish.”

Although only one participant ascribed the perceived importance of fish to its local origin, and no participant cited reasons related to culture or identity, the majority of respondents

did report linkages between fish consumption and identity when questioned about the issue directly. Survey participants were asked to express agreement, disagreement, or neutrality to a series of statements, including three statements linking fish consumption to regional, national, and self-identity, using a Likert scale with five points of agreement, from “strongly agree” to “strongly disagree.” (See Appendix A: Likert Scale Responses, Patreksfjörður for complete results to all Likert scale questions, as well graphical representation of the responses to the three identity-related statements posed to participants in Figure 0.1 in Appendix A.)

With regard to regional identity (n=90), 68.89% of respondents expressed agreement with the statement, “Fish consumption is part of self-identity for those who live in the Westfjords,” with only 4.44% disagreeing with the statement and 26.67% professing disagreement. Out of those who agreed, 41.11% strongly agreed that fish consumption is part of Westfjords identity, and only 1.11%, or one participant, strongly disagreed. No significant difference between groups was determined when results were analyzed by age group, gender, seafood industry affiliation, or length of residency in Patreksfjörður.

A lower proportion of individuals surveyed viewed fish consumption as part of their self-identity (n=89), with 55.06% expressing agreement (including 29.21% strong agreement), 12.36% disagreement (including 5.62% strong disagreement), and 32.58% neutrality. No significant differences were determined based on age, gender, industry affiliation, or length of residency.

A smaller percentage of respondents agreed that fish consumption was part of Icelandic identity “for people in my age group,” although a majority of 52.22% still stated this to be the case (with 24.44% expressing strong agreement). Only 10% of participants disagreed with the statement (3.33% strongly disagreed), and 37.78% declared themselves neutral on the topic. When tested by groups, it was found that older respondents were more likely to view fish consumption as part of the Icelandic identity ($p < 0.008$), but no difference was found when data were tested by industry affiliation, length of residency, or gender.

5.1.8 Views on Consumption of Local and Imported Fish

Survey participants were also asked to answer a series of questions meant to elicit responses indicating their habits and attitudes toward consuming local and imported

products. In their answers, respondents displayed a strong and consistent preference for consuming fish caught locally.

A large majority of respondents, 74.12%, stated that they always ate local fish, which was defined as fish caught by local fishermen and/or local boats. A further 16.47% percent said that they sometimes ate local fish, 6% said they were uncertain whether the fish they consumed was local, 2% stated they seldom ate local fish, and 1% reported never eating local fish. A significant differences was found between groups when data were analyzed by household industry affiliation ($p<0.008$), with 89.58% of respondents with a household connection reporting that they “always” ate local fish, another 6.25% stating they “sometimes” did, 2.08% stating they were uncertain, and 2.08% stating them seldom ate local fish. For those lacking such a connection, only 54.05% stated that they “always” ate locally caught fish, with another 29.73% reporting that they “sometimes” did, 10.81% expressing uncertainty, 2.70% stating they seldom ate local fish, and 2.70% declaring they never did.

Respondents replied in a similar manner regarding their consumption of imported fish purchased in Patreksfjörður. A large majority of 74.44% stated that they had not purchased imported fish, as far as they were aware. Only 4.44% stated that they had purchased imported fish in Patreksfjörður, while a further 21.11% professed uncertainty regarding whether they had ever purchased imported fish. Although there was no significant difference in consumption of imported fish found when analyzed by industry affiliation, length of residency, or gender, there was a significant difference found between age groups ($p<0.03$). Younger respondents expressed a greater degree of uncertainty regarding whether they had purchased imported fish. Among respondents 46 years of age and older, 87.88% were certain they had never purchased imported fish, with 6.06% stating they had purchased imported fish and only 6.06% expressing uncertainty. By comparison, 66.67% of younger respondents were certain they had never purchased imported fish, while 29.82% said they were not sure if they had and another 3.51% stated they had purchased imported fish.

Furthermore, an overwhelming majority of 92.22% of respondents stated that they would not buy fish in Patreksfjörður if it were marked as imported, while only 7.78% said

themselves willing to buy imported fish. No significant difference was found between groups in their responses to this question.

In addition to expressing a distinct preference for local fish, 44.44% of respondents (n=90) answered “yes” to the question, “Would you be willing to pay higher prices for fish caught locally?” additional 31.11% stated they would “maybe” be willing to pay higher prices, while 24.44% said they were not willing to pay more. Those who answered “yes” or “maybe” were asked to specify how much more they would be willing to pay. Nearly half of all respondents (n=68) to this follow-up question, or 49.23%, answered they would be willing to pay up to 10% more, while 36.92% expressed willingness to pay 5% more, 12.31% stated they would be willing to pay 25% more, and 1.54% were ready to pay up to 50% higher prices for fish caught locally. There were no significant differences to responses when analyzed by age group, gender, length of residency, or age.

As there is no shop in Patreksfjörður that specializes in the sale of fish, survey participants were also asked the hypothetical question, “If there were a fish shop in Patreksfjörður, how much of your fish consumption would you purchase in the fish shop.” Out of all respondents to this question (n=86), 54.65% stated that they would purchase at least 25% of their total fish consumption in such a shop, while 30% stated they would buy some proportion smaller than 25% in a fish shop, and 15% reporting that they would not purchase fish in a specialized fish shop, were one to open in Patreksfjörður.

When tested for significance between groups, respondents lacking household connections to the seafood industry were more likely to say they would purchase more of their fish consumption in a fish shop ($p<0.006$). In particular, 70% of individuals without industry connections stated that they would purchase between 50-100% of their fish in a hypothetical fish shop, while 21.74% stated they would buy less than 50% of their fish in a fish shop, and 7.50% said they would not buy any of their fish in a fish shop. In contrast, 26.09% of individuals with household connections stated they would buy between 50-100% of their fish in a shop, 52.17% stated they would buy less than 50% of their fish in a shop, and 21.74% stated they would not make any purchase in a fish shop. (See Figure 5.1.10)

No significant differences were found between groups when results were tested by length of residency, gender, and age.

5.1.9 Perceptions of/Satisfaction with Current Fish Access

Participants were also asked a number of questions related to their perceptions of the availability of and ease of access to fish, as well as their satisfaction with their degree of access to fresh fish, high quality fish, and a large enough variety of fish. These questions were posed using both “yes/no” and Likert scale formats. (See Appendix A: Likert Scale Responses, Patreksfjörður for complete results to all Likert scale questions, as well graphical representation in Appendix Figures 0-2, 0-3, and 0-4 of participants’ perceptions of consumer fish access.)

Freshness of Fish

In general, the majority of respondents reported having little to no difficulty in accessing fresh fish. When asked if they had ever “*wanted to purchase/obtain a species of fish that was not available,*” a rather considerable 41.11% of respondents said that this had happened to them, whereas 58.89% percent said that they had never had such difficulty in obtaining their desired species of fish. Out of all respondents to this question (n=90), 18.89% stated that they often encountered lack of availability of their desired fish species. When analyzed for significant difference between groups, only household industry affiliation led to a significant difference in results ($p<0.02$). Among those with connections within the household, only 30% had encountered difficulties in obtaining a species of fish that was not available, whereas 70% had not. On the other hand, 55% of those without connections said they had encountered difficulties in obtaining a desired fish species, and the other 45% had not.

Respondents had slightly more mixed response when questioned regarding their satisfaction with the supply of fish available to consumers in their town. A plurality of 43.82% agreed that they were “*satisfied with the supply of fish available to me in Patreksfjörður,*” with 16.85% expressing strong support for this statement. Disagreement was expressed by 25.84%, 12.36% of whom strongly disagreed, and 30.34% stated that they neither agreed nor disagreed on the matter. Agreement significantly differed when tested by industry affiliation ($p<0.0004$) and by age ($p<0.03$). A majority of 54.55% of older respondents were satisfied with the supply of fish, with only 14.55% expressing dissatisfaction and 30.91% stating no opinion. In comparison, a plurality of 44.12% of younger respondents expressed dissatisfaction with the current supply of fish in

Patreksfjörður, with 29.41% expressing neutrality and 26.47% stating that they were strongly or rather satisfied with the current state of affairs. In terms of industry affiliation, 58.33% of those with an affiliation agreed they were satisfied with the fish supply available to them, 10.42% disagreed, and 31.25% held no opinion, whereas among those without an affiliation, 26.83 agreed, 43.90% disagreed, with 24.39% expressing strong disagreement, and 29.27% having no opinion.

Despite the fact that more than 75% of the sampled population expressed either satisfaction or neutrality on the subject of available fish supply, an overwhelming majority of 80.68% of respondents (n=88) also agreed that they would “*like to eat more fish*.” Only 3.41% expressed disagreement, and 15.91% had no opinion. Responses did not differ significantly by age group, industry affiliation, gender, or length of residency in Patreksfjörður.

Perceptions of and satisfaction to access to fresh fish were complex. A majority of 59.55% agreed with the statement, “*Fresh fish is easy to access in Patreksfjörður*,” whereas 22.47% disagreed and 17.98% had no opinion. These responses differed significantly by both age group ($p<0.003$) and industry affiliation ($p<0.0009$). When analyzed by age group, 70.91% of respondents ages 45 and younger agreed that fresh fish is easy to access in Patreksfjörður, of whom 43.64% expressed strong agreement. Another 20% of this group expressed no opinion, and only 9.09% expressed disagreement. Older respondents were more likely to report a mixed experience in accessing fresh fish, with 41.18% stating that they found it easy, 44.12% reporting that they found it difficult to access fresh fish, and 14.71% expressing no opinion.

A similar split was found when analyzed by industry affiliation, with those individuals without household connections were divided among 37.50% who agreed that it was easy to access fresh fish, the 37.50% who disagreed, and the 20% holding no opinion. For respondents with a household connection, 77.55% agreed that it was easy to access fresh fish, while only 10.20% stated that it was not easy, and 12.24% expressed no opinion.

A majority of individuals sampled also agreed that that they would buy more fresh fish if it were available. In particular, 58.14% agreed that “*I would buy more fresh fish if it were available*,” with 10.47% disagreeing and 31.40% expressing neutrality. Significant differences were found between age groups ($p<0.05$) and between the groups with and without industry affiliation ($p<0.0003$). Although very small percentages of either age

group disagreed with this statement (10.91% of younger respondents and 9.68% of older respondents), younger participants had a more neutral response, with 41.82% of individuals ages 45 and younger stating no opinion and 47.27% expressing agreement, of which 27.27% was strong agreement. In comparison, 77.42% of participants without industry connections agreed with the statement, with 51.61% in strong agreement that they would buy more fish if it were available. Only 12.90% from this group expressed no opinion.

Likewise, 53.49% agreed with the statement, “*I wish it were easier to access fresh fish in Patreksfjörður,*” with only 8.14% disagreeing and 38.37% expressing neutrality. Respondents without industry affiliation were more likely to agree with this statement ($p < 0.0006$). Out of individuals without industry affiliation, 79.49% agreed that they wished it were easier to access fresh fish in the town, while 20.51% were neutral. No respondents out of this group expressed disagreement with the statement. By contrast, a 53.19% majority of those with industry connections expressed neutrality, 31.91% agreed, out of whom 27.66% expressed strong agreement, and 14.89% disagreed.

Quality of Fish

Respondents were almost unanimous in stating that they think about quality in purchasing fish, with 96.55% expressing agreement, of which 85.06% expressed strong agreement, while only 3.45% stated no opinion and none of the respondents disagreed with the statement. No difference was found among groups differentiated by age, industry affiliation, gender, and length of residency. (See Figure A.3 in Appendix A.)

Satisfaction with the quality of fish available in Patreksfjörður was more widespread among the surveyed individuals. In response to the statement, “*High quality fish is easy to access in Patreksfjörður,*” 65.52% expressed agreement, 11.49% disagreed, and 22.99% were neutral on the subject. A significant difference in results was found only when tested by industry affiliation ($p < 0.0003$), with 87.23% of respondents with household connections in agreement with the statement, out of which 53.19% expressed strong agreement, only 8.51% expressing no opinion, and 4.26% stating they “rather disagreed.” Out of those without industry connections in their households, only 40% agreed that high quality fish was easy to access, with another 40% expressing no opinion and 20% expressing disagreement.

Similar responses were found to the statement, “*I am satisfied with the quality of the fish available to me,*” with 58.62% expressing agreement, 12.64% disagreement, and 28.74% having no opinion.

Again, only industry affiliation made a significant difference to the results ($p < 0.04$). As with the previous question about accessibility of high quality fish, a large 72.92% majority of those possessing industry connections agreed that they were satisfied with the quality of fish available to them, with 43.75% expressing strong agreement. Only 4.17% disagreed and 20.83% expressed no opinion. Out of those who lacked connections, opinions were more mixed: 41.03% were satisfied, 20.51% were dissatisfied, and 38.46% held no opinion.

Variety of Fish

Although, as mentioned earlier in this chapter, the majority of respondents did not feel that they encountered many problems in accessing their desired species of fish, large majorities of survey participants also expressed a desire to increase the variety of fish in their diet and to see more choices in the species of fish consumed. In response to the statement, “I would like to increase the variety of fish in my diet,” 78.41% of participants stated agreement, with 43.18% expressing strong agreement. Only 3.41% disagreed, and 18.18% expressed no opinion. In response to the statement, “I wish I had more choice in the species of fish I consume,” 68.6% of participants expressed agreement, 4.65% disagreement, and 26.74% no opinion. (See Figure A.4 in Appendix A.)

When tested by age, gender, length of residence in Patreksfjörður, and industry affiliation, no significant differences were found between groups.

5.1.10 Perceived Changes in Consumer Fish Access

Survey participants were also asked questions about their perceptions of change in consumers’ access to fresh and locally caught fish in the town. More than 75% of younger respondents expressed uncertainty regarding whether changes had taken place. Given the fact that older respondents are more likely to be able to compare current consumer access to fish with past levels of access, as they would have experienced these changes first-hand, only the responses of participants over the age of 45 were considered ($n=34$). Among the older respondents, 58.8% said it had been easier to access fresh fish in the past than

currently, 2.9% said access was more difficult in the past, 10.6% said there had been no change, and only 17.7% expressed uncertainty regarding whether such a change had taken place. The question “*Was easier or more difficult to access fish caught locally in the past (i.e., 15-20 years ago)?*” elicited similar responses from participants. Among respondents over the age of 45, 64.7% said it had been easier to access locally caught fish in the past, while 14.7% said there had been no change in access, and 20.6% were uncertain whether access to local fish had changed. No factors other than age were found to have a significant effect on respondents’ perceptions of change in access.

An open-ended follow-up question was posed to respondents who said they had noticed a change in access to fresh fish and/or local fish: “*If there has been a change, why do you think it has taken place?*” Out of this group, 30 respondents who said they believed access had changed, 24 provided possible reasons. Fourteen people directly attributed the changes to the changes in Iceland’s fisheries management system, primarily using wording such as “quota,” “Directorate of Fisheries.” One of these elaborated that due to the strict rules, it is now “more difficult for fishermen to give fish away.” Four participants described the influence of market economics, stating that more of the fish that is caught now is exported and that “fish are sold on the market and are no longer for general consumption.” One of these individuals wrote simply, “business on the brain.” Two individuals cited lack of commercial infrastructure, stating that there was “no fish shop” or “no fish counter.” Three participants stated that fish was now more expensive than before. Finally, three participants described positive changes, stating that there was now more choice in fish and better quality fish available than there had been before.

5.2 Ísafjörður Survey Results

In Ísafjörður, attitudes toward fish consumption were in general very positive, conceptual linkages between fish consumption and identity were generally strong, and the satisfaction level for the overall population sampled was very high. The most important findings are summarized in Chart 3.

Table 3: Summary of results from Ísafjörður survey (n=214)

The typical survey respondent in Ísafjörður...
...Was female (61%) ...Between ages 26-65 (91%) ...Had lived in the same town for more than 20 years (63%) ...Spent 20,000 ISK per month for food for her household ...Lived in a 3-person household ...Did NOT have household members employed in the fishing/seafood industries (64%)
...had the following fish consumption habits:
...Spent nothing (26%) or less than 2,000 ISK (38%) on fish consumption per week ...Received fish as gifts from family and friends (70%) ... “Always” consumed locally caught fish (51%) ...Obtained fish from the local fish shop (57% at least once/month), supermarket fresh fish table (30% at least once/month), or from the supermarket freezer (30% at least once/month) ...Expressed certainty that they had not purchased imported fish in Ísafjörður (79%)
...had the following attitudes about fish consumption:
...Agreed that fish consumption is part of self-identity for Westfjords residents (71%) ...Expressed satisfaction with the current supply of fish for consumers in Ísafjörður (86%) ...Would consider paying higher prices for fish caught locally (70%)
...Believed that consumer access to fish is more difficult than in the past due to higher prices and a decrease in the giving of fish gifts, but that access had been made easier after the opening in town of a specialized fish shop and supermarket fish counter.

When tested for independence among the four different groupings discussed in Section 4.4 of the previous chapter (age, gender, length of residency, and household connections to the fishing and seafood industry), results indicated the following trends:

- Satisfaction with access was consistently high among all groups when residents of Ísafjörður alone were considered. When residents of neighboring towns were included

in the analysis, respondents lacking household connections to the fishing industry were slightly less likely to be satisfied with their access to fish as consumers.

- The presence of industry-connected individuals within the household had an effect on consumption habits, as respondents with connections were more likely to report consuming locally-caught fish more frequently and spending less money on fish consumption.
- Age had a slight effect on consumption habits, as older respondents reported a higher frequency of overall fish consumption.
- Attitudes toward fish consumption were highly affected by age, as older respondents were more likely to say that eating fish was important to them, were more likely to think about quality when obtaining fish, and more likely to associate fish consumption with self-identity and Icelandic identity than younger respondents.
- Gender had a slight effect on consumer habits and attitudes, with women being slightly more likely to state that fish was important to them and men being slightly more likely to have purchased imported fish.
- As in Patreksfjörður, length of residency had a significant effect only on the receipt of fish gifts, with longer-term residents more likely to report having received such gifts.

5.2.1 Demographics of Sampled Population

Of the population sampled in Ísafjörður (n=214), 61% were female and 39% male. Whereas the population sampled in Patreksfjörður was on average younger than the actual population, in Ísafjörður the sampled population skewed older, as the 46-55 age group in particular was oversampled. In particular, 4% of participants were between ages 18-25, 39% between ages 26-45, 52% between ages 46-65, and 5% ages 66 and older. This can be compared to the actual breakdown in ages in the town of Ísafjörður, where 12% of people fall into the 18-24 age group, 32% into the 25-44 age group, 35% into the 45-64 age group, and 20% ages 65 and older. Nearly 82% were residents in the town of Ísafjörður, another 7% stated they were residents of the town and independent municipality of Bolungarvík, 6.5% were residents of Hnífsdalur, and 1.9% were residents of Flateyri, and the remaining 2.8% reported residency in Súðavík, Suðureyri, Þingeyri, and the countryside, with less than 1% of the sample reporting residency in any one of these towns. With regard to length of residency, 14.85% had lived in the same town for five years or fewer, 8.91% from six to 10 years, 12.87% from 11 to 20 years, and 63.37% for more than 20 years.

Of the respondents who reported average monthly income (n=175), 9% earned less than 250,000 Icelandic Krona (ISK) per month, 20% earned between 250,001 and 400,000 ISK, 36% between 400,001 and 650,000 ISK, 26% between 650,001 and 900,000 ISK, and 9% earned 900,001 ISK or more per month, on average. The average household size (n=210) was three people, and the median value of household members was also three. Survey responders were also questioned as to the average weekly food budget for their respective households. Respondents (n=153) reported an average food budget of 20,775 ISK, with a median and mode of 20,000 ISK.

Whereas in Patreksfjörður a majority of respondents reported a household affiliation with the seafood industry, only 36% reported such an affiliation in Ísafjörður. Out of this 36%, 33 respondents reported having a fisherman, 30 reported having someone who worked in fish and seafood processing, and two reported having someone who worked in aquaculture in their households. In addition, five respondents that a household member worked in fish sales or customer service, and two more responded that a household member worked in fishery equipment manufacture. Five respondents stated that they had family members working in more than one capacity in the seafood industry.

5.2.2 Fish Consumption Habits

The average weekly fish consumption reported in Ísafjörður was similar to that reported in Patreksfjörður. A majority of 57% reported that they eat fish 1-2 days per week and 22% stated they eat fish 3-4 days per week. Another 16% ate fish 1-3 days per month, 3% reported they never ate fish or ate it less than once a month, and 2% stated they ate fish five or more times per week.

When responses were analyzed across age groups, majorities of respondents in all age groups reported eating fish on a weekly basis, though fish consumption increased with age among survey participants. When fish consumption was tested for significant difference between age groups of those 45 years and younger and those 46 years and older, the older age group was more likely to consume fish more often ($p < 0.00004$). Among the younger age group, only 7.78% reported eating fish three or more times a week and 25.56% ate fish less than once a week, whereas among the older group, 36.44% ate fish three or more times per week and 14.41% ate fish less than once a week. When non-residents were excluded from the analysis,

the difference remained ($p < 0.0002$). No effects were found when tested by industry affiliation, length of residency, or gender.

5.2.3 Expense of Fish Consumption

Whereas a near majority of respondents in Patreksfjörður stated that they did not typically spend any money on the fish they consumed, only 26% of survey participants in Ísafjörður stated that they spent nothing on fish in an average week. A further 38% reported spending less than 2,000 ISK, while 26% spent between 2,001 and 4,000 ISK, 8% spent between 4,001 and 6,000 ISK, and 2% spent 6,001 ISK or more. A significant difference was found between those respondents with household affiliations to the seafood industry and those without ($p < 0.0008$). Specifically, 42.86% of those with an affiliation said they spent nothing on their fish consumption, whereas only 15.63% of those without a household affiliation stated they spent nothing on fish. Among those without an affiliation who purchased their fish, 41.41% spent less than 2,000 ISK, 32.81% spent between 2,001 and 4,000 ISK, and 10.15% spent 4,001 ISK or more versus 32.86% of those with an affiliation. By contrast, among individuals sampled with industry connections, 32.86% spent less than 2,000 ISK, 15.71% spent between 2,001 and 4,000 Kr, and 8.57% spent 4,001 ISK or more. When non-residents were excluded from the analysis, the difference between groups remained significant ($p < 0.004$). No differences were found when groups were analyzed by age, gender, or length of residency.

A large majority of 70% of Ísafjörður respondents ($n=211$) stated they sometimes received fish as gifts from relatives or friends, similar to the 71% of Patreksfjörður respondents who said they had. Those who received these gifts reported receiving them on average 1.37 times per month, with the median and mode once per month. As in Patreksfjörður, those who had lived in Ísafjörður for more than 20 years seemed more likely to receive fish gifts than those who had lived in the town for 20 years or less ($p < 0.02$). Out of the long-term residents, 74.29% said they had received fish gifts, while only 55.56% of respondents who lived in the town for 20 years or less had done so. Non-residents were not analyzed in this test. In addition, respondents with household connections to the fishing industry were more likely to report having received fish as gifts ($p < 0.02$). In particular, 80.1% of individuals with connections stated that they received fish gifts, while 64.9% of individuals without connections said they had received such gifts. There was no difference found between

females and males in response to this question, unlike in Patreksfjörður, where females were more likely to report receiving fish as gifts.

5.2.4 Variety of Species Consumed

As in Patreksfjörður, haddock was the most commonly consumed fish species among Ísafjörður respondents, with 54.21% stating they ate it at least once per week, another 29.91% at least once per month, and 6.07% at least once per year. Cod was the second most frequently consumed, with 30.84% eating it at least once per week, 37.85% at least once per month, and 14.95% at least once per year. All other fish species were consumed with far less frequency, although 31.31% reported eating tuna, 28.97% reported eating catfish, and 19.63% reported eating halibut at least once per month, Whereas in Patreksfjörður, the percentage of respondents who reported eating salmon and Arctic charr at least once a month reached 28.57% and 24.18%, respectively, the percentages reporting this frequency in Ísafjörður were lower, at 18.69% and 18.22%, respectively. (See Figure 5.4)

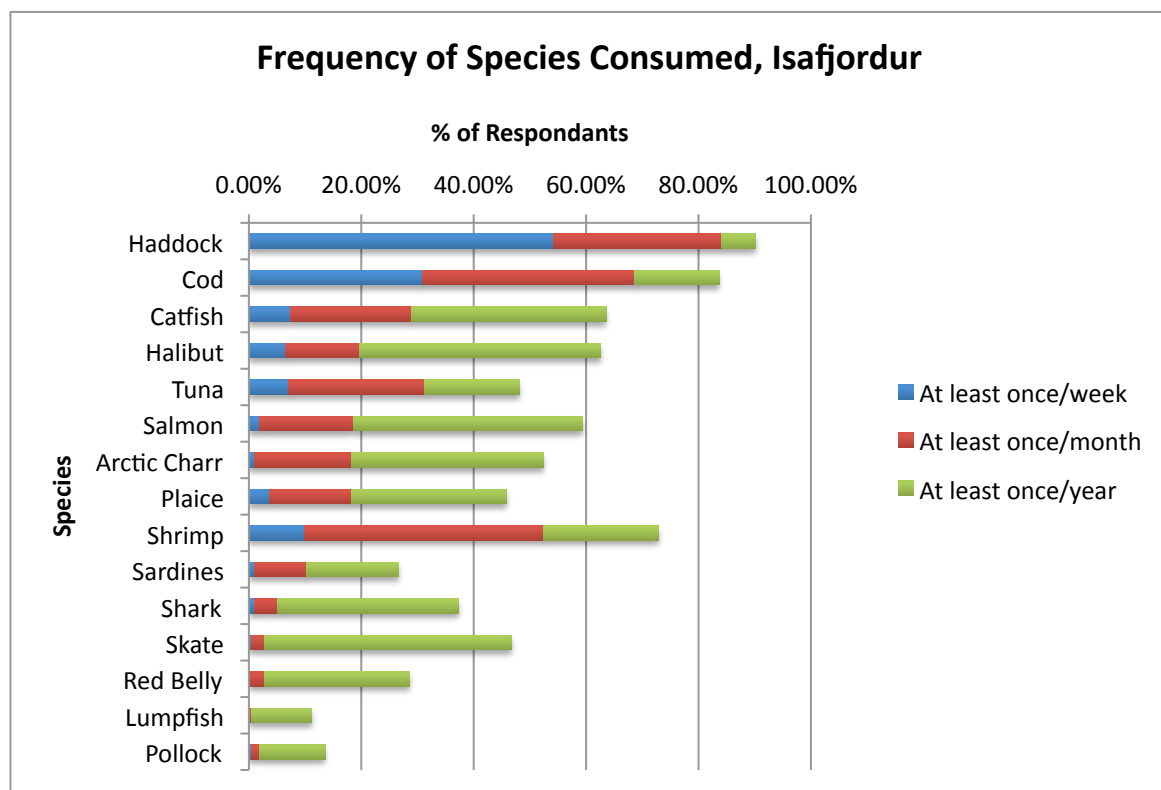


Figure 5-4: Frequency of consumption of listed fish species in Ísafjörður

5.2.5 Consumption of Fresh and Frozen Fish

When questioned about their consumption of fresh and frozen fish, Ísafjörður respondents, as in Patreksfjörður, reported percentages that were fairly similar, skewed slightly toward eating fresh fish more often on the whole than frozen (see Figure 5.5). With regard to fresh fish, 13.1% of respondents said they “always” ate fresh fish, 48.6% “often” did, 22.9% “sometimes” did, 5.6% “seldom” did, and 1.9% “never” did. By contrast, 5.6% of respondents stated they “always” ate frozen fish, 45.3% “often” did, 20.09% “sometimes” did, 15.9% “seldom” did, and 3.3% “never” did.

No difference to consumption of either fresh or frozen fish was found when analyzed for independence by industry affiliation, age group, gender, or length of residency in Ísafjörður.

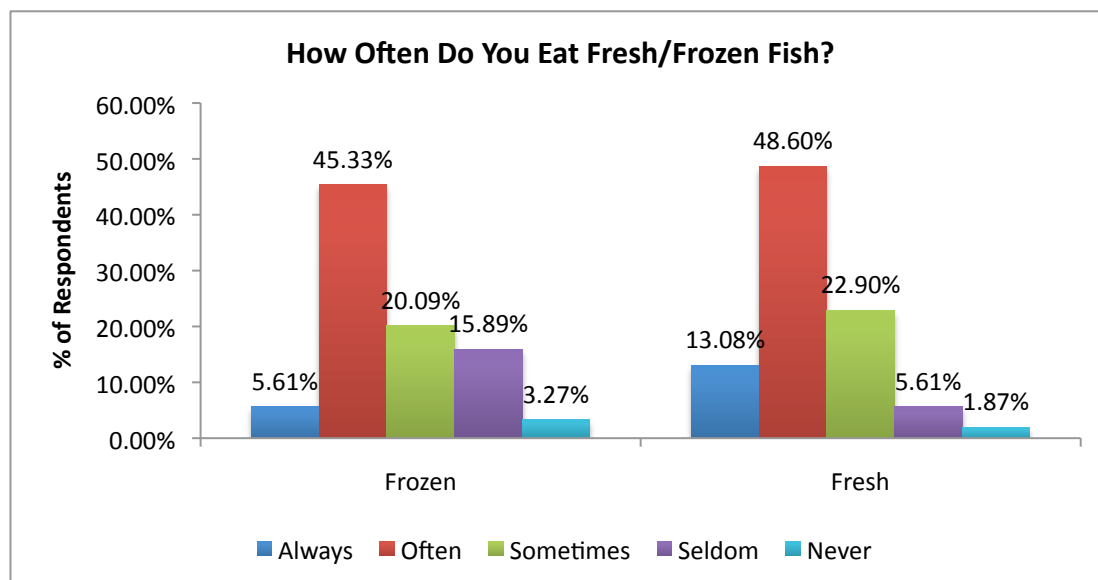


Figure 5-5: Frequency of consumption of fresh and frozen fish among respondents in Ísafjörður

5.2.6 Sources of Fish Consumption

When questioned about the sources of their fish consumption, as well as the frequency of utilization of each of their sources, survey participants commonly cited using more than one source in a typical year. Unlike in Patreksfjörður, commercial venues were the most frequent sources of fish consumption in Ísafjörður. The source of the highest frequency of utilization was the specialized fish shop in Ísafjörður, cited by 72.43% of participants, with 25.70% frequenting the shop on a weekly basis, 31.78% on a monthly basis, and 14.95% on a yearly basis.

The second most commonly cited source was dining outside the home, which included dining in restaurants, friends' houses, and work cafeterias. A total of 59.35% of survey participants stated they consume fish outside the home, with 8.88% eating fish while dining out on a weekly basis, 19.16% on a monthly basis, and 31.31% on a yearly basis. A majority of 58.88% of respondents also obtained fish from friends and relatives, 8.41% doing so on a weekly basis, 19.16% on a monthly basis, and 31.31% on a yearly basis.

In terms of supermarket purchases, 52.34% purchase fresh fish from the supermarket fish counter, 7.48% on a weekly basis, 22.90% on a monthly basis, and 21.96% on a yearly basis. In addition, 52.34% cited purchases from the supermarket freezer, with 5.14% on a weekly basis, 24.77% on a monthly basis, and 22.43% on a yearly basis.

As in Patreksfjörður, another popular source was fishermen themselves, cited here by 47.66% of respondents in total, with 10.28% saying acquired fish directly from fishermen on a weekly basis, 16.36% on a monthly basis, and 21.03% on a yearly basis. It should be noted that in terms of *weekly* fish consumption, fishermen were the second most frequently cited source following purchases in the fish shop. Over 20% of respondents stated that they obtained fish through their personal catch, though this was a relatively infrequent source, with only 2.34% doing so on a weekly basis and 4.67% on a monthly basis, leaving 16.82% who stated they consumed fish in this way once or twice a year. The total percentage of respondents who reported obtaining fish from local fish processing plants or farms was lower, 3.27% on a weekly basis, 5.14 on a monthly basis, and 10.28% on a yearly basis. Finally, as in Patreksfjörður, only a very small number obtained fish at the harbor fish market, merely 2.80% in total. (See Figure 5.6.)

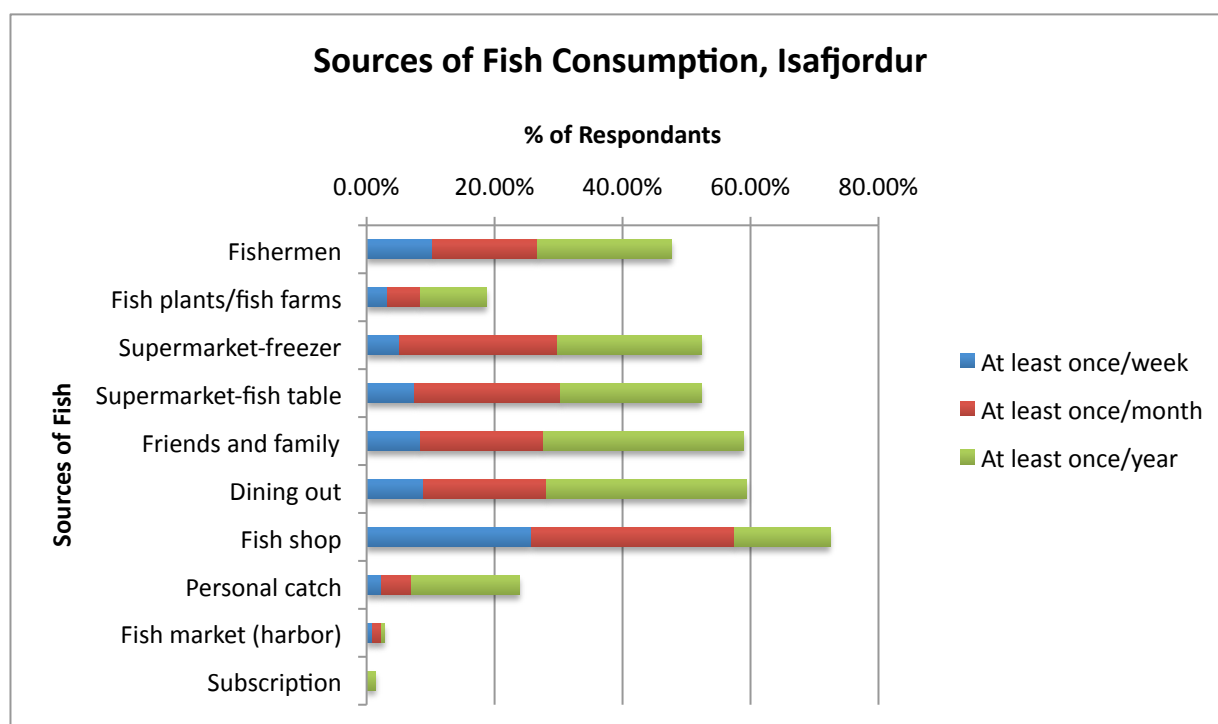


Figure 5-6: Frequency of utilization of sources of fish consumption among respondents in Ísafjörður

5.2.7 Attitudes toward Fish Consumption in General

As in Patreksfjörður, survey participants in Ísafjörður answered a number of questions aimed at understanding general attitudes toward fish consumption, including their perceptions of the importance of fish consumption and of the linkages between fish consumption and identity.

When posed the “yes/no” question, “*Is eating fish important to you?*” (n=206), 89.81% of respondents stated that eating fish was important to them, while 10.19% of respondents said that it was not (n=206). This result differed significantly based on age ($p<0.03$), with 93.97% of respondents ages 46 and older agreeing with the statement, versus only 84.44% of respondents under 46. The significance remained when only Ísafjörður residents were included in the analysis ($p<0.03$). It also differed slightly between males and females ($p<0.02$), with 93.7% of females stating that eating fish was important to them, versus 83.5% of males who said the same. Respondents overwhelmingly cited reasons related to health (n=123), with 20 respondents citing specific health-related benefits, such as the vitamins, nutrients, and omega-3 fats found in fish. Another major factor cited frequently was taste (n=63).

As in Patreksfjörður, the majority of Ísafjörður respondents made linkages between fish consumption and Westfjords regional and personal identity. (Participants’ responses to all

Likert scale statements, including those related to identity, can be found See Appendix B: Likert Scale Responses, Ísafjörður. See in particular Figure 0.1 in Appendix B for graphical representation of participants' linking of identity and fish consumption.)

With regard to regional identity, 71.01% agreed with the statement, *"Fish consumption is part of self-identity for those who live in the Westfjords"* (n=207), with only 2.42% disagreeing, and 26.57% expressing no opinion. Out of those who agreed with the statement, 41.06% expressed strong agreement, while none of the respondents strongly disagreed with the statement. No differences were found when responses to this question were analyzed by age group, length of residency, or household affiliation to the industry.

When it came to linkages to personal identity, 51.94% of participants agreed (with 30.10% expressing strong agreement) that, *"Fish consumption is part of my self-identity"* (n=206), while 12.14% disagreed (3.88% disagreeing strongly) and 35.92% expressed no opinion. Although no differences were found among groups distinguished by household affiliation to the fishing industry, significant differences were found when the data were analyzed between age groups ($p < 0.0002$) and by length of residency ($p < 0.03$). In terms of age, 60.53% of older respondents agreed with the statement (42.11% strongly agreed), versus the 40.91% of respondents 45 years of age and younger who agreed (14.77% strongly agreed). Only 6.41% of older respondents disagreed with the statement (0.88% of whom disagreed strongly), in comparison to 19.32% of younger survey participants (6.82% of whom disagreed strongly). This difference remained when non-residents were excluded from the analysis ($p < 0.0008$). In terms of length of residency, 58.82% of residents who had lived in Ísafjörður for more than 20 years agreed that fish consumption was part of their self-identity, versus 42.86% of those who had lived in the town for 20 years or less. Only 5.88% of longer-term residents disagreed with the statement, whereas as many as 23.21% of shorter-term residents expressed disagreement.

In response to the statement, *"Fish consumption is part of Icelandic identity, for people in my age group"* (n=205), 48.78% expressed agreement (20% strong agreement), while 15.61% disagreed (1.95% strongly), and 35.61% were neutral on the issue. Differences based on age group ($p < 0.004$) and length of residency ($p < 0.02$) were also present. Among older respondents, 59.65% agreed with the statement (25.44% in strong agreement), while only 33.33% (10.34% strongly agreed) of those 45 and younger agreed that fish consumption is part of Icelandic identity for people their age. 10.53% of respondents in the older age group

disagreed with the statement (0.88% strongly disagreed) versus 22.99% of younger participants. Younger respondents were also more likely than older counterparts to express no opinion, with 43.68% and 29.82% professing neutrality on the issue, respectively. This difference remained when non-residents were excluded from the analysis ($p < 0.002$). When analyzed by length of residency, 55.88% of long-term residents of Ísafjörður agreed with the statement versus 32.72% of individuals who had lived in the town for 20 years or less; 9.80% of long-term residents disagreed with the statement versus 25.45% of newer residents, and 34.31% of long-term residents were neutral, versus 41.82% of newer residents.

5.2.8 Views of Consumption of Local and Imported Fish

Survey participants were also asked to answer a series of questions meant to elicit responses indicating their habits and attitudes toward consuming local and imported products. Overall, the respondents ($n=207$) displayed a strong preference for consuming fish caught locally (defined in the survey as “fish caught by local boats and/or local fishermen). A slight majority of respondents—50.72%—stated that they “always” ate fish caught locally, while a further 34.30% said they “sometimes” did, 4.83% answered that they seldom ate local fish, 1.45% reported that they never did, and 8.70% were uncertain about the origins of the fish they consumed. Significant differences were found when the data were analyzed by household industry affiliation ($p < 0.0003$) and length of residency ($p < 0.02$). Individuals with industry connections within their household were more like to state that they ate fish caught locally, with 71.23% reporting they “always” ate local fish and 23.29% stating they sometimes did so. Only 1.37% of respondents in this group were uncertain about the origins of their fish, 2.74% said they seldom ate local fish, and another 1.37% stated they never did. Among respondents lacking these connections, only 38.93% said they “always” ate local fish, 40.46% sometimes did, 6.11% rarely did, and 1.53% never did. Uncertainty about the origins of fish consumed was also higher in this group, at 12.98%. The difference between these groups remained significant when non-residents were excluded ($p < 0.005$).

In addition, longer-term residents were also more likely to eat fish caught locally, with 53.47% stating they always ate local fish, 37.62% stating they sometimes did, 7.92% uncertain about the origins of the fish they consumed, only 0.99% stating they seldom ate local fish, and 0% stating they never did. Among those residents who had lived in Ísafjörður for 20 years or fewer, on the other hand, 47.37% always ate locally caught fish, 26.32% sometimes did, 10.53% were uncertain, 10.53% seldom did, and 5.26% never did.

When respondents were polled regarding whether they would “be ready to pay higher prices for fresh fish caught locally” (n=209), 31% responded “yes,” 39% replied “maybe,” and 31% replied “no.” Among those who replied “yes” or “maybe” (n=138), 41% said they would pay prices up to 5% higher than what they were currently paying, 49% stated they would pay up to 10% higher, and 10% said they would pay up to 25% higher. No differences were found by length of residency, age, or connection to the seafood industry.

A large majority of Ísafjörður respondents denied having purchased imported fish in Ísafjörður. In response to the question, “Have you purchased imported fish in Ísafjörður, as far as you know?” (n=210), 79% responded that they had not, 10% stated they had purchased imported fish, and a further 11% were uncertain. When analyzed by gender of the respondents, males were slightly more likely to report having purchased imported fish ($p<0.04$), with 16.5% of men saying they had done so versus only 5.5% of women. With regard to willingness to purchase fish if it were marked as “imported” (n=209), 82% stated they would not be willing to make such a purchase, versus 18% who said they would. No differences were found among the groups analyzed in response to the question of willingness to purchase imported fish.

As a specialized business has been in operation in Ísafjörður since 2011, respondents were also questioned as to the percentage of their total fish consumption that is purchased in the shop (n=208). A relatively small number—only 5%—said they purchased all of their fish in the shop, while 12% of respondents stated they purchase 75-99% of their consumption in the shop, 17% purchase 50-74% in the shop, 13% purchase 25-49% in the shop, 33% purchase 1-24% in the shop, and 20% do not purchase any of the fish they consume in the shop. (See Figure 5.8)

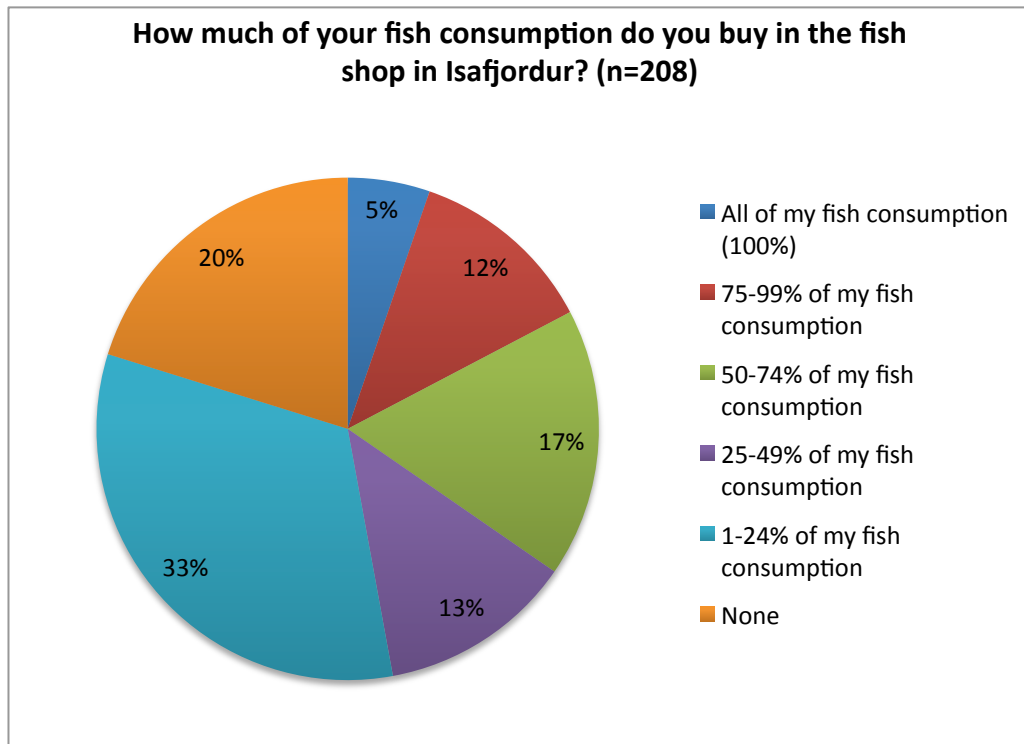


Figure 5-7: Percentage of total fish consumption that respondents purchase in the fish shop in Ísafjörður

The amount of consumption in the fish shop did not differ significantly based on the household connections to the seafood industry, age, gender, or length of residency. Survey participants were also asked whether they had increased their fish consumption since the shop had opened. Out of those who responded (n=184), 40.76% stated they had, 56.52% said they had not, and 2.72% chose the response “not applicable.”

5.2.9 Satisfaction with Current Fish Consumption

Participants were also asked questions related to their perceptions of the availability of and ease of access to fish, as well as their satisfaction with their degree of access to fresh fish, high quality fish, and a variety of fish species. These questions were posed using both “yes/no” and Likert scale formats. (See Appendix B: Likert Scale Responses, Ísafjörður, for complete results to questions using Likert scale format, in addition to graphical representations of participants’ opinions on consumer access to fish in Figures 0.2, 0.3, and 0.4 in Appendix B.)

Regarding general availability of fish (n=209), 39.23% of respondents reported an occasional difficulty in accessing certain species of fish that were unavailable, versus 60.77% who reported never experiencing such a difficulty. Only 5.74% of respondents stated that they

often encountered lack of availability of their desired fish species. There was no difference in response based on age, gender, household connection to the seafood industry, or length of residency in Ísafjörður.

An overwhelming majority of 86.41% agreed with the statement “*I am satisfied with the current supply of fish in Ísafjörður*” (n=206), among whom 44.17% agreed strongly, whereas only 2.91% disagreed with the statement and 10.68% expressed no opinion. No differences were found among groups. Results differed significantly based on household connection to the seafood industry ($p<0.03$). Although the overwhelming majority of both groups agreed with the statement, a higher proportion of those with connections—59.15%—agreed strongly, while 28.17% somewhat agreed, 1.41% somewhat disagreed, and 11.27% expressed no opinion. Among those without connections, only 35.61% expressed strong agreement, 50.00% agreed somewhat, 2.27% disagreed somewhat, 1.52% disagreed strongly, and 10.61% held no opinion. When non-residents were excluded from the analysis, this effect remained ($p<0.03$).

A large majority of respondents also expressed their desire to include more fish in their diet: 77.83% agreed with the statement, “*I would like to eat more fish*” (n=203), with 48.28% expressing strong agreement, whereas only 4.93% disagreed and 17.24% stated they had no opinion on the matter. This result did not differ significantly between groups.

Freshness of Fish

When it came to access to fresh fish, respondents in Ísafjörður expressed general satisfaction. (See Figure B.2 in Appendix B.)

A total of 92.27% of respondents agreed that “*Fresh fish is easy to access in my town*” (n=207), among whom 62.80% agreed strongly, with only 1.45% expressing disagreement and 6.28% holding no opinion. This result did differ slightly by household connection to the seafood industry, but only when non-residents of Ísafjörður were included in the analysis ($p<0.04$). Although an overwhelming majority of both groups agreed that fresh fish was easy to access, a higher proportion of those with connections—77.46%—expressed strong agreement, with a further 19.72% stating they somewhat agreed, and 2.82% holding no opinion. By contrast, among those with no connections, only 54.14% expressed strong agreement, 35.34% agreed somewhat, 8.27% held no opinion, 1.50% somewhat disagreed,

and 0.75% strongly disagreed. This difference disappeared when residents of neighboring towns were excluded ($p < 0.2$).

Although, as seen above, more than three-quarters of respondents stated that they would like to eat more fish in general, only 28.79% of respondents in Ísafjörður agreed with the statement, “*I would buy more fresh fish if it were available,*” while 13.64% disagreed, and 57.58% expressed no opinion. Even fewer agreed with the statement, “*I wish it were easier to access fresh fish in my town,*” with 16.92% expressing agreement, 35.32% disagreement, and 47.76% no opinion. These results did not differ significantly among groups.

Quality of Fish

An overwhelming majority 96.08% agreed with the statement, “*I think about quality when purchasing fish,*” with 78.92% expressing strong disagreement. Only 0.98% disagreed, and 2.94% held no opinion. Results differed significantly based on age ($p < 0.0002$). Among respondents ages 46 and older, 90.18% agreed strongly that they think about quality, with 8.04% agreeing somewhat, 0.89% expressing no opinion, and 0.89% strongly disagreeing. Within the younger age group, 63.64% agreed strongly with the statement, while 29.55% agreed somewhat, 5.68% expressed no opinion, and 1.14% disagreed somewhat. This difference remained when non-residents were excluded from the analysis ($p < 0.003$).

Respondents were overwhelmingly positive when asked about their satisfaction with the quality of fish available to them. In response to the statement, “*High quality fish is easy to access in my town,*” 90.29% expressed agreement, with 61.17% agreeing strongly, 2.43% disagreed, and 7.28% holding no opinion. Similarly, 90.29% of respondents agreed with the statement, “*I am satisfied with the quality of fish available to me,*” with 54.37% agreeing strongly, while only 0.97% disagreed, and 8.74% expressed no opinion. (See Figure B.3 in Appendix B.) No differences were found between groups.

Variety of Fish

When questioned regarding variety of fish species, 71.78% agreed with the statement, “*I would like to increase the variety of fish in my diet,*” with 37.62% in strong agreement. Only 4.46% disagreed, and 23.76% had no opinion. When it came to desiring more choice in fish species, however, only 30.35% of respondents agreed with the statement, “*I wish I had more choices in the variety of fish I consume,*” with 10.45% in strong agreement, 17.41%

disagreeing with the statement, and 52.24% having no opinion. (See Figure B.4 in Appendix B.)

5.2.10 Perceived Changes in Consumer Fish Access

Participants were also asked whether they believed consumer access to fresh fish and locally caught fish had been easier or more difficult in the past. As in Patreksfjörður, large majorities of younger respondents (45 years old and younger) in Ísafjörður expressed uncertainty with these questions. Thus, only the responses of participants over 45 years of age were considered. Among this older age group (n=116), respondents were rather evenly split when answering the question, “*Was it easier or more difficult to access fresh fish in the past (i.e., 15-20 years ago)?*” 28.8% stated access had previously been easier. Another 29.7% said it had been more difficult, 20.3% said they had not seen a change, and 21.2% expressed uncertainty regarding changes in access. Answers were similar in response to the question, “*Was it easier or more difficult to access fish caught locally in the past (i.e., 15-20 years ago)?*” 32.7% stated that access had been easier in the past, while 20.7% said it had been more difficult, 19.0% said there had been no change, and 27.6% were uncertain about changes to access.

Participants who believed there had been a change in access were also asked the open-ended follow-up question, “*If there has been a change, why do you think it has taken place?*” Out of the 82 respondents who stated they had seen a change, 66 provided answers to this question. Respondents who believed that access to fresh fish (n=39) and locally caught fish (n=29) had been more difficult in the past overwhelmingly attributed the current increased ease of access to the arrival of the fish shop in town in 2011. Thirty respondents cited the fish shop as the reason access had changed in recent years. Some respondents elaborated on the impact that the fish shop had had on their fish consumption. One stated: “Before the fish shop opened, it was impossible for me to buy a fresh fish since I don't have any relatives that works as fisherman.” Another asserted that access had “changed for the better after the fish shop came.” Several other positive developments in consumer access to fish were cited, with several respondents mentioning increased access to a larger variety of fish species and preparation methods, better handling of fish, and a better quality of available fish.

Respondents who believed fish had been easier in the past attributed the changes to three main reasons. Six individuals attributed the difficulty to reasons stemming from the quota system employed in Iceland's fisheries management. Ten respondents cited market-related reasons, stating that fish were now more expensive, that more fish are exported out of the

country, and that all fish must be sold through the national (online) fish market. One individual expressed the changes to the economics of fish consumption thusly: “There used to be three fish shops here, now only one. Fish is more expensive now, while before it was cheap to buy fish. The price has increased by more than half.” Fifteen attributed the changed access to the fact that there is less fish given away as gifts, due to less work available in the fish factories, the existence of fewer fishermen, fishing families, and small boats in town, and stricter regulation. One of these individuals answered that the biggest change for him was that “I know fewer fishermen who bring me fish!” Another expressed a similar sentiment, stating that there are now “fewer small boats than in the old days, when it was okay to buy directly from the fishermen or get fish gifts.”

5.3 Tests for Independence between Case Study Samples

When results for respondents surveyed in Patreksfjörður and Ísafjörður were analyzed using the Chi Square test for independence, significant differences were found between the two samples for the majority of questions pertaining to the amount of money spent on weekly fish consumption, attitudes and practices with regard to imported fish, and availability of and satisfaction with access to fresh, local, and high-quality fish.

The following trends were found in this comparison:

- Attitudes toward fish consumption were consistent between towns (including willingness to link fish consumption to regional, national, and self identity).
- Fish consumption habits differed somewhat. Patreksfjörður residents spent less money on fish consumption and ate locally caught fish with more frequency than respondents in Ísafjörður. Ísafjörður respondents were also more likely to have purchased imported fish and were more likely to be willing to purchase imported fish.
- Satisfaction with access differed the most, with Ísafjörður respondents more likely to be satisfied with the freshness, quality, and variety of fish available to them.

5.3.1 Differences in Habits and Attitudes

In general, the statistical differences found between population samples in Ísafjörður and Patreksfjörður in response to questions regarding fish consumption habits showed that

Ísafjörður respondents spent more money on fish, were less likely to always consume locally-sourced fish, were more likely to pay attention to the origins of the fish they consumed (i.e., whether the fish was an imported product), and were more likely to be willing to purchase fish marked as imported.

A larger percentage of survey participants in Ísafjörður reported spending money on fish consumption, and spending higher amounts of money, than did respondents in Patreksfjörður ($p < 0.002$). In response to the question, *How much money do you spend on fish in an average week?*, 25.35% of respondents in Ísafjörður reported spending nothing on fish, while 38.31% spent 2,000 ISK or less, 26.37% spent between 2,001 and 4,000 ISK, 7.96% between 4,001 and 6,000 ISK, and 1.99% more than 6,000 ISK. In Patreksfjörður, 45.98% spent nothing on fish, while 39.08% spent 2,000 ISK or less, 13.79% spent between 2,001 and 4,000 ISK, and only 1.15% spent between 4,001 and 6,000 ISK. (See Figure 5.8.)

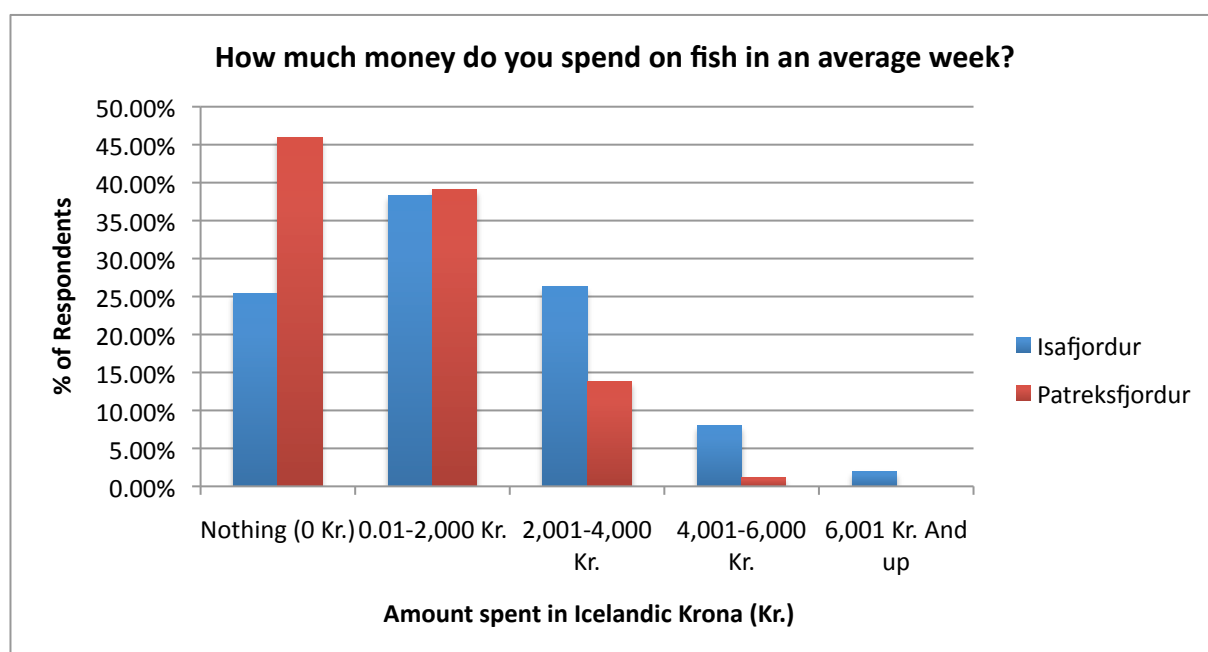


Figure 5-8: Average amount of money spent on weekly fish consumption for household among respondents in Ísafjörður and Patreksfjörður

In terms of frequency of local fish consumption, overwhelming majorities in both towns reported that they “always” or “sometimes ate fish caught by local fishermen and/or boats. However, Patreksfjörður participants reported a higher frequency of local fish consumption ($p < 0.008$). Nearly three-quarters—74.12%— of respondents in Patreksfjörður stated they “always” ate fish caught by local fishermen and/or boats, and 16.47% said they “sometimes” did. In comparison, a slim majority of 50.72% of Ísafjörður participants reported “always” consuming local fish, with 34.30% reporting that they “sometimes” did. (See Figure 5.9.)

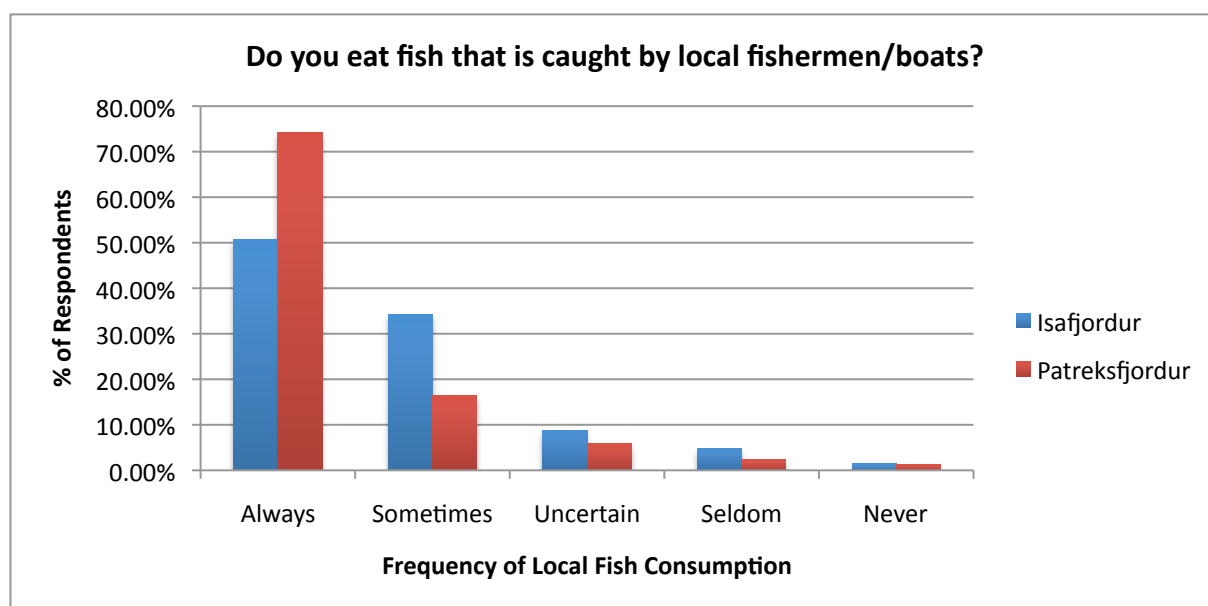


Figure 5-9: Frequency of consumption of fish sourced locally (caught by local fishermen and/or local boats) in Ísafjörður and Patreksfjörður

When it came to habits and attitudes with regard to purchasing imported fish, overwhelming majorities in both towns showed a distinct inclination against purchasing fish if it were marked as an imported product. However, a significant difference was found between responses to the question, *Have you purchased imported fish in Patreksfjörður/Ísafjörður, as far as you know?* ($p < 0.04$). In Patreksfjörður, only 4.44% of respondents stated they had purchased imported fish, while 74.44% said they had not, and 21.11% were unsure whether they had purchased fish marked as imported. In Ísafjörður, a larger percentage of respondents claimed to know the origins of their fish: 9.52% had purchased imported fish, 79.52% had not, and only 10.95% were unsure.

When questioned whether they would be willing to buy fish in their town if it were marked as an imported product, Ísafjörður respondents were more open to the idea ($p < 0.03$), with 18.18% stating they would buy imported fish and 81.82% saying they would not. In Patreksfjörður, only 7.78% of respondents displayed a willingness to purchase imported fish, versus 92.22% who said they would not do so.

5.3.2 Differences in Perceived Access to Fish and Satisfaction with Access

Differences between the two population samples were more pronounced in responses to the series of Likert scale statements covering participants' perceived access to fresh and high quality fish, satisfaction with their access to both and with the general availability of fish to consumers in their towns, and with the degree of choice they exercised in the fish they

consumed. In all of these areas, Ísafjörður respondents reported a higher degree of satisfaction with the status quo situation.

Overall Satisfaction

Respondents in Ísafjörður displayed considerably more satisfaction with the current supply of fish in the town than their counterparts in Patreksfjörður ($p < 3.0E-13$), with more than 85% agreeing with the statement, “*I am satisfied with the current supply of fish in my town.*” Strong agreement was expressed by 44.17%, while 42.23% agreed somewhat, 10.68% said they had no opinion, and only 2.91% disagreed. Respondents in Patreksfjörður were more ambivalent (see Figure 5.10), with only 42.82% expressing agreement, with 16.85% agreeing strongly and 26.97% agreeing somewhat. A larger percentage of 30.34% said they held no opinion, and nearly a quarter of respondents disagreed with the statement, with 13.48% disagreeing somewhat and 12.36% disagreeing strongly.

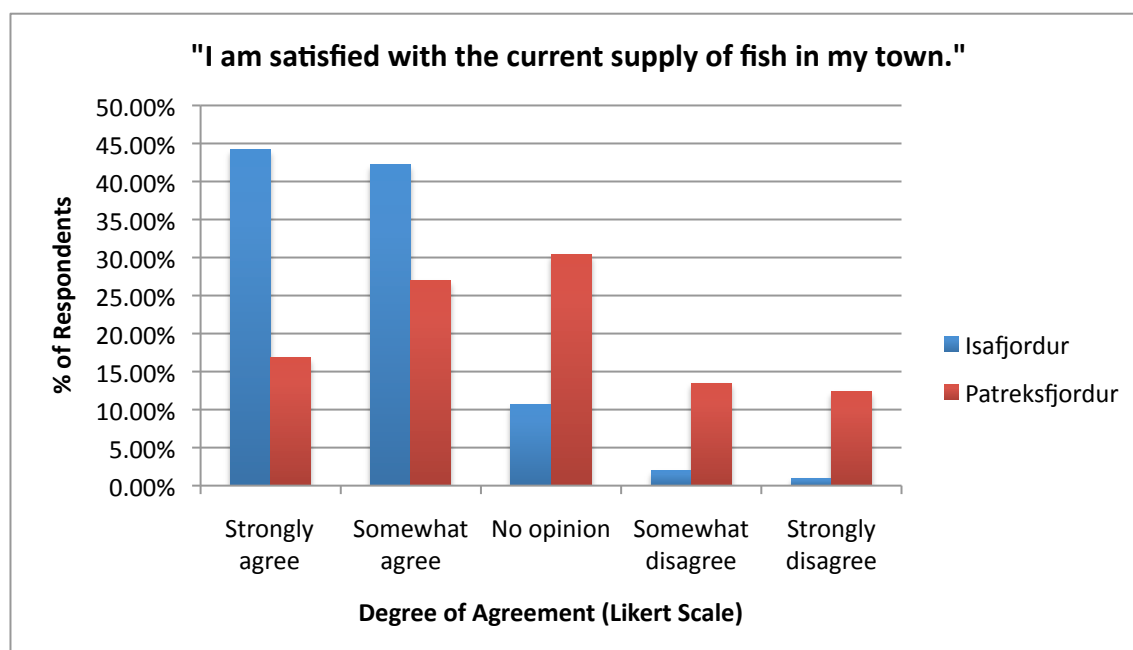


Figure 5-10: Satisfaction with consumer fish supply in Ísafjörður and Patreksfjörður

Freshness of fish

In terms of access to fresh fish, Ísafjörður participants were more likely to agree with the statement, “*Fresh fish is easy to access in my town*” ($p < 2.0E-10$), with 62.80% agreeing strongly with this statement, 29.47% agreeing somewhat, 6.28% holding no opinion, and only 1.45% disagreeing (disagreement disappeared altogether when residents of neighboring towns were excluded from the analysis). Opinions were more mixed among respondents in

Patreksfjörður, with only 38.20% agreeing strongly, 21.35% agreeing somewhat, 17.97% holding no opinion, 12.36% disagreeing somewhat, and 10.11% disagreeing strongly.

In addition to agreeing that fresh fish was easily accessible in Ísafjörður, the majority of Ísafjörður respondents displayed ambivalence in reaction to the statement, “*I would buy more fresh fish if it were available,*” with 52.24% holding no opinion on the subject. A further 10.45% agreed strongly with the statement, 19.90% agreed somewhat, 8.46% disagreeing somewhat and 8.96% disagreeing strongly. This ambivalence was significantly different from responses in Patreksfjörður ($p < 5.0E-05$), where a large majority agreed with the statement, with 44.19% agreeing strongly, 24.42% agreeing somewhat, and 26.74% expressing no opinion. Only 4.65% disagreed with the statement, with 3.49% disagreeing somewhat and 1.16% disagreeing strongly.

A similar difference between populations was found in responses to the statement, “*I wish that it were easier to access fresh fish in my town*” ($p < 5.0E-12$). In Ísafjörður, only 5.97% of respondents agreed strongly with this statement, and 10.95% agreed somewhat. More than a third disagreed, with 15.92% disagreeing somewhat and 19.40% disagreeing strongly. A plurality of 47.76% reported having no opinion. In Patreksfjörður, a majority of respondents agreed with the statement, with 38.37% agreeing strongly, and 15.12% agreeing somewhat. Strong disagreement was expressed by only 3.49%, while 4.65% said they disagreed somewhat, and 38.37 said they had no opinion.

Quality of fish

Responses to the statement “*High quality fish is easy to access in my town*” were also statistically different among samples ($p < 7.0E-06$), even though strong majorities in both towns agreed with the statement. In Ísafjörður, 61.17% agreed strongly, 29.13% agreed somewhat, 7.28% stated they had no opinion, and only 2.43% disagreed. In Patreksfjörður, there was somewhat more ambivalence and disagreement: 41.38% strongly agreed, 24.14% agreed somewhat, 22.99% said they had no opinion, 10.34% disagreed somewhat, and 1.15% disagreed strongly.

In similar fashion, a higher percentage of respondents in Ísafjörður agreed with the statement, “*I am satisfied with the quality of fish currently available to me in my town,*” though solid majorities agreed with the statement in both towns ($p < 5.0E-08$). In Ísafjörður, 54.37% agreed strongly with the statement, 35.92% agreed somewhat, 8.74% stated they had no opinion, and

only 0.97% disagreed. In Patreksfjörður, 32.18% agreed strongly, 26.44% agreed somewhat, 28.74% said they had no opinion, 9.20% disagreed somewhat, and 3.45% disagreed strongly.

Choice and variety of fish

Respondents in Patreksfjörður were much more likely to express dissatisfaction with the amount of choices they enjoyed in purchasing or otherwise obtaining fish ($p < 4.0E-10$). A large majority of participants in Patreksfjörður agreed with the statement, “*I wish I had more choices in the species of fish I consume,*” with 44.19% in strong agreement and 24.42% of respondents agreeing somewhat. Another 26.74% said they had no opinion on the matter, while only 4.65% disagreed. In Ísafjörður, slightly more than a third of respondents agreed with the statement, with 10.45% agreeing strongly and 19.90% agreeing somewhat. A 52.24% majority of respondents in Ísafjörður said they had no opinion, while 8.46% disagreed somewhat and 8.96% disagreed strongly.

6 Discussion: Currently Existing Local Networks for Fish in the Westfjords

The aim of researching the issue of consumer access to fish in the Westfjords was to answer the question: *In what ways are local networks for fish already in existence in Westfjords fishing communities, and what benefits could expanded retail access to locally-caught fresh fish bring to these communities?* On the surface, the survey results described in Chapter 5 suggest that a local—albeit largely non-commercial—network for fish is currently thriving in the Westfjords. Indeed, the majority of individuals in both Patreksfjörður and Ísafjörður consume locally-sourced fish, are conscious of the origins of their fish, are satisfied with their access to fresh, local, and high quality fish, and make strong conceptual linkages between fish consumption and local (i.e., regional), personal, and even national identity.

However, when we look beneath the surface and begin considering the questions of access, satisfaction, and awareness of product origins among different groups represented in the survey, a more nuanced and complicated picture begins to emerge. The most important factor determining access to fresh, local fish in Patreksfjörður, a town with no commercial outlet for local fish (e.g., a specialized fish shop) was whether an individual lived in the same household with someone who worked in the fishing industry. As we saw in the results for Patreksfjörður, a sizeable minority of the population lacking these connections had encountered problems in accessing the local fish networks. More than half had experienced difficulties in obtaining fish, more than a quarter expressed dissatisfaction with the supply of fish available to consumers, and more than one-fifth were unsatisfied with the quality of fish available to them. Those who had connections, on the other hand, were overwhelmingly satisfied with their access to fish, for which they reported very low monetary cost. Indeed, as we have seen, the typical respondent in Patreksfjörður spent nothing on her family's weekly fish consumption. The reasons for this divide lie primarily in the nature of the so-called "gift economy." (See Figure 6.1 on the following page to visualize interactions between the gift and traditional economies for fish.)

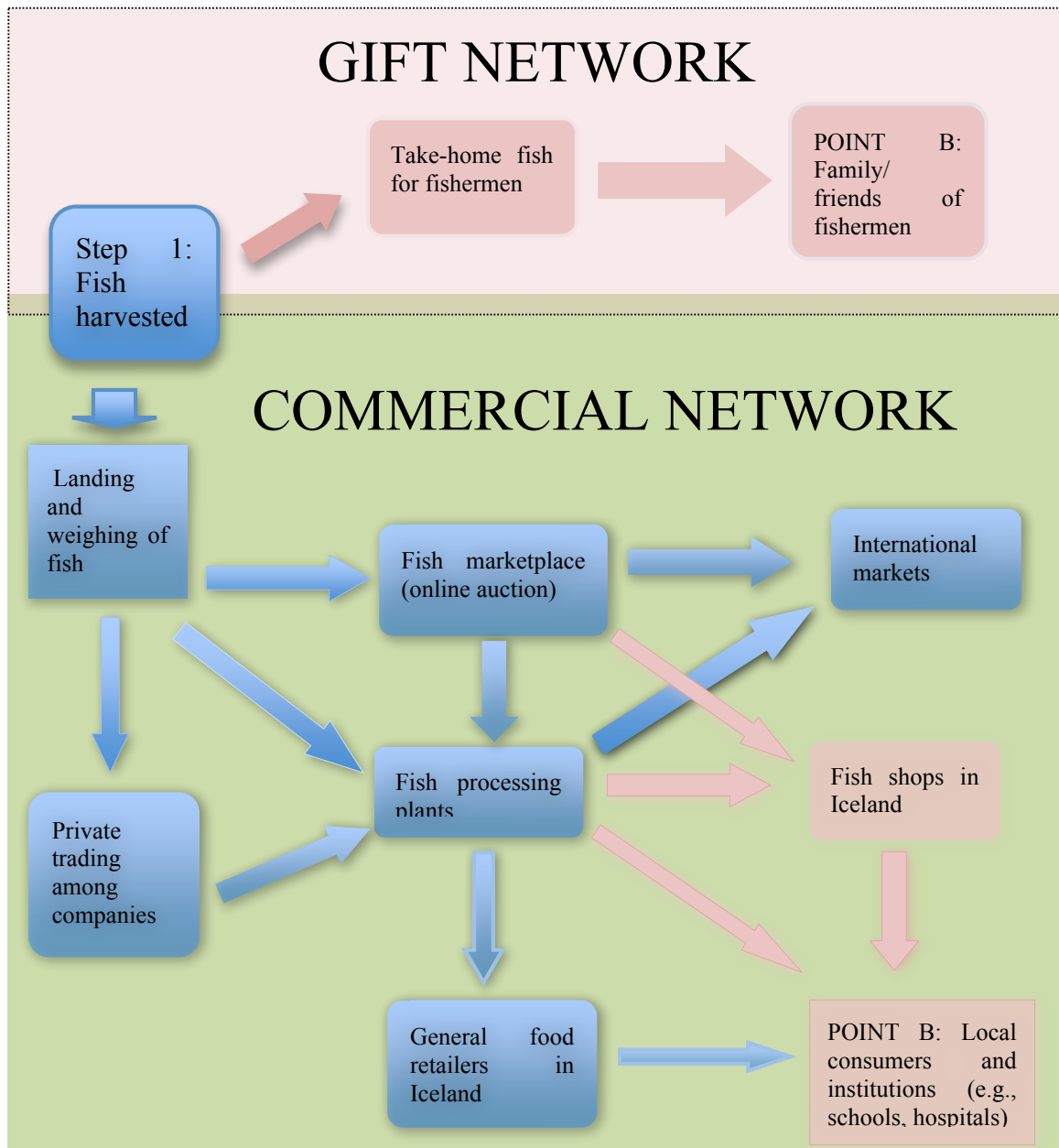


Figure 6-1: Delineation of the gift and commercial networks for fish resource access in the Westfjords. The pink boxes represent points of local access, while the blue boxes represent points in the globalized supply chain for fish.

Indeed, the most fascinating finding that emerges from the survey results is that there seem to be two networks—simultaneously operating and, for many people, overlapping—surrounding consumer-level access to fish in coastal towns in the Westfjords. The first network, that of the gift economy, operates only on the local level and is the main source of fish consumption in smaller towns of the Westfjords. The second network is the more common commercial market for fish, which in Iceland is built to compete on an

international scale, rather than supply a local or national populace. The only exception within this commercial network is the specialized fish shop, such as the one in Ísafjörður and a few other locations in Iceland outside the capital city. As we saw in Chapter 2, such a fish shop might generally attempt to operate on a local basis, using infrastructure developed for non-local commercial activity.

In the following sections, I will describe the nature of these two systems, their interactions, and how their existence is made clear in each of the case study towns from the survey results from the previous chapter. I will also theorize the benefits and weaknesses that exist in each and the role of small-scale retail outlets, such as a specialized local fish shop, in filling the gaps left by these weaknesses. In closing, I will offer options for expanding consumers' access to local fish resources and discuss the ways in which consumers' access to fish via the gift and local economies fit within the LFN discourses on re-localized food sovereignty and power.

6.1 The Nature of Fish Gift Networks in The Westfjords

The gift economy for fish is built upon generations of the binding ties of kinship, friendship, and affinity with the sea. Although I was sensitive to the existence of this network from initial stages of my research—the survey design was careful to phrase questions about “purchasing and/or *obtaining*” fish—I underestimated its importance until I was in the midst of data analysis. This network is highly important given the fact that over 70% of respondents in each case study town reported having received fish as gifts. Indeed, a quick cross-reference to historical analysis of Iceland suggests that the idea of a gift economy is deeply embedded within the historical context, as is the disregard and underestimation of it by historians and analysis. According to legal historian William Miller (1986; p. 18), gift exchange constituted such a basic part of the economy of medieval Iceland that “a discussion of the early Icelandic economy can no more ignore gift exchange and compensation awards than the price of *vaðmál* [a woolen clothe used in trading] in relation to silver.”

There are many similarities between common understandings of LFNs and the gift network operating in Westfjords towns. For example, in most circumstances, particularly when the

gift giver works as a fisherman, the fish involved is likely to be very fresh and in close proximity to the initial point of departure in the supply chain. As we saw in Chapter 3, this type of supply chain is what Renting, Marsden, and Banks (2003) would identify as the most direct along their supply chain continuum, requiring face-to-face contact between the producer and the consumer.

In addition, as established in Chapter 3, one of the most important features of the LFN is that it helps to embed the product with information about its origins and/or the production process. Although the fish exchanged within this system does not come with labels, the gift givers are likely to possess knowledge about its origins down to the exact fishing grounds, particularly if they are fishers themselves. They will likely possess knowledge regarding the quality of the fish and the catching method involved in harvesting, which they might make available to the receivers upon request. However, it is equally likely that, given the presumably closely-knit relationships between the parties of this gift exchange, information regarding quality might more often be taken on trust. This knowledge—whether implicit or explicit—is reflected in the survey results by the fact that respondents possessing connections to the fishing industry were more likely to say they knew the origins of the fish they consumed.

Of course, typical notions of producer and consumer fall short here, as the gift transactions taking place in the Westfjords are not part of normal commercial activity and are not accounted for in economic data. Rather, transactions within this network take place in private. Individuals doing the gift giving within this economy are, almost certainly, connected professionally to the fish industry and thus receive a certain amount of fish themselves at low cost or no cost at all. Indeed, they are likely to be attempting to help defray the high food costs for their family members and friends. One may speculate that the persons gifting the fish may be acting not only out of a sense of goodwill and responsibility for those within their circle of friends and family, but also with the expectation of reciprocity, though the gift might not be immediately “reimbursed.”

As the methodology of this thesis was not designed with the idea of the gift economy at the forefront, questions about elements such as “reimbursement” were not undertaken. However, we can begin to understand some of the motivations behind giving and receiving by looking to the literature. The French sociologist Marcel Mauss, whose theories form the

foundation of scholarship on the gift economy, stipulated in his 1924 classic *The Gift* that early exchange systems centered around the acts of giving, receiving, and, just as importantly, reciprocating. Mauss affirmed that the gifting and subsequent reciprocation might not deal exclusively in “things of economic value” but may also include, broadly speaking, “courtesies, entertainments, ritual, military assistance, women, children, dances, and feasts... the market is but one element and the circulation of wealth but one part of a wide and enduring contract” (Mauss, 1966, p. 3). Although many of these realms of exchange fall clearly outside the context of contemporary Icelandic society, the spirit of the idea remains largely the same. According to Mauss, gift exchanges occur in order to build not just wealth and alliances but social solidarity, with the gift intersecting often with all aspects of the society: politics, economics, law, and morality. The gifting of goods such as fish is just one small part of a larger exchange, in which daily acts of giving and receiving are part of a larger pattern—operating in the realm of social, rather than commercial, exchange—that plays out over lifetimes.

6.1.1 Manifestations of Gift Networks in the Westfjords

In many respects, it is surprising to find such a system in Iceland’s capitalistic and market-driven society. In contrast, Mauss’s theories were developed based on extensive secondary research of far different pre-capitalist societies in North America, Melanesia, and Papua. Mauss especially emphasized the distinction between “commodity relations” and “gift relations.” The former, found in capitalist-state societies involve individuals engaging in market transactions. The latter was found typically in pre-capitalist societies, often clan-based, and “[describes] the boundedness of people with others and things, created by the transfer of a possession” (Trias i Valls, 1999; n.p.).

However, relationships and associated forms of exchange appear just as important in modern Iceland as they were in the medieval period described earlier by legal historian William Miller, particularly in rural areas. A recent opinion piece appearing in the Icelandic media outlet *Visir*, by author Guðmundur Andri Thorsson, described the continued importance and value of relationships to all avenues of life in the country, stating: “Life in Iceland is about ‘being in a relationship,’ and thus is served by personal and informal networks that branch throughout society, invisible and indestructible. Things that would in other countries be thought to be within the realm of the private and public

markets are considered a favor in this country” (Thorsson, 2014).¹⁰ In fact, one of the main examples Thorsson gives to underscore his argument that informal trade relations and communications characterize Iceland’s domestic economy is that of fish gifts in coastal towns.

Thorsson’s main point is that these informal relationships developed in order to circumvent problems and weaknesses in a society defined in many ways by its small population and distance from centers of trade and commerce. The results of this thesis support the idea that gifts among these informal relations are especially important in smaller towns, away from larger commercial hubs. In Patreksfjörður, a small town centered entirely on fishing, the LFN is found almost solely within the gift economy. It is almost completely dependent on personal connections and the principles and sentiments that underlie such connections. Those who are distanced from fish and the sea are also distanced from one of very few locally sourced foods in the Westfjords. For the most part, it seems that in Patreksfjörður, the economy is so heavily dependent on fish and the population is so small that a large majority of people are integrated within this gift-giving network, which is closely linked to family ties. Ísafjörður is a larger town with more varied industry and employment opportunities. Prior to the opening of a specialized fish shop in 2011, a larger percentage of people would have likely been unable to consistently access the gift economy, the only local source of fish then available.

6.1.2 Strengths and Weaknesses of the Gift Network

The social nature of these local fish-gifting networks reflects great resilience but represents at the same time a source of inequality. In terms of resilience, author and self-proscribed “degrowth activist” Charles Eisenstein has argued ardently that the re-emergence of gift giving as a basis for the economy will lead to more sustainable and healthier societies. His 2011 book, *Sacred Economics*, criticizes the current monetary system and the abandonment of the gift economy in capitalist societies for having led to personal alienation, competition and need for an unsustainable economic system predicated on

¹⁰ The translation is my own. Original text: “Lífið á Íslandi snýst um að „vera í samböndum“ og afla sér þannig gæða með persónulegu og óformlegu tengslaneti sem kvíslast um gjörvallt samfélagið, ósýnilegt og óslítandi. Ýmislegt af því sem í öðrum löndum er talið eiga heima á almennum og opinberum markaði er hér á landi undir greiðasemi komið.”

unlimited growth. Eisenstein also attempts to highlight the changes that are already taking place in our economic system that could help to facilitate this re-emergence. In the example of fish gifting in the Westfjords, however, the networks are already firmly in place.

These networks are bringing certain benefits to those operating within them in the Westfjords. For one, the sense of social solidarity connected to fish resources—and potentially to the gift economy in which they are involved—is reflected to some extent in the results reported in Chapter 5. Respondents overwhelmingly associated fish consumption with regional identity as well as with personal and, to a slightly lesser extent, national identity. This suggests that fish consumption might be a factor that links individuals to the greater community and, by extension, to each other. More concrete benefits can be found in the fact that the receipt of a healthful, typically expensive dietary staple as a gift might significantly decrease household expenditures while significantly increasing health outcomes. The survey respondents who were closely linked to the fishing industry did indeed report lower expenditures on fish (most commonly spending nothing). Numerous nutrition studies have supported the many health benefits of fish, specifically the healthy fats found in fish (Kris-Etherton, Harris, & Appel, 2002; Jónsson et al., 2007) and have found that these nutritional benefits outweigh the risks involved with fish consumption (e.g., heavy metals, C.F. Mozaffarian & Rimm, 2008). The survey respondents were also well aware of these benefits, overwhelmingly citing health and related terms, such as “vitamins” and “fatty acids,” as reasons they felt fish consumption was important. In the absence of such gift networks, much benefit could be lost.

However, the social nature of the gift exchanges has many weaknesses as well, as it creates inequalities in fish access that could serve to weaken social ties between those involved in the fish exchange and those who are outsiders to this system. I have identified four main weaknesses of the fish gifting system as it currently exists in the Westfjords, based on survey results, conversations with local consumers, and outside literature.

First of all, as has been stated above, not everyone has access to the gift networks. The system as it currently exists is based very much on the bonds of certain individuals and families. In his essay in *Visir*, Guðmundur Thorsson describes the fish access options for those individuals who are not “in a relationship,” stating that in these cases, the only

fish on offer in many parts of the country is frozen fish from the main supermarket chain, “which certainly is ridiculous with the richest fishing grounds in Europe just offshore.”¹¹ The limited options iterated by Thorsson are reflected in the mechanisms for access that were more dominant among non-connected individuals in the survey, who obtained the majority of their fish frozen from either supermarkets or local fish factories. For these non-connected individuals, requesting fish from more casual acquaintances could feel burdensome, in particular because the legality of obtaining fish directly from fishermen is questionable under many circumstances. According to interviewees employed in fish factories, fishermen working for large companies are allowed to take home up to 20 kg of fish at the end of a fishing trip. However, if fishermen were to give fish away to anyone who asked, they might run afoul of the quota system and the Directorate of Fisheries.

A second weakness is that in a gift relationship, access to the gifted item can be inconsistent, and, in the absence of other sources, the receivers are dependent on the givers for their provision. This inconsistent access does not matter a great deal when the gift involved is, for example, a special or luxury item. However, it becomes more important when the item in question is considered a staple food and is as highly prized in the diet as fish in the Westfjords, where the typical person will consume fish at least once or twice a week. On the whole, very few individuals in either case study town relied solely on receiving fish via relationship ties. Many reported multiple sources that supplied fish at different intervals throughout the year, such that it is not uncommon to see families of fishermen occasionally obtaining fish through the available commercial outlets to obtain fish that cannot be sourced locally.

A third weakness lies in the fact that receiving can be a difficult act in itself, as it places the burden of adequate reciprocation on the recipient. For individuals who are not part of the fishing industry, the gift might seem more like a debt owed. Mauss described a powerful obligation of reciprocation on the part of the recipient, making it difficult for the recipient to fully enjoy the fruit of the gift without giving in return. This burden can in some cases act as a disguised form of domination, making gifts a source not only of pleasure but also of “poison” (Mauss, 1924, p. 28). It is possible that as Icelandic society

¹¹ The translation is my own. The original text reads: “Í fæstum fiskiplássum landsins eru fiskibúðir og eini fiskurinn sem á boðstólum er víða um land er frosinn fiskur úr Bónus, sem vissulega er hlálegt með gjöfulustu fiskimið Evrópu rétt utan við landsteinana.”

becomes increasingly urbanized and people move into relations that are more impersonal than in past times, misgivings about the nature of gift exchanges may multiply. Eisenstein (2011) argues that fears of reciprocation and indebtedness characterize the modern age of commerce, which stands separate from personal bonds, obligations, and responsibilities: “Gifts naturally create obligations, so, in the Age of Separation, people have become afraid to give and even more afraid to receive. We don’t want to receive gifts because we don’t want to be obligated to anyone.” This sentiment was reflected in some of my conversations with fish consumers in the case study towns. For example, one man in Patreksfjörður, a relatively recent transplant from the capital, said that he ate fish, primarily frozen fish from the supermarket, though he knew some fishermen in town who would likely give him fish if he asked. However, he said, “I am used to buying in a shop.”

The fourth weakness is that these networks are dependent on a large number of people working in the fisheries, as well as on families and close friends living in close proximity to each other. If this number decreases, then the access might as well. As the Westfjords continues to depopulate (see Chapter 2), with some family members—particularly younger ones—migrating away, the close ties of family that seem to provide the main context for the gift network might also break down, necessitating other access channels for fresh and/or local fish. To a large extent, the breakdown in the informal access channel has already occurred. In many of my informal interviews with residents in Patreksfjörður and Ísafjörður, I heard a similar refrain from interviewees when asked about changes to fish access: In the past, people could simply walk to the harbor and ask the fishermen there for fish. Now, people are more reluctant to do this; given the rising prices for fish and the strict limits placed on catch, this feels like, in the words of one fish factory worker, “taking money out of someone else’s pocket.”

While the gift exchange might work to strengthen social ties and solidarity within the groups of people involved—primarily those involved in or closely connected to the fishing industry—it might on the other hand weaken the sense of solidarity between those who are part of the gift exchanges and those who stand largely outside of them. In the next section, I will discuss the nature of the commercial networks for fish that can be found currently in the Westfjords.

6.2 Commercial Networks for Fish

The second network for fish operating in the Westfjords is the commercial network to which most people living in societies with developed and globalized economies have grown accustomed. This commercial network is for the most part not geared toward the local scale, with the only real example of a commercial LFN in the region being the specialized fish shop in Ísafjörður.

In this network, the recipients of goods are the customers, and the means of transaction are identical to those in any commercial transaction in the world—money. As we saw in the previous chapter of results, the individuals operating within this network are less likely to have close connections to the fish and the fishing industry. Within this network, purchases of fish take place primarily in shops and are made at high cost—typically the international market price for the species in question. We saw this monetary cost of fish reflected in the data from survey respondents who lacked connections to the fishing industry and tended to pay more on average for their fish consumption. The supply chain linking the harvesting and the consumption of the fish is also likely to be long—at times equally as long for fish that was landed next door as for fish landed hundreds of kilometers away.

Within this network, the origins of the fish may be domestically sourced, particularly if the fish is frozen and the transaction takes place in a food store that is not specialized in fish. However, these origins are likely to be somewhat unclear and are not likely to come from local sources. As we saw in Chapter 2, fish purchased in the supermarket is typically only marked with the name of the fish processing company, rather than any information regarding the origins of the fish. In addition, fish processing plants sometimes source fish from around the country or even from abroad (though the latter is not the case in the Westfjords). This tends to mystify attempts to determine origin.

This mystification was reflected in the results in that survey respondents who did not have close connections to the fishing industry did tend to display a higher ignorance of the fish they consumed. The primary means of obtaining fish that is embedded with information by commercial means is therefore in specialized fish shops, such as the one in Ísafjörður.

6.2.1 Manifestations of Local Commercial Fish Networks in the Westfjords

In Ísafjörður, following the opening of a specialized fish shop, the local network has consisted primarily of the gift economy and the shop, which serves as an intermediary sourcing and selling fish within the same geographical area. Returning to Renting, Marsden, and Banks' short food supply chain model (2003), described in Chapter 2, the most appropriate designation for this type of specialized food shop would be a supply chain defined by "spatial proximity" (see Chart 3.4.1 on Types of Short Food Supply Chain). As explained within the theoretical overview in Chapter 3, within this type of supply chain, products are produced and sold in the same general area, and the local boundaries delimited by geographic or temporal distance. Consumers understand the local origins of the product when the retail transaction is made. In other words, the fishermen are not engaging directly with consumers, but rather through a middleman who possesses information regarding about the fish products, including catching method and, in most cases, catching grounds. Though this middleman in the Icelandic context engages only rarely with the fishermen, purchasing the majority of products from an online fish auction, he will be aware—via the information provided during the fish auction—of the fishing boat that harvested the fish and the harvesting gears utilized.

The fish shop owner in Ísafjörður, Kári Jóhannsson, regularly tracks fishing boats using the website Marinetracker.com, which gives up-to-date information regarding the locations of all marine vessels. This monitoring allows Kári to know which vessels are on sea and, by extension, which fish species are likely to be coming to auction in the near future and the origins of those fish (i.e., fishing grounds). A lifelong history in the community of Ísafjörður and a deep understanding of the fishing industry and habits and routes of local fishing boats also help Kári to gain a comprehensive understanding of the origins and catching methods of the products he sells, which can then be conveyed to interested customers (Interview with Kári Jóhannsson, July 2013).

This fish shop fills many of the gaps left by the gift network for fish. It provides a consistent source of a variety of fresh fish species to individuals and local institutions (e.g., schools), which would otherwise not have the same level of access. These added benefits have made the shop popular among consumers, the most frequently chosen source for fish among survey respondents in Ísafjörður, with 56% of respondents saying they visited the

shop at least once a month, and 80% stating that they had purchased fish from the shop in the past, and 34% stating they acquired at least half of their total fish consumption from the shop. It is interesting to note that though patronage of the fish shop was undeniably higher for non-connected households—62% stated they went to the shop once a month or more—a sizeable 30% of fishermen households also visited the fish shop on at least a monthly basis. This suggests that the clientele for such a shop might indeed be quite broad, extending into the population that has more informal channels of fish access of which they could make use.

The specialized fish shop in Ísafjörður connects institutions as well as individuals to local fish sources, selling fish to local schools, the hospital, the retirement home, and various workplaces cafeterias as well as hotels and restaurants. The shop even sells to those fishing vessels that are targeting species that are not frequently consumed in Iceland or require processing on land (e.g., fish that will be used for fish oil). Kári Jóhannsson estimates that these sales comprise approximately 40% of the shop's total sales.

The provision of fish to schools might be particularly important when it comes to instilling fish consumption habits in future generations. In Chapter 2, it was seen that decreasing fish consumption, particularly among youths, has been the source of some debate in Icelandic food studies. Þórsdóttir et al. (2012) examined fish consumption among young people and found that social pressure, personal attitude towards fish consumption, and fish preparation and cooking skills all play a role in the amount of fish consumed by people ages 18-26. Consistent consumption of fish in school cafeterias could serve as a means of applying such “social pressure” as well as helping to develop positive attitudes toward fish consumption among young people. Such connections between local food providers and schools are found throughout North America in the form of “Farm-to-School” programs, and the Sitka Conservation Society in the U.S. state of Alaska has been an early pioneer of a “Fish-to-Schools” program. This program works to “[integrate] locally-caught seafood into the school lunch program, [introduce] stream to plate curricula, and [foster] a connection to the local fishing culture” (Sitka Conservation Society, 2014). In places where local fish networks have been developed (e.g., in the form of specialized fish shops), their relationships with institutions of learning could be enhanced through similar programs.

In places where no specialized fish shop exists, such as Patreksfjörður, there are several other options toward which individuals lacking special relationships can turn: the supermarket and fish processing factories. Supermarket options lie for the most part in frozen fish, which, as has been shown, is not necessarily of local origin and often has little traceability for local consumers. According to my observational research in Patreksfjörður and Ísafjörður, supermarkets offer one or more selections of fresh fish as well, though this fish is extremely limited in terms of species (either haddock or cod). With regard to the fish processing factory option, the factory manager in Patreksfjörður estimated in an information-gathering interview that approximately two to three people purchase fish from the factory daily, with about 40-50 such visits taking place per month. However, the survey results give reason to believe that people connected to the industry are more likely to exercise this option. Although nearly 20% of all respondents stated they acquired fish from factories on a weekly basis, the figure reduced to 10% for respondents lacking industry connections. This was roughly the same frequency of usage as was reported by respondents from fisherman households (12%). This suggests that most of the individuals making use of this option either work in the factory themselves or live with people who work in the factory.

Although it would seem that Patreksfjörður fish consumers could benefit from expanded commercial access to local fish, it seems unlikely that a fully-fledged specialized fish shop will open there anytime soon. Without exception, the Patreksfjörður residents with whom I held informal interviews voiced doubts that a fish shop could survive there given the town's size and the large costs involved in buying and selling in a high-value good such as fish. If a retail outlet for fresh fish were to open in Patreksfjörður, the primary customers would be the minority of the population that is not connected through employment to the fisheries, as approximately 70% of the survey respondents without such a connection indicated they would purchase at least half of their fish consumption in a fish shop. However, 26% of respondents from fisheries-connected households in Patreksfjörður also indicated that they would purchase the majority of their fish in a shop. In the data from Ísafjörður, there was no statistical difference between fisheries-connected and non-connected households in terms of how much of their total fish consumption was purchased in the fish shop, and more than 40% of respondents stated that they had increased their fish consumption after the fish shop opened in 2011. This could indicate that, were a fish shop

able to remain in operation in Patreksfjörður, and residents became habituated to the existence of a consistent source offering more than one or two species of fish, consumption habits might change even among individuals in fisher households.

Many residents in both Patreksfjörður and Ísafjörður recalled that some of the local fish factories used to operate fish shops to sell fish to the local populations. However, according to one fish factory worker, these shops closed following the changes to the fisheries management system, as they necessitated too much work for too little profit for the factories. Based on his experiences in running Ísafjörður's fish shop, Kári Jóhannsson believes that the necessary population size for a fully-fledged fish shop to remain in operation is a minimum of 1,000 people. And yet, it is clear from the example of Akureyri, a town in northern Iceland with nearly 18,000 people, in which a specialized fish shop only opened in 2013 after many years with none, that a minimum population is not the only requirement. In locations that are heavily reliant on the (declining) gift economy for sourcing locally caught fish and struggle to introduce commercially-based local fish networks, it might be worth exploring models that are motivated by goals of community, rather than solely profit-driven. The following section will discuss two possible models.

6.3 Reflections and Recommendations

The fish gifting networks in the Westfjords seem to constitute something rather precious and rare, helping people to partake in the wealth of resources that are just offshore and which are such an important part of their historical and cultural makeup. In this way, the networks serve society and deserve to be protected and perhaps enhanced. At the same time, the weaknesses in this network and the inequalities to which it contributes are troubling. Expanded commercial access to local fish would thus be beneficial. However, it seems that any purely-market driven and profit-oriented enterprises might meet with questionable outcomes, particularly in towns with populations with small populations. Developing a small business in high-priced goods in a small market is a risky move for any one entrepreneurial individual or family to make.

Thus, I propose below two community-based options, both of which have been tried in different forms (and based around different types of goods) in Iceland. In considering these options, one must keep in mind Iceland's strict system of fisheries management, which

requires that all catch be weighed in and that all commercial transactions subsequent to weighing take place at the national Fish Market via online auction (C.F. Chapter 2). Such a system precludes the development of certain mechanisms for local fish network development that have emerged in other parts of the world, e.g., the “straight-from-the-boat” schemes that emphasize direct transactions between fishermen and consumers. In Iceland, commercial fish transactions require a middleman of some sort; the potential models described below emphasize middlemen that prioritize community interests in securing consumer access to local, fresh fish:

Fish cooperatives. Food cooperatives (or food co-ops) have emerged throughout the world in order to increase community control over food resources. They often follow principles that prioritize natural foods, organic production, and community development. In these consumers’ cooperatives, members make all decisions regarding the sourcing, production, and distribution of food (“The food cooperative,” 2005). These co-ops are typically nonprofit organizations. Membership dues are common, although in many food co-ops these dues are not strictly necessary for customers, and paying members receive perks such as discounts and inclusion in special events. Co-op members alternate responsibility for the various tasks involved in running the co-op. It is common to find some co-op members volunteering time, though the core staff members are paid in wages.

In the Icelandic context, a fish cooperative could involve a physical location, operating as a fish shop, and/or a subscription system (see below), depending on the funding and location of the co-op. Although the products involved are quite different, one Icelandic model for this type of cooperative could be knitting associations specialized in selling local knitted products. Such associations are already in existence in towns in the Westfjords and throughout Iceland. In at least one example in the Westfjords, a knitting cooperative was developed to counteract some of the economic consequences resulting from the changes to Iceland’s fisheries management system (see Skaptadóttir, 2000).

Fish subscriptions. These are already in use in some communities in Iceland, particularly in the Reykjavík capital area. The idea is similar to that of a Community Supported Fisheries (CSF) model or box scheme, in that customers order a “subscription” for fish from the retailer. In North America, CSFs are typically premised on a variety of principles and ideals (e.g., providing a source of fresh and local seafood, forging ties between fishers

and the non-fishing populations of coastal communities, supporting healthy marine ecosystems, etc., C.F. Chapter 3). The fish subscription model that has developed in Iceland seems to differ in that there is one main goal involved—to deliver fresh fish to individuals who might otherwise not be able to access it. This model has been attempted outside of Reykjavik as well, most notably in Hornafjörður in southeastern Iceland, where the largest town, Höfn, has a population of 1,698 people (Statistics Iceland, 2014). That particular fish subscription system was begun by a local couple, who source the fish from the fish market via online auction and deliver the orders to subscribers (“Fiskur í áskrift,” 2013). This type of scheme could be run by community organizations designed for such a purpose, in which members would work together to source fish for subscribed individuals. Fish subscriptions have not yet been tried in the Westfjords.

Either of these options could be tried in isolation; they could also be combined by groups of invested community members or organizations. Although in most locations such ventures would be difficult to run as profit-driven businesses, it is conceivable that they could work if operated as community-driven organizations seeking to enhance the public good through joint effort.

6.4 Methodological Issues and Avenues of Future Research

This research was under various constraints, the most impactful among which were likely to be my previous lack of experience in carrying out quantitative survey research and limited Icelandic language abilities. I was able to work around the latter limitation, and several lessons learned from this field research experience could be useful to both myself and other future researchers dealing with similar populations and issues.

For example, certain aspects of the thesis design appeared to be unclear for the oldest age groups surveyed. Participants over 66 years in age, in particular, seemed to have difficulty in understanding the Likert scale, often placing a mark next to a statement if they agreed with it, seemingly treating these questions as “yes/no” questions. Although more complex survey design helped in developing a nuanced picture of fish consumption and resource access, a simpler design (e.g., a three-scaled response spectrum of “agree,” “disagree,” and “no opinion”) might generate clearer responses overall.

Secondly, in any future research on fish consumption/spending or the fish gift economy, it would be useful to place questions about gifts at the very beginning of the questionnaire, as the initial questions about expenditures on fish seemed to confuse some of the respondents who rarely paid for fish. This confusion occurred even though the first optional answer to the question on weekly expenditures was “Nothing.” With a couple of participants, this might have particularly affected the way in which they responded to a question regarding sources of fish (“Please state how often, on average, you purchase / obtain fish for your personal consumption from the following places.”), as they either neglected to fill out the subsequent chart or responded that they obtained fish from none of those places, perhaps erroneously assuming that each option pertained to a commercial outlet and neglecting to read through the list of possibilities. These individuals’ answers to the next question, however, were able to provide more accurate data (“Do you receive fish as gifts from family and friends?”). If I had realized the importance of the gift economy in the survey design stage, I would have placed much more emphasis on the question of fish gifts.

Taking into account these shortcomings, there are two avenues of future research that would be most helpful in building upon the present study. Firstly, the gift economy for fish would be extremely interesting from sociological/anthropological and economics perspectives. Interesting questions could be posed regarding: the ways that people give fish gifts, the ways that recipients might reciprocate, whether/how this gifting has changed over the years, how the practice links to social cohesion and solidarity, whether it causes divisions in society, etc.

Another approach would be to study the monetary value of this economy. The data provided by the consumer surveys used in this study could be used to approximate this value, particularly given the fact that the data regarding fish consumption and fish gifting habits were consistent in both case study towns, despite the somewhat different demographics represented in both. From the survey data, one can see that there is an average of three people in each household and an average fish consumption of two meals per week. If it is assumed that the average per person serving is 250 grams, then it can be calculated that the average household consumes approximately 1.5 kg of fish per week, or 6 kg per month. Although survey data shows that approximately 70% of households receive fish gifts on average once per month, it is yet unknown how much these households obtain with each gifting. This statistic would be key to discovering the

economic value of the gift economy in the Westfjords and in communities throughout Iceland.

In terms of developing commercial fish vendors, it would be useful to have a consumer study of customers in specialized fish shops in Iceland. Such a study could investigate their motivations, views on local/environmentally sustainable/quality, and how these views inform their consumer behaviors. It would be particularly interesting to compare the motivations of fish shop customers in the Reykjavik area with those who reside in less populated coastal areas. Another useful approach would be a survey of fish suppliers in both specialized fish shops and general stores around the country, to investigate the challenges these vendors face in supplying local and fresh fish.

For the purposes of building and expanding LFNs for fish in Iceland's coastal communities, the most useful approach to research might be pilot testing and reporting on results. This could be done with any of the options recommended in the previous section (or with many other options as yet unconsidered).

6.5 Conclusions

In developing the methodology to this thesis, I aimed to discover the ways in which local networks for fish were already in existence in Westfjords communities and what possible benefits, if any, could result from their expansion. The previous sections of this chapter have addressed the current forms taken by LFNs for fish in the Westfjords. They have outlined the ways in which the gift economy for fish intersects with the globalized commercial economy and described the role of the specialized local fish shop in serving consumers whose needs are not currently met by any other system. Those sections also suggested several possible means for small communities, particularly those whose populations do not exceed 1,000 residents, to expand commercial networks for local fish without being overly reliant on changes to government policy or profit-driven small-scale entrepreneurship. Possibilities such as fish cooperatives were discussed. In the following sections, I will reiterate the hypotheses driving this thesis research, the levels of support for these hypotheses borne out by the study's results. I will conclude with a discussion of the Westfjords' local fish networks within a political ecology framework, focusing on the LFN as a tool for enhancing power for vulnerable communities.

6.5.1 Discussion of the Driving Hypotheses

The survey design, in particular, was built around a series of hypotheses developed in the course of information-gathering conversations with local residents. These hypotheses were: 1) That age could be a determining factor in the fish consumption habits and attitudes of Westfjords residents, particularly their sense of identification with fish consumption; 2) That individuals' household connections to the seafood industry and the amount of time they have resided in one place might be determining factors in their ability to access to local, fresh, and high quality fish; and 3) That the presence of a specialized outlet for fish sales to the local populace would increase consumers' satisfaction with their access to fresh, high-quality, and locally-caught fish, and that such an outlet could also have an effect on consumers' fish consumption habits.

Almost all of these hypotheses were supported by the survey data. Age did have significant impacts on participants' fish consumption habits and views, though this impact was more visible in the larger and less fisheries-dependent town of Ísafjörður. Older participants in Patreksfjörður did report higher levels of fish consumption and were more likely to be aware of the origins of the fish they consumed than were younger participants. Older respondents in Ísafjörður also paid more attention to quality in making fish purchases and were more likely to assert that eating fish is important than younger participants. Older residents in Patreksfjörður also expressed more dissatisfaction with their access to fresh fish. This suggests that either their access is poorer than that of younger residents (a possibility, given that the older age group is likely to have included more retirees who may be cut off from fisheries employment) or that older residents might place more value on the freshness of the fish they consume. In terms of identity, age had little statistical impact on participants' sense of self-identification with fish consumption in Patreksfjörður. All age groups in Patreksfjörður largely defined fish consumption as a part of personal and Westfjords cultural identity, though the younger age group was more hesitant to link fish consumption with a larger Icelandic identity. In Ísafjörður, age had more of an effect. All age groups agreed that fish consumption was a part of the Westfjords regional identity, but younger participants hesitated on the whole to link fish consumption with national or self-identity.

The second hypothesis was only partially supported by the data. The single most important factor influencing participants' fish consumption habits and satisfaction with access was

whether their households included individuals employed in the fish industry. Participants without household connections in Patreksfjörður were less likely to be satisfied with their access to both fresh and high-quality fish. This group had also encountered more difficulties with the availability of fish and was more likely to welcome the idea of a specialized fish shop in town. On the other hand, length of residency had little effect when it came to fish consumption habits or satisfaction in either town. One difference observed between longer-term and newer residents (with the rather lengthy period of more than 20 years being the benchmark for “longterm residency”) was that newer residents were less likely to report receiving fish gifts. If the survey had been designed to elicit more information regarding the fish gift economy, length of residency might have been seen to have more of an effect.

Lastly, it is clear from the comparison of the two case study towns that the existence of the fish shop has had a positive effect on people’s satisfaction with their access to fresh and high-quality fish. Although the majority of respondents in both towns expressed satisfaction with their access to both, a minority of between 25-30% of participants in Patreksfjörður—mostly those unconnected to the fisheries—displayed considerable dissatisfaction with their access. This can be contrasted to Isafjordur, where satisfaction was high among all groups. Moreover, based on the answers to the questions posed to participants regarding changes to consumer access in the last 20 years, it is clear that satisfaction with fresh fish access is relatively new, dating to the opening of the fish shop. Indeed, nearly all respondents who asserted that consumers’ fish access had changed for the better attributed this change to the opening of the fish shop (C.F. Section 5.2.10).

On a final note regarding hypotheses, one underlying hypothesis that was made prior to even the thesis design stage was that coastal residents in the Westfjords would place value on the consumption of local fish. The results support this idea, particularly the finding that substantial majorities in both towns are at least willing to consider paying higher prices—generally 5-10% more—for fish that has been caught locally. The results also showed rather vehement opposition in both towns to the consumption of imported fish, though there is, of course, a big difference between “preferring local” and “preferring Icelandic.”

6.5.2 Issues of Power in Local Fish Consumption

This thesis has sought to place its discussion of fish consumption within the larger framework of political ecology. In particular, it has aimed to provide future researchers and LFN advocates in Iceland with what Paul Robbins termed the “hatchet” and the “seed” of political ecology theory. While the “hatchet” attempts to deconstruct powerfully loaded, politically-motivated arguments favoring very specific paths of environmental management that tend to cater to social and economic elites, the “seed” must provide possible alternative avenues of resource management and community development. Thus, in the form of the hatchet, this study has explored the ways in which the structures developed to serve Iceland’s fishing industry—particularly the country’s fisheries management policies—have affected consumer-level access to local fish resources in the Westfjords. In the form of the seed, it has sought to offer possible avenues to take in expanding commercial access to local fish resources. It has emphasized in particular more community-based initiatives that are not reliant on governmental policy changes or even necessarily on external funding.

This thesis has shown the ways in which limited consumer access to local fish resources in coastal communities is linked to management policies and structures, which have themselves been driven by the ideological arguments of globalization and neoliberal capitalism (see Árnason, 2008, for an example of this rhetoric). In Chapter 2, it was seen that Iceland’s fisheries management policies were developed with the primary aim of maximizing the industry’s profitability. The sustainability of fish stocks were an important afterthought, but the ITQ system’s effectiveness in ensuring sustainability is not without question (see Pálsson, 1998). Chapter 2 highlighted the strangeness of policies designed for economies of scale in a country with a population the size of Iceland’s (C.F. Section 2.3.4). It also underscored the difficulties facing local governments and communities, which have found few options available to them in safeguarding local interests, particularly in terms of maintaining local employment in the fisheries. At the consumer level, as was seen in Section 5.1.10, the number one reason cited by survey respondents in Patreksfjörður for the increasing difficulty of consumers in accessing fresh and local fish was the implementation of the ITQ system and associated issues (e.g., the strict regulations on fish purchases at the fish market).

Robbins (2004) discusses the power that these economics-driven narratives exert over environmental management, stating that political ecology discourses aim above all to “expose flaws in dominant approaches to the environment favored by the corporate, state, and institutional authorities, working to demonstrate the undesirable impacts of policies and market conditions, especially from the point of view of local people, marginal groups, and vulnerable populations” (p. 12). Indeed, profit maximization and economic efficiency are currently the universally-accepted supreme objectives in Icelandic fisheries, and fishing enterprises have mostly geared all operations to these goals. In the process, however, the interests of local communities have been overlooked, even in terms of residents’ ability to consume the resources abundant in the waters just off-shore.

The fact that all catch must be purchased in large amounts via online fish auction is perhaps the largest factor inhibiting local access to fish resources and was mentioned by all interviewees as they explained the local difficulties in accessing fish. Not only are auction buyers required to possess an auction account and to submit substantial amount of paperwork, but only a large entity would be able to purchase the large amounts of fish (often weighing hundreds of kilograms) sold at auction and would possess enough cash on hand to pay for it. The fish market and the monitoring system in Icelandic fisheries management were designed based on specific catch-limiting and profit maximizing goals, and it is clear from the existing literature that efforts to sustain coastal communities have been mounted as tacked-on afterthoughts (e.g., summertime coastal fisheries, C.F. Chapter 2) to limit opposition to the dominant economics-driven fisheries narratives.

The review of literature on LFNs in Chapter 3 touched on issues of power in LFN development, specifically referencing the motivations of many LFN advocates to increase the power of local and vulnerable populations over food supply. LFN discourses are divided in many ways between those who view LFN development as a potential benefit to contemporary consumer society and those who view LFNs as a necessary challenge to that consumer society and a form of resistance against neoliberal and globalist hegemony (Harris, 2009). In many Westfjords communities, the gift economy for fish has served as a means to alleviate some of the more devastating effects of fisheries management policies on local populations. The practice of fish gifting does not seem to have developed as a means of resistance against the current fisheries management system—from the accounts of interviewees reminiscing over going to the harbor to obtain fish in the “old days,” fish

gifting seems to predate the ITQ system considerably. However, it has certainly served as a form of circumvention and means of retaining a measure of local and personal power over the food supply through the utilization of traditional access channels for fish. Although the issue of fish in Iceland has always been politically charged, LFN advocates, particularly in sparsely populated, demographically vulnerable areas who seek enhanced community control over food supply as well as expanded consumer choice, would do well to look to these sensitive issues of consumer fish access as a springboard. However, to most effectively serve any community-building objectives and maximize their chances for success, these advocates should consider placing the brunt of their efforts on *community-driven, cooperatively-developed projects* that emphasize quality of life for all residents, rather than solely on market-driven initiatives that need to rely on profit motives.

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Appendix A: Likert Scale Results, Patreksfjörður

Table 4: Patreksfjörður residents' level of agreement with statements regarding access to fresh and high quality fish, as well as satisfaction with their degree of access					
	Levels of Agreement (% of respondents)				
Statement	Strong-ly Agree	Somewhat Agree	Neither Agree Nor Disagree	Some-what Disagree	Strongly Disagree
I think about quality when I buy fish. (n=87)	85.1	11.5	3.5	0	0
I would like to eat more fish. (n=88)	46.6	34.1	15.9	2.3	1.1
Fresh fish is easy to access in Patreksfjörður. (n=89)	38.2	21.4	18.0	12.4	10.1
High quality fish is easy to access in Patreksfjörður. (n=87)	41.4	24.1	23.0	10.3	1.2
Fish consumption is part of the self-identity of those who live in the Westfjords. (n=90)	41.1	27.8	26.7	3.3	1.1
I would like to increase the variety of fish in my diet. (n=88)	43.2	35.2	18.2	1.1	2.3
I would buy more fresh fish if it were available. (n=86)	36.1	22.1	31.4	4.7	5.8
I would buy more fresh fish if it were less expensive. (n=86)	41.9	23.3	29.1	3.5	2.3

I wish I had more choices in the species of fish I consume. (n=86)	44.2	24.4	26.7	3.5	1.2
Fish consumption is part of Icelandic self-identity for people in my age group. (n=90)	24.4	27.8	37.8	6.7	3.3
I am satisfied with the current supply of fish in Patreksfjörður. (n=89)	16.9	27.0	30.3	13.5	12.4
I am satisfied with the quality of fish currently available to me in Patreksfjörður. (n=87)	32.2	26.4	28.7	9.2	3.5
Fish consumption is part of my identity. (n=89)	29.2	25.8	32.6	6.7	5.6
I wish that it were easier to access fresh fish in Patreksfjörður. (n=86)	38.4	15.1	38.4	4.7	3.5

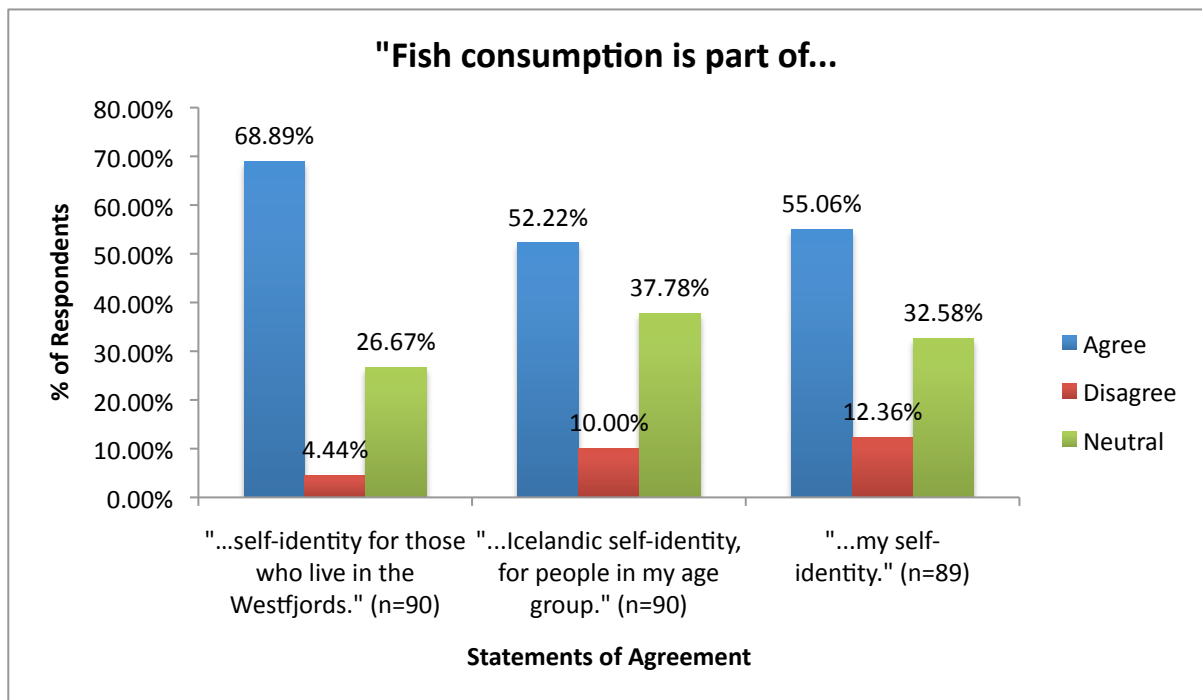


Figure 0-1: Patreksfjörður respondents' reporting of conceptual linkages between fish consumption and identity

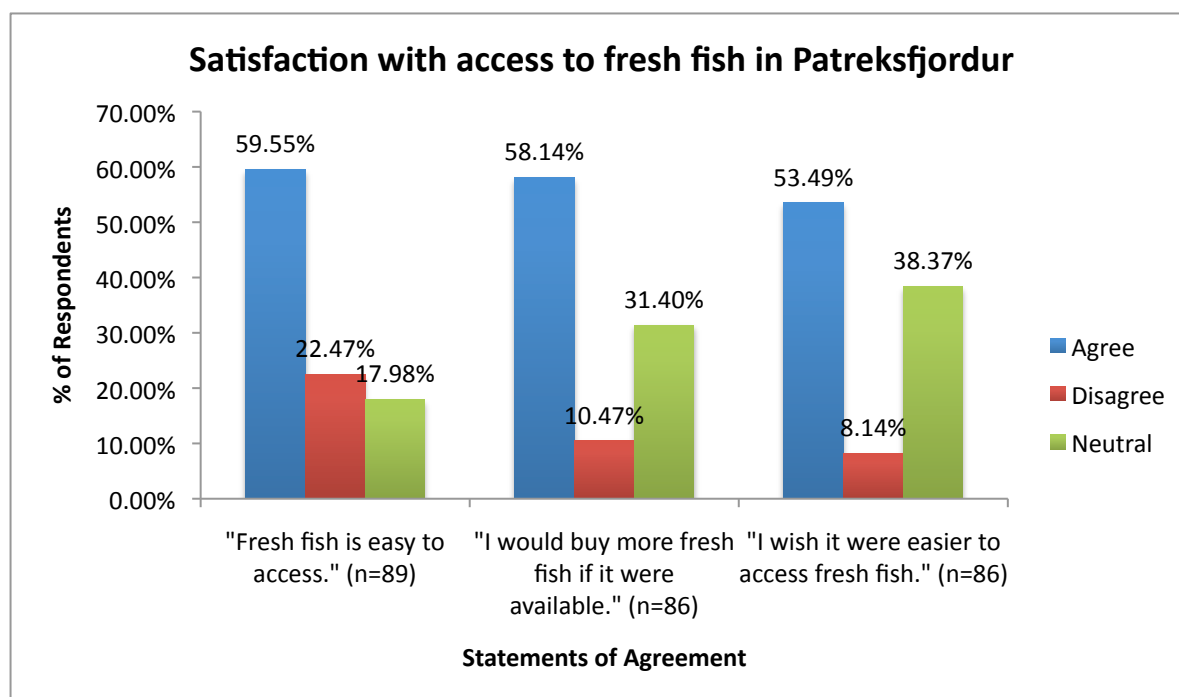


Figure 0-2: Agreement with statements related to satisfaction with access to fresh fish among respondents in Patreksfjörður

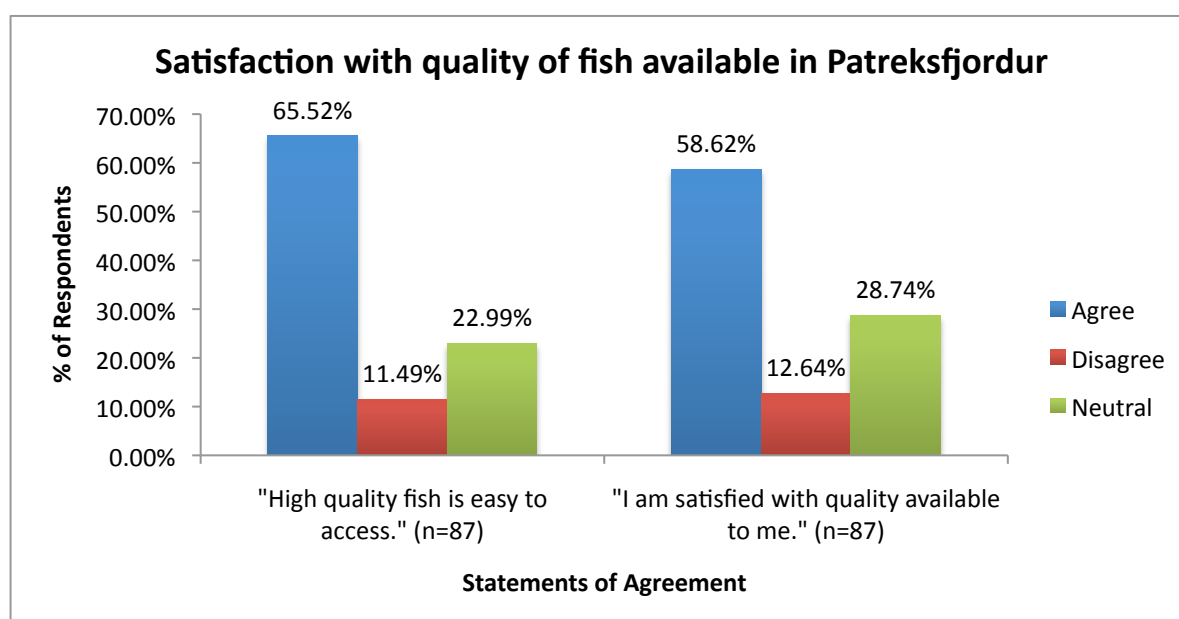


Figure 0-3: Respondents' agreement with statements related to satisfaction with quality of fish available in Patreksfjörður

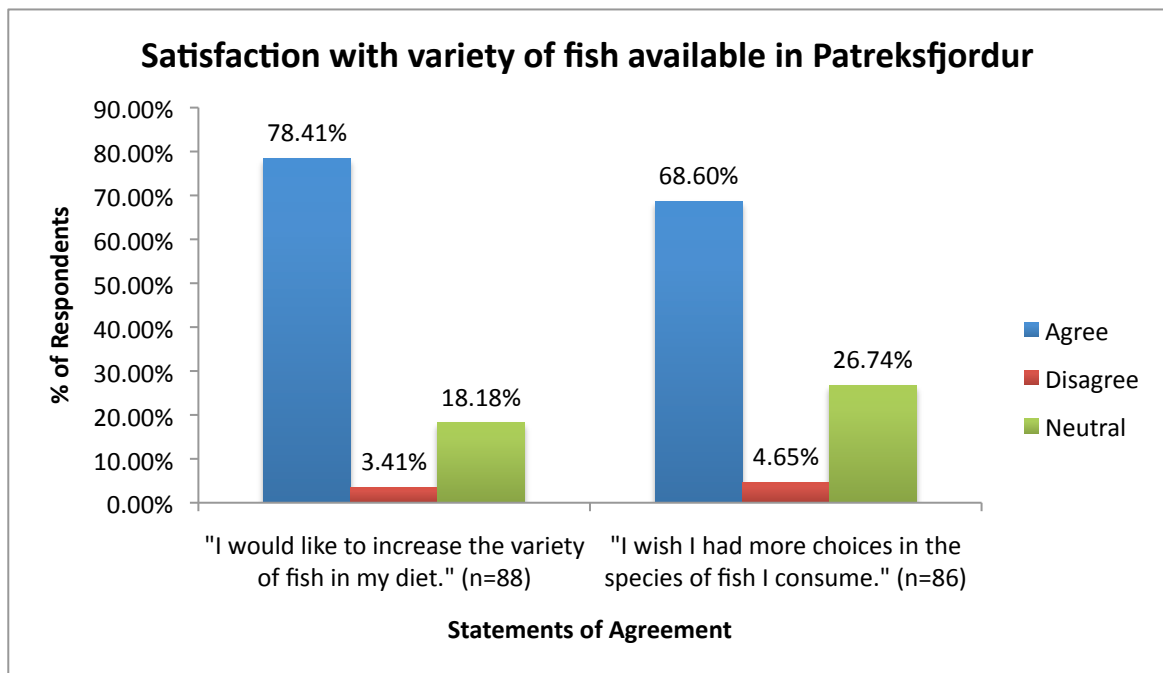


Figure 0-4: Respondents' agreement with statements related to satisfaction with variety of fish available to them in Patreksfjörður

Appendix B: Likert Scale Results, Ísafjörður

Table 5: Ísafjörður residents' level of agreement with statements regarding access to fresh and high quality fish, as well as satisfaction with their degree of access					
	Levels of Agreement (% of respondents)				
Statement	Strongly Agree	Some-what Agree	Neither Agree Nor Disagree	Some-what Disagree	Strongly Dis-agree
I think about quality when I buy fish. (n=204)	78.9	17.2	2.9	0.5	0.5
I would like to eat more fish. (n=203)	48.3	29.6	17.2	4.0	1.0
Fresh fish is easy to access in my town. (n=207)	62.8	29.5	6.3	1.0	0.5
High quality fish is easy to access in my town. (n=206)	61.2	29.1	7.3	1.5	1.0
Fish consumption is part of the self-identity of those who live in the Westfjords. (n=207)	41.1	30.0	26.6	2.4	0
I would like to increase the variety of fish in my diet. (n=202)	37.6	34.2	23.8	3.5	1.0
I would buy more fresh fish if it were available. (n=198)	13.6	15.2	57.6	5.1	8.6
I would buy more fresh fish if it were less expensive. (n=201)	45.3	22.4	21.4	3.0	8.0

I wish I had more choices in the species of fish I consume. (n=201)	10.5	19.9	52.2	8.5	9.0
Fish consumption is part of Icelandic self-identity for people in my age group. (n=205)	20.0	28.8	35.6	13.7	2.0
I am satisfied with the current supply of fish in my town. (n=206)	44.2	4.2	10.7	1.9	1.0
I am satisfied with the quality of fish currently available to me in my town. (n=206)	54.4	35.9	8.7	0	1.0
Fish consumption is part of my identity. (n=206)	30.1	21.8	35.9	8.3	3.9
I wish that it were easier to access fresh fish in my town. (n=201)	6.0	11.0	47.8	15.9	19.4

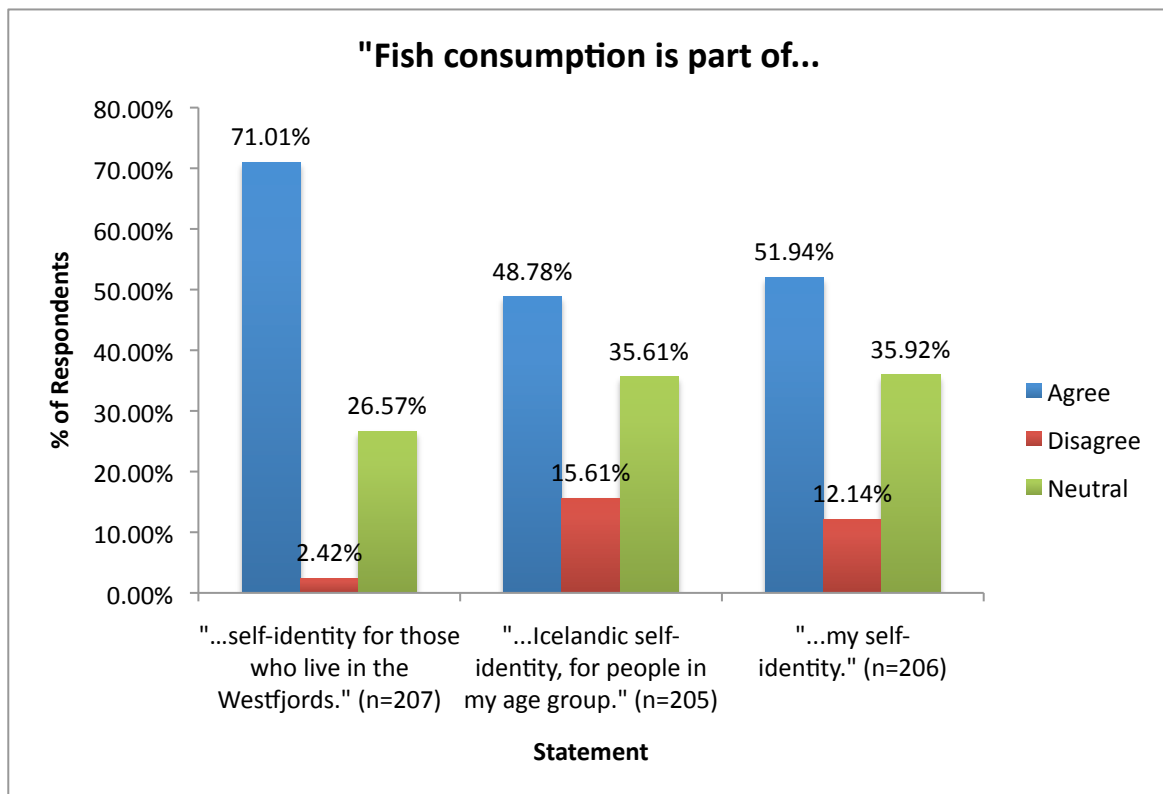


Figure 0-1: Ísafjörður respondents' agreement with statements related to connections between fish consumption and identity

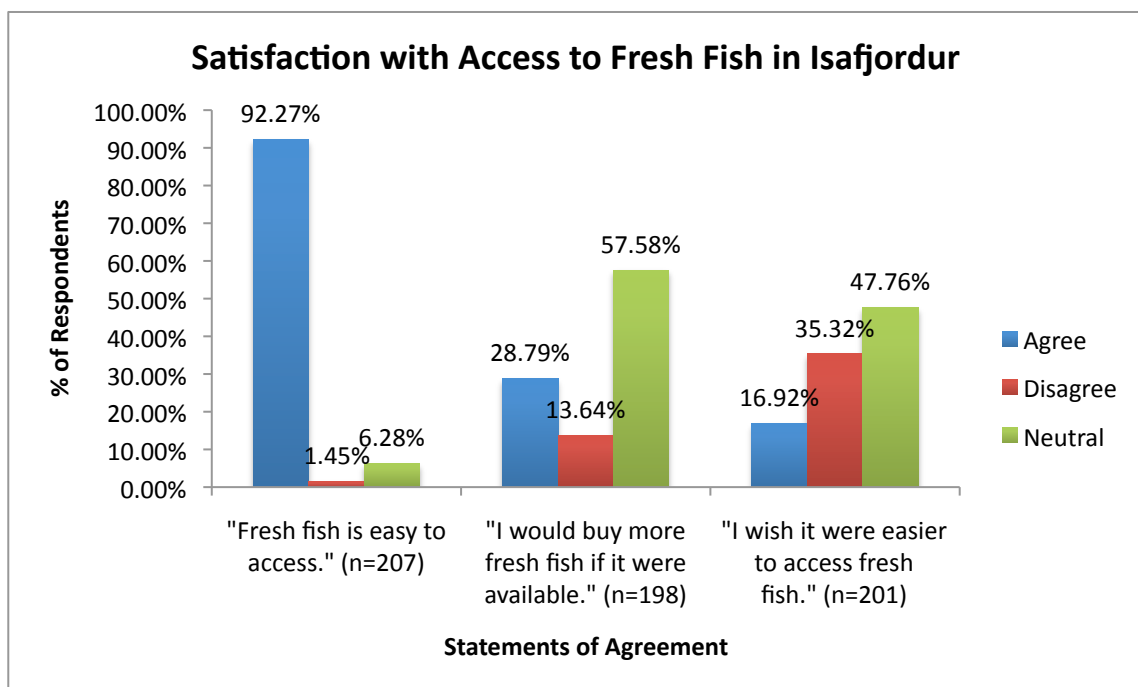


Figure 0-2: Respondents' agreement with statements related to satisfaction with their access to fresh fish in Ísafjörður

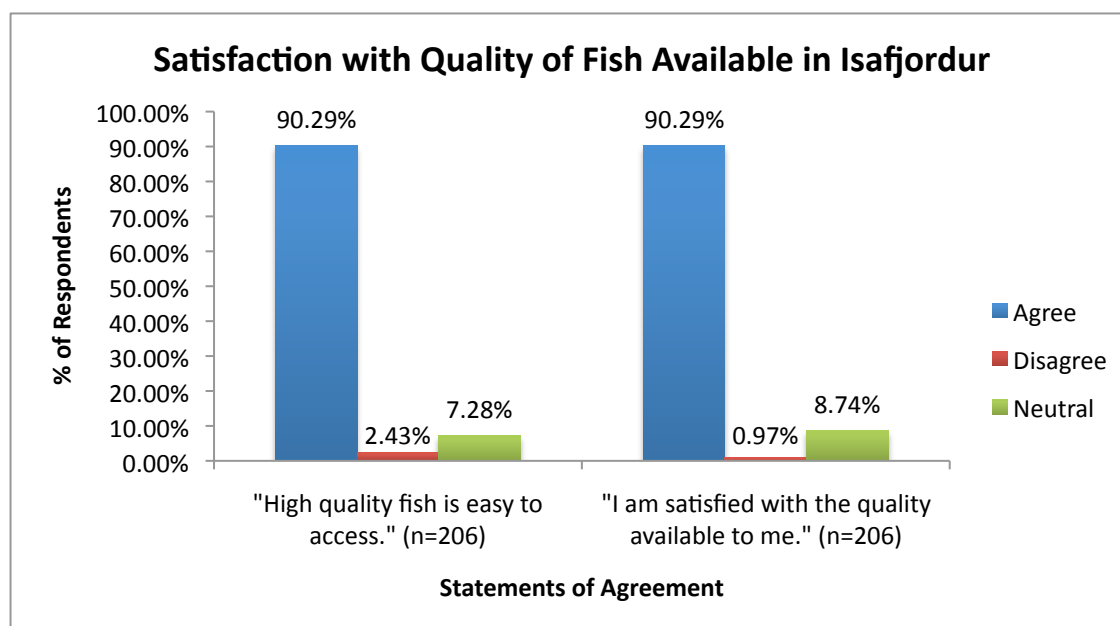


Figure 0-3: Respondents' agreement with statements related to the quality of fish available to them in Ísafjörður

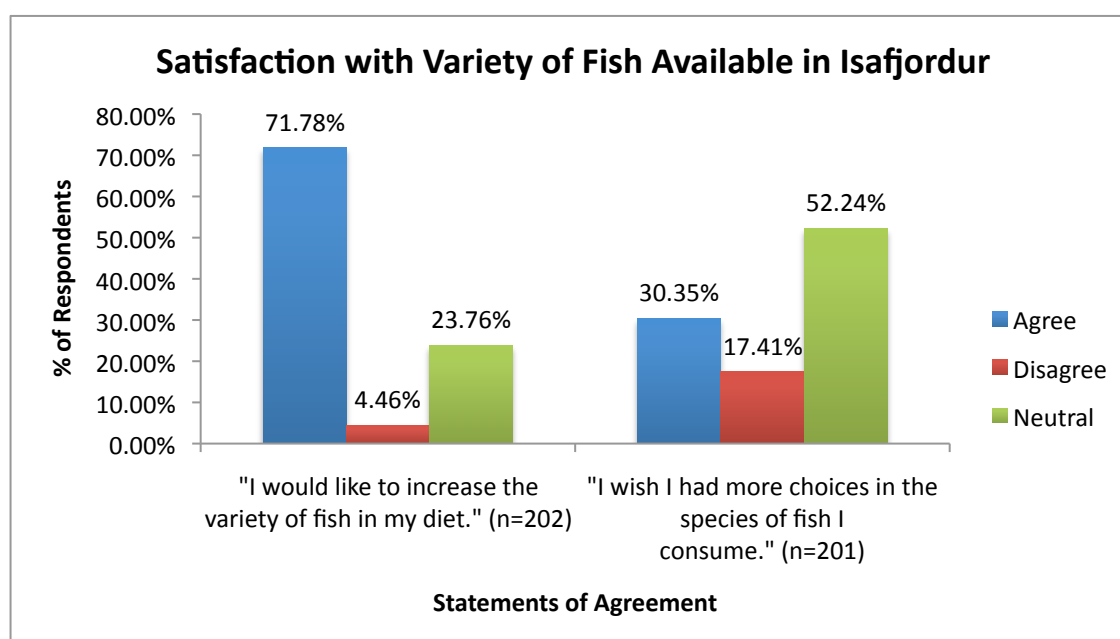


Figure 0-4: Respondents' agreement with statements related to satisfaction with variety of fish available to them in Ísafjörður

Appendix C: Ísafjörður Fish Consumption Survey (English)

Survey of fish consumption in the Westfjords

This survey is part of a master's project from the University Centre of the Westfjords exploring fish consumption habits in the Westfjords. The survey will take approximately 10 minutes to complete. Your participation is voluntary and highly appreciated. Your responses are confidential. If you have any questions about the research, please contact the researcher, Jennifer Smith, at 841-9427 or at jennifer12@uwestfjords.is. Thank you for your participation!

1. How often do you eat fish on average?

- ☐ A. Never, or less than once per month ☐ D. 3-4 days a week
- ☐ B. 1-3 days a month ☐ E. 5 times or more a week
- ☐ C. 1-2 days a week

2. How much money do you spend on fish each week, on average?

- ☐ A. None (0 kr.) ☐ D. 4.001-6.000 kr.
- ☐ B. 0.01 – 2.000 kr. ☐ E. 6.001 kr. eða meira
- ☐ C. 2.001 – 4.000 kr.

3. How often do you eat the following fish species? (Mark with X)

	5 or more times a week	3-4 per week	1-2 per week	1-3 per month	1-2 per year	Never
a. Cod						
b. Wolf fish/cat fish						
c. Halibut						
d. Haddock						

e. Arctic Charr						
f. Pollock						
g. Salmon						
h. Plaice						
i. Tuna						
j. Shrimp						
k. Sardines						
l. Shark						
m. Skate						
n. Red fish						
o. Lumpsuckers						
p. Other (please specify: _____)						

4. What kinds of fish do you eat most often? (Mark with X)

	Always	Often	Sometimes	Seldom	Never
a. Frozen					
b. Fresh					
c. Canned					
d. Dried fish					
e. Salt fish					
f. Stock fish					
g. Whole fish					
h. Filet					
i. Pre-prepared					

5. Do you eat fish that is caught by local boats / local fishermen?

- A. Yes, always B. Yes, sometimes
C. I don't know D. Seldom E. Never

6. Who is responsible for purchasing / obtaining fish in your household?

- A. ___ I am responsible for obtaining fish
- B. ___ My partner is responsible for obtaining fish
- C. ___ My partner and I share responsibility
- D. ___ Other (please specify: _____)

7. Please state how often, on average, you purchase / obtain fish for your personal consumption from the following places in Ísafjörður. (Mark with X)

Sources	5 times of more a week	3-4 a week	1-2 times/ week	1-3 times/month	1-2 times /year	Never
a. From fishermen						
b. From freezing plant / fish farm						
c. In supermarket/grocery (from freezer)						
d. In supermarket/grocery (from fish table)						
e. From family and friends						
f. In restaurants/ friends' houses / work cafeteria						
g. Fish shop (shop specialized in fish)						
h. Your own catch						
i. Fish market in the harbor						
j. Subscription (e.g., through Facebook)						
k. Other (Please specify: _____)						

8. Do you often receive fish as gifts from family and friends? Yes No

If YES, how often do you receive fish as gifts from family and friends?

_____Times/month

9. Have you purchased imported fish in Isafjordur, as far as you know?

Yes No Uncertain

10. Would you purchase fish in Isafjordur if it were marked as imported?

Yes No

11. Would you purchase fish in Isafjordur if it were marked as farmed fish?

Yes No

12. Would you be willing to pay higher prices for fresh fish caught locally?

Yes No Maybe

If YES or MAYBE, how much more would you be willing to pay?

___A. 5% more

___B. 10% more

___C. 25% more

___D. 50% more

13. Have you ever wanted to purchase / obtain fish that was not available?

Yes No

If YES, has this happened often? Yes No

14. How much of your fish consumption do you purchase in the fish shop in Isafjordur?

___A. All of my fish consumption (100%)

___B. 75-99% of my fish consumption

___C. 50-74% of my fish consumption

___D. 25-49% of my fish consumption

___E. 1-24% of my fish consumption

___F. None

15. Have you increased your consumption of fish since the fish shop opened in Isafjordur?

Yes No Not applicable

16. If you have purchased fish in the fish shop in Isafjordur, please rate your satisfaction with your experience.

	Very satisfied	Somewhat satisfied	No opinion	Somewhat unsatisfied	Very unsatisfied
a. Freshness of fish					
b. Quality of fish					
c. Variety of fish					
d. Price					
e. Service					

17. In what town do you live?

___A. Bolungarvík

___B. Flateyri

___C. Hnifsdalur

___D. Ísafirði

___E. Súðavík

___F. Suðureyri

___G. Þingeyri

18. How long have you lived there?

___A. 0-5 years

___B. 6-10 years

___C. 11-20 years

___D. More than 20 years

19. Please state whether you agree or disagree with the following statements (Mark with X)

	Highly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Highly disagree
a. I think about quality when purchasing fish.					

b. I would like to eat more fish.					
c. Fresh fish is easy to access in my town.					
d. High quality fish is easy to access in my town.					
e. Eating fish is part of the self-identity for people in the Westfjords.					
f. I would like to increase the variety of fish in my diet.					
g. I would buy more fresh fish if it were available.					
h. I would buy more fresh fish if it were cheaper.					
i. I wish I had more choice in the species of fish I consume.					
j. Eating fish is part of the Icelandic identity for people in my age group.					
k. I am satisfied with the variety of fish available to me in my town.					
l. I am satisfied with the quality of fish available to me in my town.					
m. Eating fish is part of my identity.					
n. I wish it were easier to access fresh fish in my town.					

20. Was it easier or more difficult to purchase / obtain fresh fish in the past (i.e.. 15-20 years ago)?

A. Easier B. More difficult C. No change D. Uncertain

21. Was it easier or more difficult to purchase / obtain locally-caught fish in the past (i.e.. 15-20 years ago)?

A. Easier B. More difficult C. No change D. Uncertain

22. If access to fresh fish has changed over the years, what do you think is the cause?

23. Do you or someone in your household work in the fish industry?

Yes No

If YES, what type of work?

___ Work as a fisherman

___ Work in aquaculture/fish farming

___ Work in fish processing

___ Other (Please specify): _____

24. Is it important to you to eat fish?

Yes No

If YES, why is it important to you to eat fish?

ABOUT YOU

1. What is your gender? Male Female

2. How old are you?

___ a. 17 or younger

___ d. 26-35 years

___ g. 56-65 years

___ b. 18-20 years

___ e. 36-45 years

___ h. 66-75 years

___ c. 21-25 years

___ f. 46-55 years

___ i. 76 years or older

3. How many people are in your household (including yourself)? _____

4. How much money do you spend each week on food, on average? _____

5. What is the monthly income for your household?

___A. 0-250.000 kr.

___B. 250.001 – 400.000 kr.

___C. 400.001-650.000 kr.

___D. 650.001-900.000 kr.

___E. 900.001 kr. or more

Appendix D: Patreksfjörður Fish Consumption Survey (Icelandic)

Fiskneyslukönnun

Þessi könnun er hluti af meistaraverkefni nemanda hjá Háskólasetri Vestfjarða, sem felst í rannsókn á fiskneyslu á Vestfjörðum. Það ætti að taka um 10 mínútur að ljúka könnuninni. Þátttaka þín er valfrjáls og svör þín eru ekki persónugreinanleg. Hafðu samband við Jennifer Smith í síma 841 9427, eða jennifer12@uwestfjords.is, ef þú þarft nánari upplýsingar. Þakka þér kærlega fyrir þátttökuna.

1. Hvað borðar þú fisk oft að meðaltali?

- ☐ A. Aldrei, eða sjaldnar en einu sinni í mánuði
- ☐ B. 1-3 daga í mánuði
- ☐ C. 1-2 daga í viku
- ☐ D. 3-4 daga í viku
- ☐ E. 5 sinnum eða oftar í viku

2. Hversu miklum peningum eyðir þú í að kaupa fisk í hverri viku að meðaltali?

- ☐ A. Engum (0 kr.)
- ☐ B. 0.01 – 2.000 kr.
- ☐ C. 2.001 – 4.000 kr.
- ☐ D. 4.001-6.000 kr.
- ☐ E. 6.001 kr. eða meira

3. Hve oft borðar þú eftirfarandi fisktegundir? (Merkið svar með X)

	5 eða oftar í viku	3-4 í viku	1-2 í viku	1-3 í mánuði	1-2 á ári	Aldre í
a. Þorskur						
b. Steinbítur						
c. Lúða						
d. Ýsa						
e. Bleikja						
f. Ufsi						
g. Lax						
h. Skarkoli						
i. Túnfiskur						
j. Rækjur						
k. Sardínur						
l. Rauðspretta						
m. Hákarl						
n. Skata						
o. Rauðmagi						
p. Grásleppa						
q. Annað (vinsamlegast tilgreinið: _____)						

4. Hvers konar fiskafurða (verkunaraðferð) neytir þú oftast? (Merkið svar með X)

	Alltaf	Oft	Stundum	Sjaldan	Aldrei
a. Frosinn					
b. Ferskur					
c. Niðursoðinn					
d. Þurrkaður (harðfiskur)					
e. Saltaður (saltfiskur)					

f. Sigginn fiskur					
g. Heill fiskur					
h. Flök					
i. Fyrirfram unninn /eldaður					

5. Borðar þú fisk sem er veiddur af heimamönnum / bátum í sveitarfélagaginu?

- ___A. Já, alltaf
- ___B. Já, stundum
- ___C. Ég veit ekki / Óviss
- ___D. Sjaldan
- ___E. Aldrei

6. Hver ber fyrst og fremst ábyrgð á fiskkaupum á þínu heimili? (Merkið svar með X)

- A. ___Ég sé um að kaupa/útvega fisk
- B. ___Maki minn sér um að kaupa/útvega fisk
- C. ___Ég og maki minn skiptumst á að kaupa/útvega fisk
- D. ___Annað (vinsamlegast tilgreinið: _____)

7. Að meðaltali, vinsamlegast segðu til um hversu oft þú kaupir/útvegar fisk til eigin neyslu frá eftirfarandi stöðum á Patreksfirði. (Merkið svar með X)

Hvaðan	5 eða oftar í viku	3-4 í viku	1-2 í viku	1-3 í mánuði	1-2 á ári	Aldr ei
a. Frá sjómönnum						
b. Úr frystihúsi og/eða fiskeldisstöð						
c. Í stórmarkað/matvöruverslun (úr kæli/frysti)						
d. Í stórmarkað/matvöruverslun (úr fiskborði)						

e. Frá ættingjum eða vinum						
f. Í veitingahúsi / í húsi vinar / í mótuneyti í vinnunni						
g. Fiskbúð (sérværslun með fisk)						
h. Eigin veiði						
i. Fiskmarkaður við höfnina						
j. Í áskrift (t.d. í gegnum Facebook síðu)						
k. Annað (vinsamlegast tilgreinið: _____)						

8. Færðu stundum fisk gefins frá ættingjum eða vinum? Já Nei

Efsvarið er JÁ, hversu oft færðu fisk gefins frá ættingjum eða vinum?

_____ Tíðni / mánuði

9. Hefurðu keypt frystan, innfluttan fisk á Patreksfirði, svo þú vitir til?

Já Nei Óviss

10. Myndir þú kaupa fisk á Patreksfirði ef hann væri merktur sem innflutt vara?

Já Nei

11. Myndir þú kaupa fisk á Patreksfirði ef hann væri merktur sem eldisfiskur?

Já Nei

12. Værir þú tilbúin/inn til að greiða hærra verð fyrir ferskan fisk veiddan í næsta nágrenni?

Já Nei Kannski

Efsvarið var JÁ eða KANNSKI, hversu miklu værir þú tilbúin/inn að bæta við verðið? (Merkið svar með X)

__A. 5% til viðbótar

__B. 10% til viðbótar

__C. 25% til viðbótar

__D. 50% til viðbótar

13. Hefur þú einhvern tímann viljað kaupa / útvega fisktegund sem var ekki í boði?

Já Nei

Ef svarið er JÁ, hefur þetta gerst oft? Já Nei

14. Ef það væri fiskbúð á Patreksfirði (þ.e., sérsverslun með fisk), hversu mikið af fiskneyslu þinni myndir þú kaupa í fiskbúðinni?

___A. Alla fiskneyslu mína (100%)

___D. 25-49% af fiskneyslu minni

___B. 75-99% af fiskneyslu minni

___E. 1-24% af fiskneyslu minni

___C. 50-74% af fiskneyslu minni

___F. Ekkert

15. Vinsamlegast merktu við hvort þú ert sammála eða ósammála eftirfarandi fullyrðingum (Merkið svar með X)

	Mjög sammála	Frekar sammála	Hvorki sammála né ósammála	Frekar ósammála	Mjög ósammála
a. Ég hugsa um gæði þegar ég kaupí fisk.					
b. Mig langar til að borða meiri fisk.					
c. Ferskan fisk er auðvelt að nálgast á Patreksfirði.					
d. Hágæða fisk er auðvelt að nálgast á Patreksfirði.					
e. Fiskneysla er hluti af sjálfsmynd íbúa á Vestfjörðum.					
f. Mig langar til að auka fjölbreytni fíks í mataræði mínu.					
g. Ég myndi kaupa meira af ferskum fiski ef hann væri í boði.					
h. Ég myndi kaupa meiri ferskan fisk ef hann væri ódýrari.					
i. Ég vildi að ég hefði meira úrval af fisktegundum sem ég neyti.					
j. Fiskneysla er hluti af sjálfsmynd íslensku þjóðarinnar hjá fólki í mínum aldurshópi.					

k. Ég er ánægð/ur með núverandi framboð af fiski á Patreksfirði.					
l. Ég er ánægð/ur með gæði fisks nú í boði fyrir mig á Patreksfirði.					
m. Fiskneysla er hluti af sjálfsmýnd minni.					
n. Ég vildi óska að það væri auðveldara að nálgast ferskan fisk á Patreksfirði.					

16. Hversu lengi hefur þú búið á Patreksfirði?

___ A. 0-5 ár

___ B. 6-10 ár

___ C. 11-20 ár

___ D. yfir 20 ár

___ E. Ég bý á _____ (Vinsamlegast sagðu í hvaða bæ áttu heima, ef þu býrð ekki á Patró.)

17. Var auðveldara eða erfiðara að kaupa/útvega ferskan fisk áður fyrr (þ.e. fyrir 15-20 árum síðan)?

A. Auðveldara

B. Erfiðara

C. Engin breyting

D. Óviss

18. Var auðveldara eða erfiðara að kaupa/útvega fisk veiddan á staðnum áður fyrr (þ.e. fyrir 15-20 árum síðan)?

A. Auðveldara

B. Erfiðara

C. Engin breyting

D. Óviss

19. Ef framboð á ferskum fiski hefur breyst í gegnum árin, hverja telur þú vera ástæðuna?

20. Vinnur þú eða einhver á heimili þínu í tengslum við sjávarútveg?

Já

Nei

Efsvarið er JÁ, hvers konar vinnu

___ Starfar sem sjómaður

___ Starfar við fiskeldi

___ Starfar við fiskvinnslu

___ Annað (vinsamlegast útskýrið): _____

21. Er mikilvægt fyrir þig að borða fisk?

Já Nei

Ef svarið er JÁ, af hverju er mikilvægt fyrir þig að borða fisk?

Um þig

1. Hvað er kyn þitt?

Karl Kona

2. Hver er aldur þinn?

___ a. 17 ára eða yngri

___ b. 18-20 ára

___ c. 21-25 ára

___ d. 26-35 ára

___ e. 36-45 ára

___ f. 46-55 ára

___ g. 56-65 ára

___ h. 66-75 ára

___ i. 76 ára eða eldri

3. Hversu margir eru á heimili þínu (þ.m.t. þú sjálf/ur)? _____

4. Hversu miklum pening eyðir þú í að kaupa mat í hverri viku að meðaltali?

5. Hverjar eru heildartekjur heimilisins á mánuði?

- ☐ A. 0-250.000 kr.
- ☐ B. 250.001 – 400.000 kr.
- ☐ C. 400.001-650.000 kr.
- ☐ D. 650.001-900.000 kr.
- ☐ E. 900.001 kr. eða meira