

Nuna-Regionalism:

A Vision of Iqaluit Regionalism

by

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Author's Declaration

I hereby declare that I am the sole author of this thesis.

This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

Abstract

The recent demographic shift, sparked by a combination of political and environmental forces, towards urbanization in the Canadian Arctic has uprooted a tie to the land that largely defines Inuit cultural identity. The transition of Iqaluit from a seasonal camp to the capital city of Nunavut has been swift, forcing residents to find their place between tradition and modernity, land and city. Though the populations of Nunavut communities are predominantly Inuit, many Inuit maintain a rather negative view of urban spaces in the Arctic, identifying them as places where Inuit values and practices have been eclipsed by *Qallunaat* (“white people”) values. While Inuit identity weighs heavily on a connection to the land, the spatial organization of Iqaluit ignores the opportunistic proximity of the urban centre to Frobisher Bay. Similarly, individual buildings often are designed as though sunlight, wind, and snow did not exist. This follows a historical trend of poor and imported design in the Canadian Arctic; design which does not properly serve the needs and aspirations of its inhabitants.

Architecture which fails to serve Iqaluit’s distinctiveness undermines the ambitions of the territory. The creation of Nunavut in 1999 was to be an expression of Inuit self-determination, yet the territory is unable to meet the needs of its 33,000 inhabitants. Nunavut remains fiscally dependent, with 92% of its annual revenue coming from the federal government. Due to a lack of infrastructure and training opportunities, agency for social and economic growth remains weak. By leveraging expanding natural resource based industries, *Iqalungmiut* – the people of Iqaluit – have the potential to shape a more economically autonomous future using their cultural and environmental resources. Understanding how infrastructure can support the visions *Iqalungmiut* maintain for their community is crucial in a place where shortsighted developments threaten a unique way of life.

The thesis proposes an urban facility in Iqaluit to support and promote what is currently a primarily informal subsistence economy. Animal processing, food and craft production, and training are accommodated in this new building typology. The proposal, while enabling *Iqalungmiut* to participate more actively in the economy, also applies regional cultural and environmental processes in an attempt to avoid some of the mistakes of the past. A congruent soft system infrastructure is proposed to aid in the collection of raw materials across the region. Taking cue from Iqaluit’s vernacular, mobile structures respond to the seasonal rhythms of *Nuna* – the land – and its people. The design harnesses traditional activities through a range of economic scales to find new spatial and programmatic models for a place in transition.

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Preface

I must begin by outlining the intention of this document, the assumptions made and the departure point. Firstly, I think it is important to announce that I am not Inuk nor am I from Nunavut. I am from a small town in southern Ontario. My attraction to rural landscape and the bold forms of old, wooden barns, silos and fences stretching to the horizon, is revealed in the habit of thought and aesthetic of my current design work. It is this urge to be in vast open space which led me to Yellowknife on my very first internship. Since then, I have spent almost two years working and travelling throughout the “North” - canoeing the Yukon, whistling at northern lights in Inuvik, paraskiing on Great Slave, dancing in Iqaluit and seal hunting in Pangnirtung. And though I have travelled extensively throughout other parts of the world, Nunavut stands out as one of the most shockingly beautiful and unfamiliar places I have ever been. I knew that I wanted to learn about and experience more of Nunavut and thus it became the study of my thesis.

While I talk about Nunavut as being distinct within Canada, I understand that there are many regional differences within Nunavut’s political boundary. The geography and ecology changes greatly. Similarly, cultural practices and values are not universal across the territory or even throughout a community. The intention of this document is not to relay a comprehensive history, but to give a broad description of particular moments of architecture failure and success and to provide an alternative approach. Though some of this document may sound discouraging, the intention is to open the eyes of the reader – one not from Nunavut – to some of the pressing dilemmas that both designers and residents alike must face when building an Arctic community. My goal is to make better spaces in Nunavut, spaces for the people living there now, spaces I would want to see in Nunavut if (or when) I live there. The design was carefully undertaken to balance a vision and reality of Nunavut. I have been to the North, and I have witnessed many design proposals that simply do not consider the fact that people do not want to live in a sea can, snowdrifts block entrances, sunlight can be nonexistent, and snowmobiles are a major means of urban transportation.

During my time in Nunavut a friend told me that there are two schools of thought. One that wants Inuit working in the city, and one that wants them working on the land. My reaction was to find a way to bridge these two perspectives, to allow the traditional economy, along with its cultural practices, to thrive in the ever urbanizing Arctic community.

Introduction

We are saying we have the right to determine our own lives. This right derives from the fact that we were here first. We are saying we are a distinct people, a nation of people, and we must have a special right within Canada. We are distinct in that it will not be an easy matter for us to be brought into your system because we are different. We have our own system, our own way of life, our own culture and traditions. We have our own languages, our own laws, and a system of justice. -Robert Andre¹

My question is, "Do the cities and buildings of the north well serve the needs of their inhabitants"? My answer is "No". -Ralph Erskine²

Community planning really means doing the thinking that leads to profound consensus on the purpose and direction of the settlement; it means putting words to the idea that self-governing peoples must exercise their right to live in settlements designed to complement and support their chosen lifestyle. It means thinking with the heart as well as the brain. It means having a collective memory that actively informs the future so that the community can dodge the fate of repeating the same mistakes. It means the inhabitants, who understand what is at stake, taking control. -Harold Strub³

The mention of Nunavut conjures powerful images of a vast snowy landscape scattered with isolated coastal settlements. It evokes a deep history of a people living on the land, their identity and culture directly linked to the health of the region they occupy. It summons the notion of a time past. When change was measured in generations. Histories passed through oral account. Motionless rock outcrops, gravel beaches and swamps of tundra gave an exaggerated sense of permanence when compared to the temporality of Inuit settlement patterns and extreme seasonal transformations.

The recent demographic shift towards urbanization has uprooted a tie to the land that has defined Inuit cultural identity. The dramatic transition of Iqaluit from a seasonal camp to a modern Canadian territorial capital city has been swift, causing Inuit to be "caught between two worlds". Urbanized Inuit are rapidly losing the traditional skills which aided their grandparents through a life on the land. Conversely, many Inuit maintain a rather negative view of urban spaces in the Arctic, identifying them as places where Inuit values and practices have been eclipsed by Qallunaat

¹ Quoted in Brody, H. Living Arctic, (Vancouver: Douglas & McIntyre Limited, 1987), xii

² Erskine, R. Architecture and Town Planning in the North, in Polar Record 14(89), (Cambridge: Cambridge University Press, 1986), 165

³ Strub, H. (1996). Bare Poles: Building Design for High Latitudes. Ottawa: Carleton University Press, 1996), 93

⁴ Searles, E. Placing Identity: Town, Land, and Authenticity in Nunavut, Canada. (*Acta Borealia*, 2010), 151

⁵ Collignon, B. (2006). Knowing Places: The Inuit, Landscapes and the Environment. (Canadian Circumpolar Institute Press, 2006), 1

⁵ Billson, J. Inuit Dreams, Inuit Realities: Shattering the Bonds of Dependency. *American Review of Canadian Studies* 31(1-2), (United Kingdom: Taylor and Francis Inc., 2001), 283-299.

⁶ Hicks, J. The Nunavut Land Claim and the Nunavut Government: Political Structures of Self-Government in Canada's Eastern Arctic. *Dependency, Autonomy, and Sustainability in the Arctic.* (Aldershot: Ashgate, 1999)

⁷ Income Statistics Division, Statistics Canada. (2010). An Analysis of the housing needs in Nunavut: Nunavut Housing Needs Survey 2009/2010.

⁸ Knotsch, C. & Kinnon, D. If Not Now... When? Addressing the Ongoing Inuit Housing Crisis in Canada. (Ottawa: National Aboriginal Health Organization, 2011)

⁹ Statistics Canada www.statcan.gc.ca

¹⁰ Impact Economics. (2010). 2010 Nunavut Economic Outlook: Nunavut's Second Chance.

(“white people”) values⁴. A resulting process of self-reflection has stirred the question of what Inuit identity really is⁵. Though the definition of authentic Inuit identity is highly subjective, what is certain is that the Inuit are a distinct people within Canada, and they have the right to determine their own lives in ways responsive to the culture and geography of the land. This concept, which seems obvious in the present-day, took decades to reach the minds of political and social agents who were marginalizing the Inuit living in the Canadian Arctic during its initial transition into permanent communities. Since the 1980s Inuit voices have been strengthened and arguments for creating a place to sustain Inuit distinctiveness have been heard.

On April 1st, 1999 the vision of a predominantly Inuit territory was realized. Nunavut – ‘Our Land’ – was carved out from the Northwest Territories in an attempt to give ruling power to the Inuit population who resided there and to undo some of the mistakes of the past⁵. The Nunavut Land Claims Agreement is one of the most astounding land claims agreements in the world, spanning 2,000,000 squared kilometres of the Canadian Eastern Arctic and involving massive financial commitments from the federal government. It has had enormous impact on the lives of Inuit, empowering them to have more control over their political and economic destinies on this vast swath of land.

Though the creation of Nunavut has produced unprecedented opportunities and amenities for *Nunavummiut* - the people of Nunavut - in relation to wider Canadian society, residents here are economically, politically and geographically on the periphery. Nunavut is the “most fiscally dependent jurisdiction in Canada...[and] relies on federal funding for as much as 90 percent [of its budget]”⁶. Public administration is Nunavut’s largest employer, exacerbating a complicated and stubborn legacy of government dependency. Natural resource industries are on the forefront of development, but due to a lack of infrastructure and training, raw materials are mostly exported while workforces are imported, causing major economic leakage from the territory. With a construction industry that battles high material costs, low labour skills and short shipping and construction schedules, Nunavut is facing an infrastructure shortage. Half of Nunavut’s homes are below standard and more than a third are overcrowded⁷, sparking a crisis of ill mental and physical health⁸. Nunavut’s population, the youngest in Canada with 60 per cent under 25 years old, boasts a 38 per cent projected growth of its working age (compared to 11 per cent nationally), yet unemployment sits at around 15 per cent - double the national average⁹. Though this is in part due to a lack of jobs, it is also due to a lack of training. Nunavut’s graduation rate, though the highest it has ever been, still sits around 37 per cent, compared to the 87 per cent national average¹⁰.

Burdened by a government with fledgling administration, inadequate budgets, and a debt cap constraining its ability to invest, Nunavut is struggling to meet the basic needs of its 33,000 inhabitants¹¹. As Geddes states, “conditions for the [Nunavut] experiment are far from ideal”¹², Billson and Reis concur that “it can’t be any more difficult than it is right now.”¹³

This thesis is an endeavour in community building. It proposes the design of essential institutions needed for a viable system of social and economic growth. The proposal sites itself in Iqaluit, Nunavut, where the surrounding area is experiencing an increased presence of natural resource industries. Recognizing mining, fishing and tourism as the prospects for Nunavut’s economic development over the next decade, the proposal is a complimentary infrastructural network that harnesses the capacity of large-scale industry. Through the design of a permanent facility, temporary spaces, and routes, the proposed network allows for the training of local workforces, the collection and processing of natural resources, and the production and exchange of products. Each building carefully considers local processes, spatial organization, social needs and environmental conditions. The proposal visualizes an approach to economic development that transcends the needs of private industries to create wider social benefits for Iqalungmiut – the people of Iqaluit - which may not be so readily apparent.

Consider the proposal as an effort to continue the legacy of the Nunavut Land Claims Agreement, the creation of Nunavut, and the political forces layering a narrative of decolonization and autonomy which drives the vision of this place. As with many other indigenous entrepreneurial ventures, it employs historical experience with the land as the basis for greater economic autonomy, ensuring local values are ingrained into community development. Harnessing local people and processes, the proposed infrastructural system acts as a catalyst in the production of new, yet familiar, scales and types of natural resource-based economies which are nurtured by Inuit Qaujimagatuqangit (IQ), or *Inuit traditional knowledge*.

The research is an investigation into shifting settlement patterns, seasonal rhythms and territorial visions that form an attitude in which the proposal is situated. Structured chronologically, the work begins by introducing the combined political forces and bequeathed emotional legacies relating to the urbanization of the Canadian arctic beginning in the mid twentieth century. The initial construction of arctic communities is widely understood as being devastating to the physical and social health of Inuit residents. The scourge of social problems including domestic violence, alcoholism, suicide, unemployment, and drug abuse, which emerged from the dramatic change in lifestyles and livelihoods

¹¹ White, P. [The Trails of Nunavut](#). *The Globe and Mail*, April 01, 2011. Accessed July 29, 2012. www.theglobeandmail.com/news/national/nunavut/the-trials-of-nunavut-lament-for-an-arctic-nation/article547265/

¹² Geddes, J. [Northern Dawn: The Inuit Prepare to Embrace Self-Government with Hope, Fear and Fierce Determination](#). *Maclean's*, February 15, 1999, 26.

¹³ Billson, J. & Reis, K. [Inuit Women: Their Powerful Spirit in a Century of Change](#) (Lanham, MD: Rowman & Littlefield, 2007)

¹⁴ Billson, J. Opportunity or Tragedy? The Impact of Canadian Resettlement Policy on Canadian Inuit Families. *American Review of Canadian Studies* 20, (United Kingdom: Taylor and Francis Inc., 1990), 187-218.

of this resettlement period are largely documented.¹⁴ What is less known, are the ways in which Inuit culture and identity has - or has not - been translated into the built form and spatial organization of contemporary arctic communities. Since there is no historical reference, how would these traits be identified? If there is no evidence of distinctively Inuit community organization, how might it be developed? Who has the authority to decide which cultural activities are to be strengthened? By understanding how a settlement can complement and support the lifestyle exercised by its residents, perhaps an empowered vision of the purpose and direction of the community can be realized.

The imperative for political and social survival, however, is no less threatening than the compulsory demand of physical survival in a hostile climate. Known for their adaptability, the Inuit have honed ingenious survival skills over generations of living on a land of extreme seasonal variations. Through an inquiry into the daily flows and seasonal rhythms of Nuna – land - and Nunavummiut, the thesis seeks to identify ways in which variable environmental conditions and traditional responses have shaped contemporary northern lifestyles. Drawing from local processes and modern materials, what kinds of hybrid solutions can be composed to create mutable barriers between conditioned indoor and sheltered outdoor spaces? Current building design in arctic communities combats, with brute force, the cold climate in which Inuit have long prospered. How might individual and networks of buildings dynamically respond to extreme seasonal changes and enable habitation amongst rather than against this omnipotent landscape condition?

The final chapter applies the theories, analyses, reactions, and visions of the previous chapters to inform a design proposal. Beyond the optimistic text of Nunavut's bureaucratic doctrines, this section presents a detailed visualization of an infrastructural network working within existing political, social economic and environmental systems. The proposal exemplifies themes of seasonality, mobility, sharing, congregation and dispersal through the design of both urban and land-based enclosures, outdoor gathering spaces and routes. Their relationship combines the exchange of knowledge, goods and processes to imagine an appropriate model for community building.

* * *

PART 0 - DEFINING TERMS

Fig. 0.1 Boundaries of the Inuit language, Inuit Owned Lands, and the political boundary of a predominantly Inuit territory of Canada.

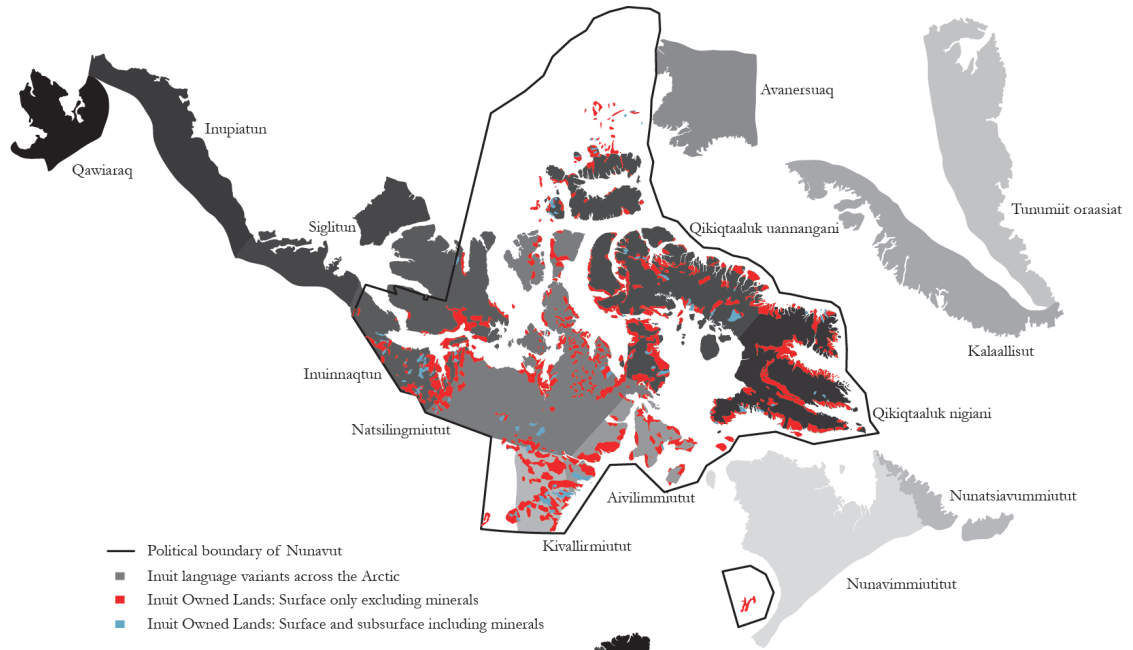
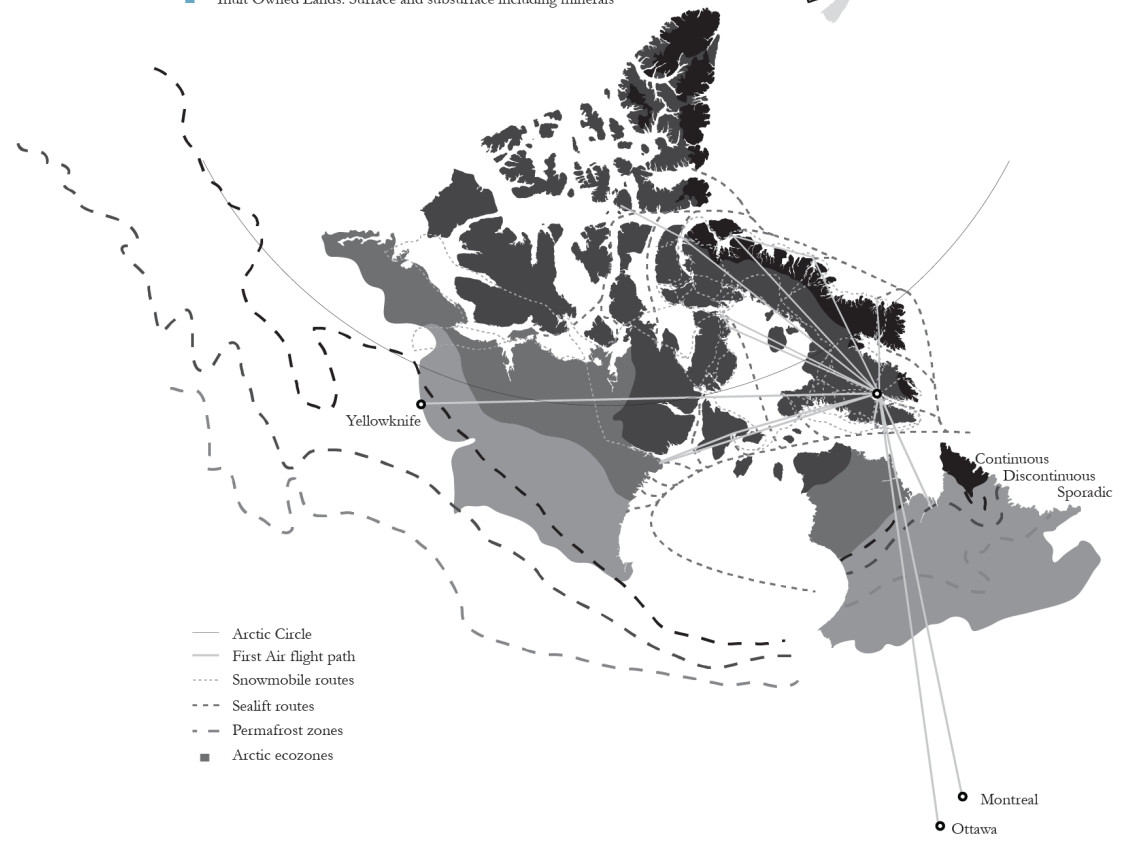


Fig. 0.2 Ecological boundary of permafrost, arbitrary climate boundary of arctic circle, northern ecozones and mobility patterns



Boundaries

“Boundary and border situations whether at the scale of a building, a neighbourhood, or a nation, embody heightened conditions of architecture where identity and character find expression and where manifestations of difference are contested.” John McMinn

The political boundary of Nunavut delineates a social power for Inuit to regain political and cultural control of their lives on their ancestral lands. Spilling from this abstract line is layer upon layer of boundary conditions ranging between cultural and natural extremes. The spread of the Inuktitut language, dialectically differing from one community to the next, creates boundaries of identity. The zoning of Inuit Owned Lands (IOL) in the region gives local Inuit an array of opportunities for developments on their land. Varying ecozones define the ecological limit of trees thus scoring a physical line across the circumpolar globe. The climatic boundary of frozen ocean is a perimeter which changes dramatically throughout the year. Zones of permafrost create particular building conditions. Seasonal variations create ranges of mobility which in turn influence social order and cultural activities.

Within Nunavut, an overlay of multiple boundary conditions concentrate around Iqaluit. Frobisher Bay is contained just within an area able to be traversed by boat or snowmobile in one day Iqaluit, the hub of the Eastern Canadian Arctic. The rapidly expanding population, employment opportunities and natural resource developments attract southern Canadians to the capital, making the city a hotbed of multi-ethnic activity. Yet traditional activities persist in the hunting and sharing of country food. While the flows of people and resources across this region seem continuous, they always return to the capital. With such a layering of local customs embedded in this region, the built environment would be expected to respond.

However, Iqaluit has yet to cultivate an approach to community building which serves its regional distinctiveness. Despite its multitude of unique circumstances, architecture here fails to break from the homogenous designs which subdues, even undermines, local distinction. This thesis prescribes and tests the architectural theory of Regionalism to address this concern.

Nuna-Regionalism

¹ Canizaro, V. Architectural Regionalism: Collected Writings on Place, Identity, Modernity and Tradition (New York: Prince Architectural Press, 2007), 20.

Regionalism is not a defined period in architectural history. It is a strategy, tool, or attitude that has persisted throughout many wider historical movements, from romanticism to postmodernism. When intending to apply regionalism, defining criteria for a design approach seems inaugural. The difficulty lies in the fact that regionalism has as many different definitions as there are regions to define. Every region in the world has a unique set of values and criteria that are interpreted by the practitioner (in this case, architect). Each theory on regionalism is informed by these values, thus making each theory border on personal ideology. However, most would agree that its resounding purpose is to support the resistance to universal, or otherwise standardizing structures that would diminish local differentiation. It proposes alternatives in the form of methods and criteria for the “respect, revitalization, and, if necessary, reconstruction of life along regionally determined lines.”¹ Unlike vernacular architecture which is born out of necessity, regionalism is a self-conscious choice to design and construct in accordance to local circumstances. Much like the vernacular builder, regionalist architects often characterize their work as a response to the local conditions of climate, topography, local needs, and the availability of materials. It is an architecture based in successful performance relative to local conditions and local quality of life.

A particular example of regionalism which resonated with many of the issues facing Iqaluit, is Kenza Bous-sora’s application of it in combat of the rapid development and importation of Western architecture in Algeria. In Regionalism: Lessons from Algeria and the Middle East, Boussora outlines four arguments for prescribing regionalism in the Middle Eastern context.

First of all, many of the modern buildings imported to meet the demands of a rapidly expanding urban population are seen to be climatically inappropriate for this region. Artificial cooling systems are implemented to battle the hot, dry climate. Their energy consumption is massive, and being an imported building feature, they are difficult to maintain and repair.

Secondly, spatial norms derived from Western culture function poorly in a different social environment. These modern designs have a different opinion about the ideal size and shape of spaces. Imported standards relating to sanitation, communal living, or assumptions about privacy and comfort result in inapplicable building designs.

Thirdly, modern architecture in Algeria fails to consider local resources in terms of materials, labour or technology. New projects which are rooted in Western construction methods oftentimes necessitate not only the im-

portation of building materials, but also the building equipment and skilled labour for their execution. A number of problems arise from this system including delays during construction, high costs, and difficulties with maintenance and replacing deteriorated parts.

Lastly, this imported architecture may be seen as culturally destructive since it makes no reference to the region's architectural heritage. Discontinuous urban fabric is argued to cause a feeling of disorientation in an environment which has changed so quickly and dramatically.

These issues are neither new nor are they confined to the Middle East. Within the context of Iqaluit, importing modern architecture to meet the demands of an urbanizing population, in an extreme environment, ignoring cultural heritage and local resources is a familiar scene. Boussara proposes regionalism as the potential solution for these problems. However before any design can be attempted, defining the terms of regionalism is essential. As mentioned above, defining regionalism poses a challenge since every region is unique. By heeding what Boussara extracts as the four main objectives of regionalism in literature, a guideline to defining regionalism in Iqaluit can be formed.

1- Build in harmony with social needs. Authors advocating this objective can be grouped into two main categories. The first is that building in harmony with social needs can be achieved by consultation with locals early in the design process to integrate their life-styles into the function of the building, for they are the end users. The second category believes that building in harmony with social needs can be achieved through satisfaction of human emotional demands, as interpreted by the architect.

2-Build in harmony with existing built form. This factor is concerned with the physical and aesthetic characteristics of the region, a common architectural expression of style and identity. This involves examining critically and comprehensively the existing buildings; their scale, their facade treatments, the open spaces, the spatial organization and circulation pattern, and then fusing these with the contemporary needs of people and modern technology.

3-Build in harmony with geographic characteristics of a region. Climatic design is seen as the keystone in architectural regionalism. This is because authors view the roots of architectural regionalism as deriving from climatic design. While it is true that in an industrialized society heating and cooling can be achieved through mechanical systems, the reality is that the high energy costs in Nunavut create a great demand for passive heating and cooling solutions. To

achieve this factor, three methods are proposed. The first is the reinterpretation of traditional climatic devices for use in new buildings. The second is to correlate the form and organization of buildings with the environmental conditions of the particular region. The third method is to create visual links with common natural features, and to integrate a building into the landscape, using sympathetic forms and materials.

4-Build in harmony with local resources. “Local materials” and “local technology” are two factors commonly referred to. However, there is little or no common agreement among authors about what they mean when they speak of these factors. “Local materials” could mean not only indigenous material, but also those available for purchase locally. Similarly, “local technology” is roughly defined and authors fall into two categories. One might define local technology as traditional craft techniques and propose the use of this craftsmanship and indigenous techniques in the design of new buildings. The other proposes a combination of traditional craft techniques and modern technology.

In keeping with Boussara’s criteria, the thesis seeks to identify and implement those differentiating circumstances in Iqaluit which form a regional identity. The story starts in a similar fashion to Lessons from Algeria. In Iqaluit, the recent demographic shift towards urbanization has accelerated the importation of modern architecture to meet the high demand for buildings. In many instances, the result has been technical, aesthetic and social failures. While the negative impacts of poor building quality seen in the colonial “matchbox housing” of the 1940’s and 50’s have been reported, inappropriate design continues to plague the communities of Nunavut.

First, the emotional affliction Inuit harbour towards built places in the north needs attention. Spatial norms are derived from Western culture and the need to economize space in this extreme environment. Architecture in communities throughout Nunavut is, at times, seen as culturally destructive to Inuit inhabitants. It often ignores livelihoods, values and cultural practices.

Second, many of the modern buildings in Iqaluit are seen to be climatically inappropriate. Recently constructed buildings have sank into the permafrost months after opening their doors. In other instances, snowdrifts have completely enveloped homes and neighbourhoods.

Third, labour, materials, scheduling, and technology are largely imported from southern Canada. This exasperates building costs in an already highly priced market. Supplies arrive by a limited marine service. This situation

causes delays during construction, high costs, problems of maintenance after completion, and difficulties in replacing deteriorated parts.

These dilemmas have existed since the initial construction of permanent communities in the Eastern Canadian Arctic and they continue to persist. There has been absurdly little progress in rectifying these ailments in community planning and building design. Alternative design approaches must be developed to break the cycle. Regionalism could be the potential solution to this problem.

There have been few past attempts towards regionalism in Nunavut. One of the best examples is the new town site at Resolute Bay by Ralph Erskine (see Fig. 0.3). What was primarily a weather station and airport base in 1947 quickly grew into a community for Inuit families settling in the area and transient workers from the south. Due to a number of issues including a lack of sewage treatment, poor quality housing, and an undesirable site, a relocation proposal was commissioned from the government of Northwest Territories (Nunavut was not yet an entity). Although budgeting and other government influences halted construction of the project after only a few buildings were complete, Erskine's design stands out as an important study for regionalism in the Canadian Arctic. Erskine was careful to consider climatic and topographic conditions by initiating several meteorological site and laboratory tests to analyze wind and snow patterns as well as permafrost sensitivity. The proposal was planned to be sited on a southern slope close that provided views and access to the bay and harbour, an important value for inhabitants with a strong coastal heritage. The entire city was designed as a windscreen, composed of concentrated row housing. This would effectively shelter outdoor activities and promote outdoor commuting between living spaces and communal areas. Though his design was dictated by climatic and topographical concerns, it also responded meaningfully to "human needs, local materials, and natural forces."²

In Iqaluit, regionalism is less obvious. What efforts have been attempted towards designing for a locale have faded after the fiberglass buildings of Papineau Gerin-Lajoie LeBlanc. Built in the 1970's, these institutional buildings provide the city fabric with alternative visions of northern life (see Fig. 2.4, Fig 2.8). Their streamlined forms are responsive to wind and snow deflection and their elevated mass is a reaction to permafrost conditions. Their fiberglass panel exteriors are a response to a short shipping season and the desire to have 'nested' packaging. However their renegade aesthetic causes such a feeling of displacement, they have been described as looking more appropriate for outer space.

² Pressman, N. Northern Cityscape: Linking Design to Climate. (Kitchener: Ajon Print-Craft Limited, 1995)



Fig. 0.3 Architect Ralph Erskine's proposal for Resolute Bay developed in the 1970s.

The otherworldly attitude of these designs presents a concept central to practice of regionalism, the question of authenticity. Vincent Canizaro, an educator of architectural regionalism at the University of Texas at San Antonio, defines the term as a “quality of engagement between people and things or people and places.”³ As Kim Dovey suggests, these things and places must be genuine; they function as one would expect. These objects or environments must also continue to function over time, prolonging our participation with them and building relationships that possess a certain “experiential depth.”⁴ Their form should be intrinsic to its process of creation, making their origin indisputable.

In Iqaluit, a rapidly changing cultural framework brings greater challenge to designing for the particularities of a place. The dialectic of tradition and modernity in terms of Inuit cultural identity parallel the struggle regionalism faces between cultural continuity and the desire for progress and innovation. Perpetuating stale traditions is much like a designer imitating form, motif, and detail. At its best, a traditions are dynamic, continually redefined by the state of the community. In this sense regional design must also alter to keep pace with its local context. As a modern capital city surrounded by the traditions of Nuna- the land – Iqaluit poses a rich prospect in which to explore these lines of inquiry.

By revisiting the idea of regionalism in Iqaluit and devising a contemporary strategy, the thesis proposes a vision of design which is rooted in mindset of this locale. It is a strategy which considers the history, climate, geography, human values, economy, traditions, technology and cultural life of a place. This strategy is *Nuna-Regionalism*. In the following chapters, the four objectives of regionalism Boussara identifies will be applied in context to Iqaluit. In *Arctic Urbanization* we begin to understand what social needs remain unfulfilled to urban Inuit residents. In *Spatial Organization* the existing fabric of Iqaluit is described and the qualitative characteristics of this locale which warrant perpetuation are revealed. The chapter *Seasonal Rhythms* outlines how seasonal variations of the environment can lead to vast differences in social organization and living patterns. In chapter four *Visions of Iqaluit*, the region’s resources and subsequent local economies are highlighted. What sets Iqaluit apart from the rest of Nunavut is its inhabitant’s social, and economic and cultural response to landscape. This chapter exposes how Nuna-Regionalism is more rigorously defined by the project’s program. In this final chapter, the catalogue of Iqaluit’s distinctive traits are applied to a proposal which offers what regionalism strives to achieve: an design approach which harmonizes with its locale while providing resistance against those standardizing structures that reduce the distinctiveness of a place.

³ Canizaro, V. 2007. *Architectural Regionalism: Collected Writings on Place, Identity, Modernity and Tradition*. pp. 10-33. New York: Prince Architectural Press.

⁴ Dovey, K. *The Quest for Authenticity and the Replication of Environmental Meaning*. (New York: Columbia University Press, 1985)

PART 1 - ARCTIC URBANIZATION

“When considering the problems of building in the north, to talk of an architecture of climate would be to tell only half of the story” - Ralph Erskine

DESIGNERS IN THE NORTH require an awareness of a legacy of irresponsible development that has resulted in mental and physical harm to Inuit inhabitants. It is a story of colonization, suffering, struggle and progress in the journey to find meaning for the individual and community who endured dramatic cultural changes in the past half century. The following section presents a condensed social context of Inuit, Qallunaat and their relationship to built form in the eastern Arctic beginning at the turn of the century to the present day. This section exists to educate the reader about a past of emotional affliction towards built form in this place, as documented throughout contemporary Inuit art. Additionally, it presents ideas about modern Inuit identity in relation to architecture. What does it mean to be Inuit in an urban setting today when large aspects of Inuit culture are derived from a life on the land?

Traditional Living Patterns

“We would net seals at Saglek and hunt for them there and at Nachvak. While at Hebron, we fished for trout or cod right on up to Napatok. We would go caribou hunting farther north or go south toward Nain. We would use most of the lakes as routes for travelling. People from George River and Hebron would meet in the country when they were hunting”

Tom Okkuaksiak¹

¹ Cited in Brody, H. *Living Arctic: Hunters of the Canadian North* (Vancouver: Douglas & McIntyre Limited, 1987), 100

² Brody, H. *Living Arctic*, 89

³ *Ibid.*, 93

⁴ Collignon, B. *Knowing Places: The Inuinnait, Landscapes and the Environment. Circumpolar Research Series* No. 10. (Canadian Circumpolar Institute Press, 2006), 34

⁵ Bennett, J. & Rowley, S. *Ugalurait: An Oral History of Nunavut*. (McGill-Queen's University Press, 2004), 50

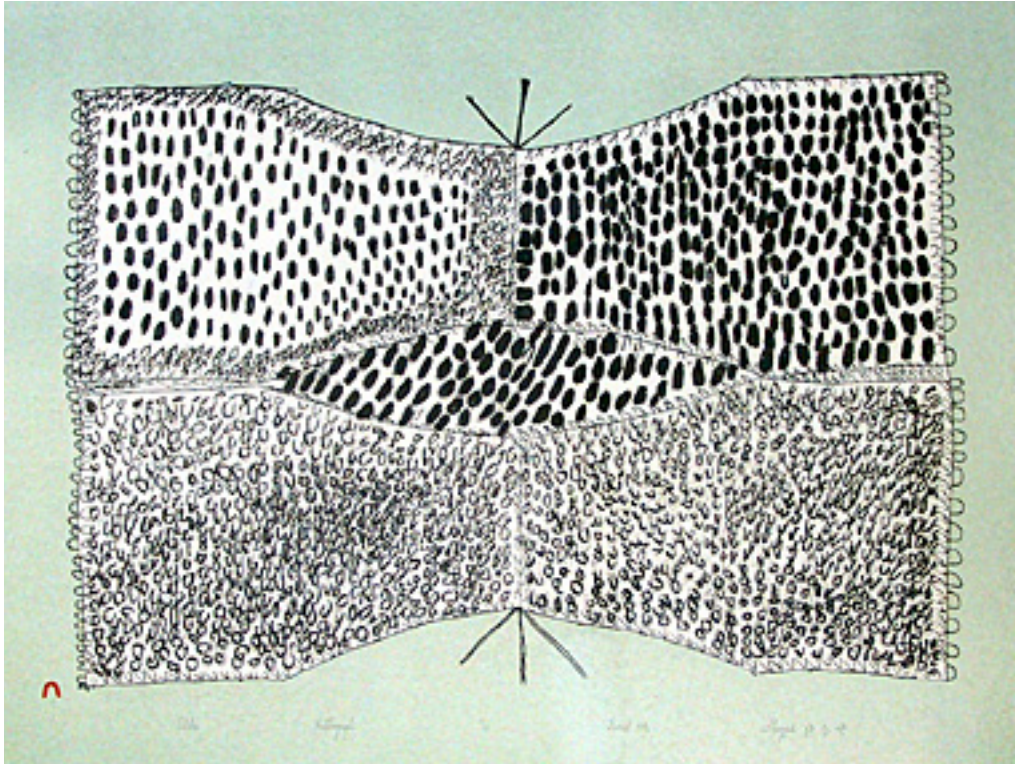
⁶ Brody, H. *Living Arctic*, 101

At the turn of the twentieth century, across the eastern Canadian Arctic people would alter the landscape to sustain their livelihood. They would build homes from locally found natural materials. Using rocks they would cache meat and supplies precisely in stone cairns. With minute nuance they would move a single rock to direct travellers and, conversely, adjust entire streams to weir fish. The land was bountiful but expansive and a semi-nomadic lifestyle was needed to hunt or gather materials for survival. Hunters, for efficiency, would always be on the move.² Following a seasonal pattern of movement ingrained into the fabric of their culture, families would move from winter sea ice to summer inland hunting territories, occupying familiar sites.³ Their settlement patterns would change dramatically during the seasonal round from small, even single family units during the summer, to a congregation averaging forty to fifty people during the winter.⁴

“When you struggle to survive so much, you tend to think all the time about where to get what you need and which place would be most likely to have game.” Etuangat Aksaayug⁵

Flexibility and mobility were, and continue to be, at the heart of living in the north. For hunting families, when opportunities arose, readiness and ability to move became critical. This meant having only essential, lightweight equipment so as not to tax a hunter's strength and resources. The harpoon, the traditional tool for hunting seals on ice, only weighed a few pounds. More recently, rifles are similarly lightweight and manageable. As Brody writes, “The easiest place in which to carry technology is the mind.”⁶ Knowing how to build a snow house saved the hunter from lugging encumbering shelter materials. Using a sledge, or qamutik, allowed easier movement of cargo across snow. Eating your fill at the kill site meant carrying meat in your body. Excess food, equipment and clothing was stored in caches to be retrieved at times of less favourable hunting or changing environmental conditions. Storage also lightened the load of travellers who were likely to pass by cache sites again on their seasonal round. In this way, lightness in the structure of equipment and quantity of possessions meant greater mobility and thus efficiency. Their structures ‘touched the earth lightly’ and were finely tuned instruments developed over centuries of life on the land.

An ingenious design which varies regionally, the qamutik is a wooden structure made from two runners attached by a number of crosspieces. The crosspieces are attached with rope, traditionally with sinew, by feeding the rope



“Equipped with [a] few pieces of hunting technology - plus a snow knife for making snow houses, needles and thread, three or four caribou hides as bedclothes and a cooking pot - an Inuit hunting family has enough to live more or less indefinitely.” Hugh Brody⁷

Sheojuk Etidlooie’s lithograph of a traditional itsha tent highlights the refined construction of lightweight Inuit structures.

⁷ *Ibid.* 101

Fig. 1.1 Sheojuk Etidlooie “Itsha (Skin Tent)”
1996 Lithograph 25.5 x 17.5 inches.

⁸ Bennett, J. & Rowley, S. Uqalurait: An Oral History of Nunavut. (McGill-Queen's University Press, 2004), 289

⁹ Collignon, B. Knowing Places: The Inuinait, Landscapes and the Environment. *Circumpolar Research Series* No. 10. (Canadian Circumpolar Institute Press, 2006), 35

through bore holes in the runners and wrapping it around notches carved into the ends of the crosspieces (see Fig. 1.2) Tying the structure allows the qamutik to bend and flex as it travels over rough ice. As the weather warms, the danger of sea ice travel becomes great. Cracks and leads in the ice can appear with little warning. Qamutiks can be used as bridges between two drifting ice shelves and if they fall in, they float. During spring breakup, when the ice becomes too thin to use as a travel surface, movement shifts to the land until boats can enter swollen rivers, bays and sounds.

"In many areas, people simply cut up their tent to make a sledge when they moved into a snow or ice house."⁸

Movement was the means to find scattered resources across the spacious Arctic landscape. The range of movement falls into two categories. First is the regional scale of seasonal movements. Stops were brief as families made long journeys at certain times of the year. The second scale is daily movements restrained within range of camp. In the summer, hunters were limited by thick tundra and choppy waters. Movement during this time was mainly by dogsled in the still snowy valleys. When all the snow had melted, qamutiks, clothing and tools were cached and the rest was harnessed to the backs of people and dogs.⁹ Winter provided greater mobility, and the range a hunter could travel in a day depended on ice conditions and the size of the dog team. Hunters would follow familiar routes and reoccupy sites, knowledge of which was passed down through generations. Though routes and sites seem established, each hunt is different since animal movement and weather are not wholly predictable nor identical from year to year. This means many thousands of critical decisions and adjustments must be made by hunters to seize new opportunities.

Since Inuit did not cultivate plants or domesticate animals, their lives depended on the knowledge of where and when to collect these wild reserves. Their lives were about adaptability to, not dominance of, Nuna. The area in which a group lived was as much determined by their hunting abilities and equipment as on the resources which naturally occurred there. Not all places were created equal, and the delicacy of the arctic ecosystem meant over-hunting or over-fishing posed a large risk if one stayed in a single area too long. Some natural features offered more bounty than others; grazing plains for caribou, nesting sites for migratory birds, or sassat (naturally occurring holes in the ice) for beluga. Understanding the movement of animal resources, adhering to seasonal cues and being adept in mobility could be the difference between celebrating a successful hunt or having a community starve. For hunters, this means using dogs, snowmobiles or boats to get themselves and their equipment to a river crossing precisely when caribou will be passing. A deep understanding of animal habits and movements as well as weather conditions are critical in making the

right decision to wait, move, and choose the correct site.

“There was a lake near Tree River where we would go to hunt caribou. In the fall the ice would freeze and overflow and freeze and overflow again, so it would be higher than this building from the ground level up to the top of the ice. In the spring and summer the river would break up, but there was so much ice on the lake that it couldn’t all melt in one season. Therefore, it being so cool on the lake, a lot of caribou would go to the lake to keep cool and to keep off the mosquitoes. This is where we would go to hunt caribou.” Jimmy Hikok¹⁰

Having a wide knowledge of the rhythms and life cycles of all arctic animals inform when these movements should take place. As such, the behaviour of animals herald seasonal changes, making the Inuit calendar defined by the season of the seal pups, of the nesting geese, of the caribou hunt and so on (see Fig. 1.2).

“Ah, the little birds! When the whitefish started coming up river the little birds would start hanging around the tents, so people would say, “The whitefish will be coming up soon!” People would know that when the baby birds are hanging around the tents, the whitefish would be coming up soon. When the fish got to be so many, we would fish for them in weirs.” Olive Mammak Innakatsik¹¹

Though movement was a large part of life, a human population can not live indefinitely without rest. During the summer single families moved across familiar territory inhabiting places which yielded provision, the knowledge of which was passed down through generations. Their routes commonly adhered to the placement of reusable caches since these structures took such energy to create. Winter was the season of coastal congregation. Hunting seals on thickly frozen ocean was easier when approached collectively with many people guarding breathing holes. Beyond just a back and fourth movement determined by hunting conditions in seasonal extremes, this annual period of congregation was a central feature to the social organization of the community.¹² It was period of intense social interaction, a communal counterbalance to the summer period of individualism. The gathering of people provided opportunities for exchange. Surplus produce could be shared. Liaisons and marriages could be arranged. Knowledge about animals and land could be pooled. Songs and dances, as well as stories and telling group histories, ensured the perpetuation and spread of knowledge.

“In building an iglu the direction of the wind had to be considered. The ventilation hole required constant maintenance. Drats also had to be considered. The entrance also required constant maintenance. When the entrance was built the lee side of the iglu was avoided, otherwise the entrance would get buried. The iglu was made to face the sun so the window would be facing the daylight.”

Martha Angugatiaq¹³

¹⁰ Bennett, J. & Rowley, S. Uqalurait: An Oral History of Nunavut. (McGill-Queen's University Press, 2004), 45

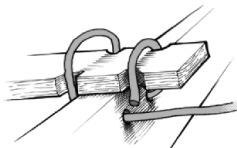
¹¹ Ibid. 47

¹² Mauss, M. & Beuchat, H. Seasonal Variations of the Eskimo: A Study in Social Morphology (London: Routledge & Kegan Paul Books, 1979)

¹³ Bennett, J. & Rowley, S. Uqalurait: An Oral History of Nunavut. (McGill-Queen's University Press, 2004), 233

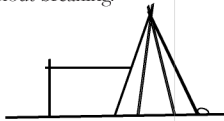
Qamutik

Qamutiks are sledges that were once made from atlers, bones, and more commonly driftwood or traded wood. These materials were then tethered with caribou sinew. Today, these structures are typically constructed of dimensional lumber and rope. However their function remains the same. They aid in the transportation of resources and group members. The qamutik is composed of two runners separated by a number of tied crosspieces. By tying the crosspieces instead of screwing them into the runners, the structure will flex over rugged terrain without breaking.



Tupiq

The tupiq is a tent built from poles and skins, primarily seal and caribou. Skins had to be collected when the animals were moulting since their fur was easily removeable and they weren't suitable for clothing. The skins were sewn to overlap, becoming watertight. Stones were placed around the perimeter to fasten the skin walls to the ground. Being above the treeline, poles were difficult to find. Driftwood, bones, and narwal tusks would all be put to use. Summers in Iqaluit today are often accompanied by camping in canvas tents rather than skins.



Nunavut

season of the skin tent

season of the nesting geese

season of the running char

season of the berries

season of the caribou hunt

season of the denning polar bear

season of the igloo

season of the seal pups

Spring

June: 21 daylight hours, 3°C
Clams, beluga, walrus, geese, eiders, eggs, sealskin tents & kayaks

Summer

July: 19 daylight hours, 8°C
August: 16 daylight hours, 7°C
September: 13 daylight hours, 2°C
Kelp, clams, narwhal, berries, mountain sorrel, caribou skin preparation

Fall

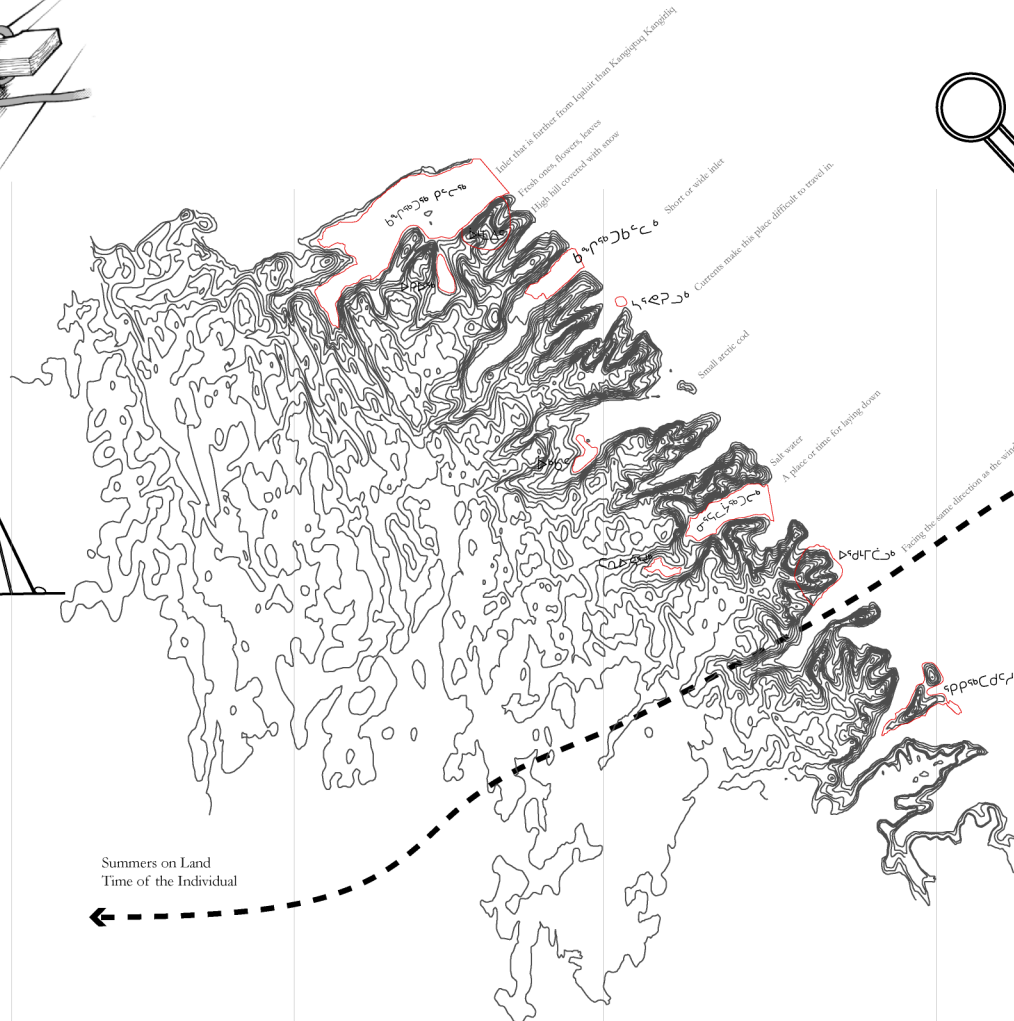
October: 10 daylight hours, -5°C
November: 7 daylight hours, -13°C
Narwhal, kelp, ducks, heather, qamaqs, caribou skin clothes

Winter

December: 5 daylight hours, -22°C
January: 6 daylight hours, -26°C
February: 9 daylight hours, -27°C
Turbot, kelp, ptarmigan, arctic hare, wolf, fox, seal & caribou skin clothes

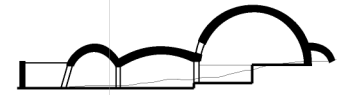
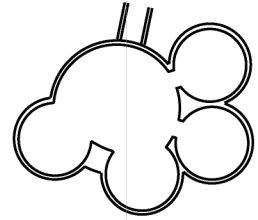
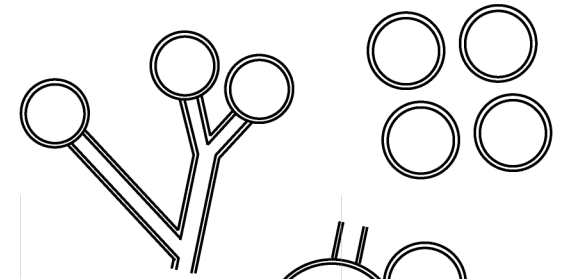
Early Spring

March: 12 daylight hours, -24°C
April: 15 daylight hours, -15°C
May: 18 daylight hours, -4°C
Turbot, seal pups, arctic hare, ptarmigan, lake & pack ice hunting & fishing



Summers on Land
Time of the Individual

Winter on Sea Ice
Time of the Collective



Iglu

Igluit could be built individually or gathered in clusters depending on social circumstances, environmental conditions or cultural activities. In a dwelling iglu, the tunnel entrance would be positioned so to not become buried by drifting snow. The lowered entrance would act as a cold trap, and the raised sleeping area would capture naturally rising hot air. A communal building, qaggiq, would be built to facilitate games, singing and drum dancing.

While camps were formed on sites that were continually revisited, the organization of individual dwellings were determined by social circumstances, environmental conditions and cultural activities. The placement of a snow house, or iglu, was in close proximity to kin. The orientation of the iglu would be such that the entrance was sheltered from prevailing winds while maintaining a view to the sea. Lines of sight could be adjusted to avoid overlapping if the density of the camp increased and more privacy was needed. Sometimes a network of corridors was built to connect individual units. These spaces allowed for convenient movement to neighbours without bundling up for the cold. For community events, a large iglu, known as a qammaq, was built. Support spaces would abut the circumference of the communal area, each external envelope touching the next to reduce surface area. In this way, a protective barrier of support spaces could take the brunt of prevailing winds, sheltering the central space and the gathered group inside.

The seasonal rhythm of movement created a balance around which social life was organized. It is a way of life that the sedentary Inuit today lament the decline of and attempt to uphold by occupying outpost camps during the spring and summer, a topic further presented in Part 3: Nunavummiut. This movement was only made possible by developing makeshift structures from found materials. Every person had a knowledge of construction. Every structure responded to environmental and social context. Every site had a seasonal criteria and a cultural footprint.

Territory of Identity

Traditional Inuit structures and settlement patterns dotted an immense space and regional variations were not only prominent, but celebrated. The territory a group occupied was a social and cultural space. It is the physical extent of space where a community develops its knowledge, ideologies, and values. The relationship between culture and this space is circular, since those inhabiting the land interpret it through their cultural framework, but that framework is generated through experiences had on that land.¹⁴

The territory inhabited by Inuit follows this same principle. As a whole, the Inuit way of life has been directly shaped by the land, its inhabitants following well-established routines based on seasonal changes. Similarly, the character of the land has been shaped by Inuit culture. Through the establishment of place names Nuna, 'the land' is a landscape of information. Place names not only describe the physical environment, but also what people can do, and have done in that space.

¹⁴ Collignon, B. *Knowing Places: The Inuinnait, Landscapes and the Environment*. *Circumpolar Research Series* No. 10. (Canadian Circumpolar Institute Press, 2006), 42

Fig. 1.2 (opposite page) Traditional settlement patterns varied by season moving from winter igluit on sea ice to summer tents on land.

“All the lakes where you can find fish or caribou have names. That is the only way we can travel. The one way we can recognize lakes is by their names. All the large mountains and hills, they have names. Sometimes we name them on account of their size or because of their shape. The names of places, of camps and lakes, are all important to us; for that is the way we travel – with names. We could go anywhere, even to a strange space, simply because places are named. That would be how we find our way. It is the way we can find how far we are from camp or from the next camp. Most of the names you come across when you are travelling are very old. Our ancestors named them because that is where they travelled.” Dominique Tungilik¹⁵

¹⁵ Brody, H. Land Occupancy: Inuit Perceptions. *Inuit Land Use and Occupancy Project* (Ottawa: Department of Indian and Northern Affairs, 1967), 198

Ranging from the practical such as Hiuqitak or “the sandy shallow place” to the emotional Qimmaryukturvik, “the place where they ate dogs” these names begin to create a tapestry of survival knowledge and community history. With a rich oral tradition, Inuit names for specific features begin to delve beyond the basic description and into the memories of what happened there. A place is no longer just a lake, but one where a relative lost their knife. In this sense, familiar territory becomes a memory-scape filled with living people, ancestors, fortunes, mistakes, animals and spirits.

“If you look for the Inuit identity, you’ll find it in the land. It’s the cornerstone of everything, of mythology, of history. You can even say that there is no such thing as an Inuk without his or her land.” Beatrice Collignon¹⁶

¹⁶ George, J. Identity and Survival Carried in Inuit Place-Names. *Nunatsiq News*
www.nunatsiaqonline.ca/archives/nunavut980531/nvt80522_02.html

The closer one is to a well used camp, the more memories and therefore place names are present. To this end, a group’s identity is woven into an important place in their territory, to which the suffix ‘-miut’ is added. When added to a place name, this suffix means ‘the people of ____.’ Thus Iqalungmiut are the people of Iqaluit, ‘place of many fish.’ It instils a symbiotic bond, one of belonging rather than ownership.

“The living person and the land are actually tied up together because without one the other doesn’t survive and vice versa. You have to protect the land in order to receive from the land... that’s why we treat it as part of ourselves.” Mariano Aupilaarjuk¹⁷

It is in this context that one can understand the limitless influence of Nuna in the culture, livelihoods, spirituality and identity of Inuit people. The following sections unravel how a dramatic upheaval from semi-nomadic land-based life styles to permanent communities has impacted this practice of identity building.

* * *

¹⁷ Bennett, J. & Rowley, S. Uqalrait: An Oral History of Nunavut. (McGill-Queen’s University Press, 2004), 118

“Pudlo welcomed the influx of modern life into the Arctic. He became fascinated by airplanes, which he adopted as one of his preferred subjects, often in fanciful guise. At his death in 1992, Pudlo left a body of work that included more than 4000 drawings and 200 prints. His compositions are marked by surprising juxtapositions and indications of a subtle sense of humour.”
National Gallery of Canada

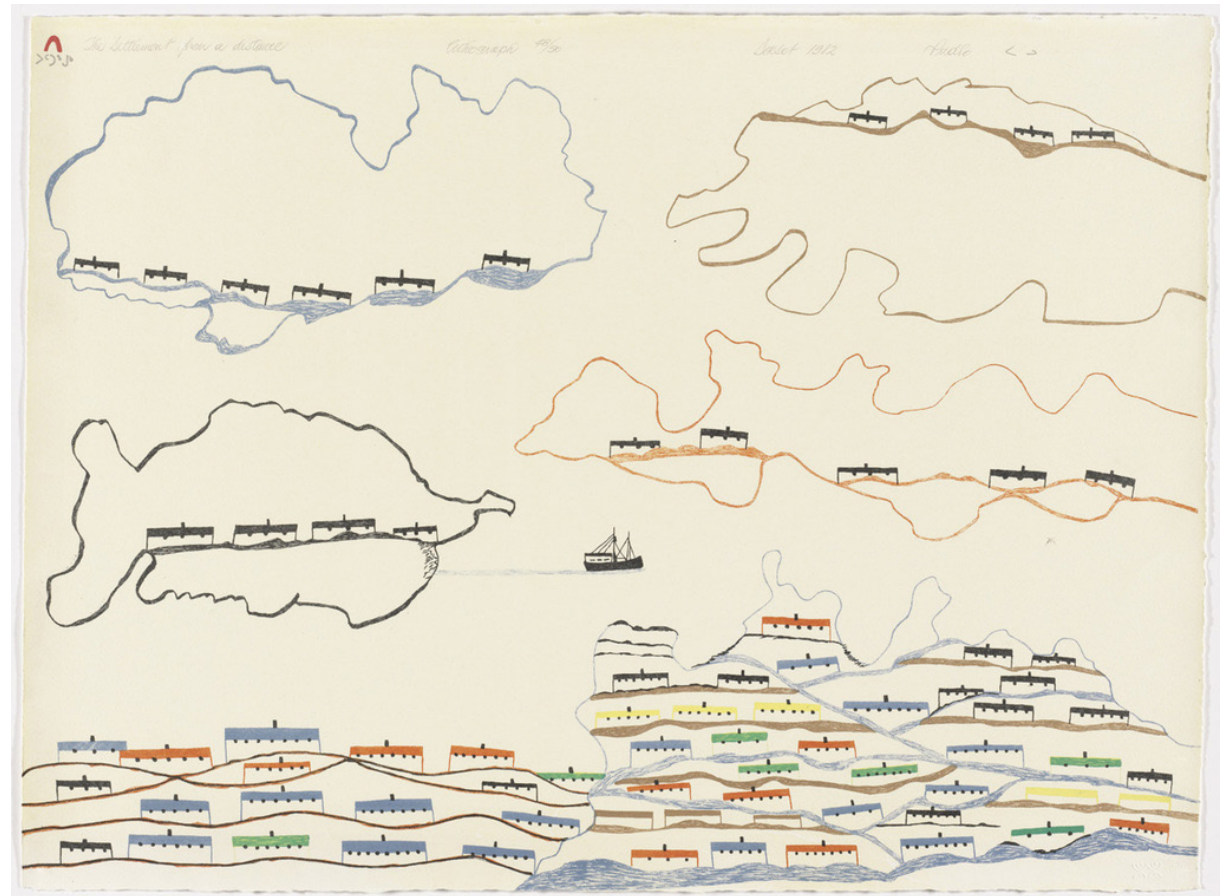


Fig. 1.3 Pudlo Pudlat “Settlement from a Distance” 1982 Lithograph, 56.8 x 76.5 cm.

From Land to Settlement

“Nunavut can be understood only within the context of this dramatic shift from the land to village life” Janet Billson¹⁸

Combined Forces

Several events converged during the mid-twentieth century to push Canadian Inuit off the land into urban-type settlements. Through the 1930s and 1940s missionaries urged Inuit to attend church regularly in permanent communities. However, these early missionary efforts were futile since they did not have the power to force such a change in people's lifestyles.¹⁹ The first real shift in spatial organization came when The Hudson Bay Company encouraged Inuit to trap.²⁰ This greatly effected the seasonal movements of Inuit who were used to hunting other, often large game. However, trapping hare and fox did not influence Inuit to entirely abandon their cultural practices. The HBC wanted Inuit to continue using their skills, though to corporate economic advantage. The federal government also encouraged Inuit to remain scattered at this time, since they feared the administrative difficulties and costs such a change would employ.

However, world politics would eventually force a major change in northern settlement patterns. During most of the twentieth century, the circumpolar north was viewed as a critical military space. When the United States joined WWII they built a series of airfields known as the “Crimson Route” originating in Montana and passing through Hudson Bay, Baffin Island, Greenland, and Iceland. These were to help planes “hopscotch” across the Arctic to war efforts in Europe. During this time the federal government promoted the movement of Inuit into settlements to establish sovereignty in the Canadian Arctic. At the end of the war, the U.S.S.R. and United States became hostile enemies. The “Cold War” had begun. The United States feared Russians would attack by coming through the Canadian Arctic, so a Distant Early Warning Line (DEW Line) was erected to give the American military detection of invasion several hours in advanced. Both the airstrips and the DEW Line used Inuit workforces for their construction. The money was good and it was a change from everyday life. Once construction had finished, some of the Inuit carpenters found themselves settled around these sites.²¹

In the 1950s a series of famines and epidemics spread throughout the Arctic, causing Inuit to flow more rapidly into settlements to receive healthcare, social assistance and other resources provided by churches and the now paternal federal government (Dawson). At this time, each settlement was run by a government-appointed Northern Service Officer who became responsible for mentoring Inuit into the “proper” ways of getting an education, maintain-

¹⁸ Billson, J. *Inuit Dreams, Inuit Realities: Shattering the Bonds of Dependency*. *American Review of Canadian Studies* 31(1-2), (United Kingdom: Taylor and Francis Inc., 2001), 284

¹⁹ Collignon, B. *Knowing Places: The Inuinnait, Landscapes and the Environment*. *Circumpolar Research Series* No. 10. (Canadian Circumpolar Institute Press, 2006), 46

²⁰ *Ibid.*

²¹ Eno, R. *Crystal Two: The Origin of Iqaluit*. *Arctic* 56(1), (Arctic Institute of North America, 2003), 63-75.

²² Dawson, P. Space, Place and the Rise of Urbanism in the Canadian Arctic. *Space and Spatial Analysis in Archaeology* (Calgary: University of Calgary Press, 2006), 169-176

²³ Collignon, B. Knowing Places: The Inuinait, Landscapes and the Environment. *Circumpolar Research Series* No. 10. (Canadian Circumpolar Institute Press, 2006), 48

²⁴ Henderson, A. Nunavut: Rethinking Political Culture (Vancouver: UBC Press, 2007), 24

²⁵ Merritt, J. Nunavut: Canada Turns a New Page in the Arctic. *Canadian Parliamentary Review* 16(2), (Commonwealth Parliamentary Association, 1993), 4

²⁶ White, P. The Trails of Nunavut. *The Globe and Mail*, April 01, 2011.
<http://www.theglobeandmail.com/news/national/nunavut/the-trials-of-nunavut-lament-for-an-arctic-nation/article547265/>

²⁷ *Ibid.*

ing a house, and keeping a job.²² As Beatrice Collignon writes, “...in the 1950s, federal politicians and senior bureaucrats who were making all the decisions had no arctic experience and therefore no direct knowledge of the life of Inuit. They had little respect for the knowledge of their own [Qallunaat] subordinates who knew the Arctic, and they showed little desire to listen to any of the Inuit. They were totally convinced of the superiority of their own point of view with regard to the welfare of ‘Other Peoples.’ Such attitudes are shocking today, in the early years of a new century, but fifty years ago that was the spirit of the era, and it affected many peoples in the world, not just the Inuit.”

By the mid 1980s attitudes had changed. Aboriginal leaders who had learned how to deal with bureaucrats began speaking their minds, aboriginal rights were legally recognized, and post-colonial studies were critically affecting federal government policies.²³ It is within this environment that various government and community organizations were formed to bring Inuit concerns closer to the political surface.

Creation of Nunavut

In 1971, a handful of Inuit created the Inuit Tapirisat of Canada (now known as Inuit Tapiriit Kanatami) to give a national voice to the 55,000 Inuit sparsely located across the immense region of Inuit Nunangat - the Inuvialuit Settlement Region of Northwest Territories, Nunavut, Nunavik (Northern Quebec) and Nunatsiavut (Northern Labrador). The organization began by forging the proposal for a land claim in the eastern Arctic. Their campaign, from 1976 to 1993 promoted the Inuit dream of creating their own territory in which Inuit values were reflected in an Inuit governing paradigm.²⁴

On April 1st, 1999, this dream became a reality when Nunavut – Our Land - separated from the Northwest Territories and the new legislature in Iqaluit opened its doors. Reactions to the claim have been mixed. Before 1999, many researchers heralded it as an important undertaking towards aboriginal self-government. The claim, according to John Merritt – a special adviser to the Tungavik Federation of Nunavut - provides the chance to “sustain Inuit cultural distinctiveness while equipping residents with the political and bureaucratic levers needed to assert northern priorities against the competing claims of the South.”²⁵ About a year after its formation, Jim Bell, the editor-in-chief of Nunatsiavut News wrote that Nunavut was a “made-for-failure territory.”²⁶ Its fledgling political leaders are overburdened with bureaucracy, paralysed by inadequate budgets and a debt cap making it impossible for the government to invest in a self-sustaining territory.²⁷

“Part of the promise of Nunavut was that, once in control, the majority Inuit government would offer better government – that has not happened. ... The only thing Nunavut has been successful at doing is creating a space where Inuit identity can be expressed. But it is not meeting the basic needs of the population right now.” -Jim Bell²⁸

28 Ibid.

As Patrick White wrote for The Globe and Mail, “Nunavut is struggling on all levels just to meet the basic needs of its 33,000 inhabitants. Seven in ten preschoolers grow up in houses without adequate food. Within Confederation, Nunavut ranks last in virtually every measure – education, general health, substance abuse, employment, income and housing.” What is clear is that things in Nunavut must change.

While one person or project can only attempt to resolve complexity of issues, a sense of optimism can be generated when one recognizes the outstanding strides other polar nations have made under similar circumstances. Greenland maintains a goal to have two-thirds of its population educated in trades or academically by 2020. It is also responsible for acquiring 40 per cent of its annual revenues domestically, relying on Denmark for the remaining 60 per cent. Nunavut, by contrast, generates 7 per cent of its revenue domestically, receiving 93 per cent from federal funds. As long as Nunavummiut continue to rely on external revenues the full realization of Nunavut will never be seen. With half of Nunavut’s population under 25, education and employment for a burgeoning workforce is arguably what is needed most. Education to receive local employment. Employment offered by Inuit business owners. Businesses founded on Inuit principles, values, and knowledge. Businesses which can give Nunavut greater economic autonomy and a means by which to relieve its social ailments.

* * *

Siting Identity

Town Hurts, Land Heals

Besides the rudimentary need for education and employment, there are some issues in Nunavut that are less quantifiable. Nunavut is a modern territory on ancient lands. The challenges facing a people ‘caught between two worlds’ is yet another layer that must be considered moving forward. The creation of Nunavut was a leap of progress in fortifying Inuit culture, but the battle to assert Inuit distinctiveness in an ever modernizing world must continue to be fought. Discourse articulating a Native American identity recognize blood or descent, relations to land, and sense of community as key ingredients.²⁹ The same is true for Inuit who use the powerful imagery of an Arctic landscape and their relationship to the land as a primary source for their identity. Holding strong ties to the land is seen as a way to create a capable and resilient mind and a way to continue cultural history and knowledge. Being on the land, or in outpost camps, confirms Inuit distinctiveness, making these particular places ones which nourish identity. Conversely, losing those ties to the land is negatively viewed, and places like Iqaluit – a modern city where large numbers of Qallunaat live and work – are where Inuit culture and identity are being lost.

Important in this discussion is the notion of authenticity. An Inuk with a more noticeable relationship with the land such as a hunter who speaks Inuktitut, is seen as being more authentically Inuit than an Inuk who lives in Ottawa, speaks only English, and has little knowledge of hunting and fishing practices (Searles 2010). In this framework, identity continues to be fundamentally linked to a relation to land.

*“While differences exist among modern Inuit as to how closely they follow traditional values, all Inuit are proud of their culture and recognize the importance of their relationship to the land to be essential to their culture and their survival as a distinct people”
Pauktuutit Inuit Women’s Association of Canada³⁰*

Since some believe an authentic Inuit identity is, in part, derived from a life on the land, it is difficult for Inuit and Qallunaat alike to identify how Inuit culture translates into the urban setting. Permanent settlements were only formalized with the arrival of Qallunaat in the Canadian Arctic, therefore the town was recognized as being to Qallunaat as land was to Inuit. This sentiment was further embedded into northern culture when drug, alcohol and domestic abuse began to plague Inuit communities. To escape by will, or by force, the modern trappings of Arctic communities, Inuit were offered the opportunity to return to Nuna, to outpost camps, to be healed by the land. This effectively reiterated the feeling that Inuit did not belong in towns.

²⁹ Thornton, R. *Studying Native America: Problems and Prospects* (Wisconsin: University of Wisconsin Press, 1998), 40

³⁰ Pauktuutit Inuit Women’s Association of Canada. *The Inuit Way: A Guide to Inuit Culture*. (Ottawa, 2006), 4



“Annie Pootoogook’s deep-delving work expresses the hybrid nature of contemporary Inuit life.” Sarah Milroy³¹

“In Ms. Pootoogook’s hands this realism can be disconcertingly autobiographical. In “Memory of My Life: Breaking Bottles,” she is the woman smashing liquor bottles in a rage at the damage that alcohol is causing her family and friends.” Holland Cotter³²

Annie Pootoogook’s work challenges the notion of authenticity in Inuit identity. Oftentimes, her artwork depicts the fluid hybridity of southern and northern life by avoiding the expected “traditional” depictions of animals and integrating modern technologies as well as domestic abuse and tragedy.

³¹ Milroy, S. The Hunter Artist. *The Walrus*. thewalrus.ca/the-hunter-artist/

³² Cotter, H. Postcards From Canada’s ‘New North’. *The New York Times*, 23 July 2009.

Fig. 1.4 Annie Pootoogook “Memory of My Life: Breaking Bottles” 2001/02 Ink, Pencil Crayon, Pencil, 20 x 26 inches.

On-the-land healing programs continue today for a wide range of purposes including wellness and recovery in the form of spiritual retreats, drug and alcohol rehabilitation, child education and criminal reform. Living summers on the land is seen as a time to seek solace and comfort rather than a place Inuit must go to be “authentic”. While the boundary delineating what constitutes Inuit identity may be expanding, the notion of what an urban Inuit identity is, remains under discussion.

Urban Inuit Identity

It is easy to understand why so many Inuit feel that their communities are not organized in a way which represents their living habits. The creation of permanent settlements in the Canadian Arctic by the federal government in the 1950s and 60s introduced Inuit families to urban life virtually overnight. The layout and design of these new Arctic towns was based upon Euro-Canadian concepts of community structure, administrative controls, and social cooperation. Roads, utility hook-ups, and building codes replaced cultural values, familial ties, and the requirements of traditional activities in determining the spatial organization of buildings within settlement.³³ Furthermore, the geographical locations of these new communities were selected on the basis of access to air and sea transportation, issues of Canadian sovereignty or the needs of industry, not familiar sites with which Inuit identified.

Even the individual buildings of these new communities were built unresponsive to Inuit lifestyles and environmental context. Relying on hardy, permanent materials and imported labour from southern provinces, buildings reflected southern practices and forms. Designs started as small, poorly insulated, stick-frame “matchbox houses” which were inadequate for habitation and led to outbreaks of tuberculosis.³⁴ They quickly evolved to large-scale experiments in arctic construction such as architect Ralph Erskine’s vision for Resolute Bay, enclosing the community with a protective shield of connected buildings. The perpetuation of this combative attitude continues in buildings such as the Nunavut Arctic College student residence in Iqaluit. Like Erskine’s design this introverted “austere and overpowering mass” offers only glances to Nuna and no public interface. It is a far cry from the lightness and flexibility of Inuit vernacular architecture.

If public buildings can be understood internally as self-contained cities and from the exterior as an onerous block, then private homes are nearly the opposite. Due to stringent fire separation bylaws and the need to eliminate heat transfer from homes into the permanently frozen ground beneath, family homes throughout Nunavut are raised on high pile foundations and strictly distanced from one another. The result literally detaches architecture from land-

³³ Dawson, P. Space, Place and the Rise of Urbanism in the Canadian Arctic. *Space and Spatial Analysis in Archaeology* (Calgary: University of Calgary Press, 2006)

³⁴ Tester F.J., McNicoll P. & Irniq, P. Writing for our lives: The language of homesickness, self-esteem and the Inuit TB epidemic. *Inuit Studies*, 25(1-2), (Quebec City: Laval University Press, 1999)



Kananginak Pootoogook depicts the modern, permanent settlement of Cape Dorset where he lives. Rows of houses lit by electricity against the rising landscape illuminates the experience of contemporary Inuit life as one facing accelerated cultural change.

Fig. 1.5 Kananginak Pootoogook "Dorset at Twilight" 2009 Lithograph, 15 x 22.5 inches.

scape and kin; a proposition impossible in traditional Inuit construction. Community layout and building design in Nunavut does not represent the connectedness Nunavummiut have with their natural environment. Given the rapid urbanization of Nunavut, how can residents and architects challenge this problem and find new ways for people of the land to reflect their identity in urban places?

*“The irony of the spatialization of Inuit identity in the Arctic is that many Inuit seem unwilling to extend that identity into urban spaces even as more and more Inuit are becoming urbanized.”
Edmund Searles³⁵*

³⁵ Searles, E. Placing Identity: Town, Land, and Authenticity in Nunavut, Canada. (*Acta Borealia*, 2010), 164

Nunavut’s territorial government reflecting Inuit processes of governance has made the idea of an urban Inuit more acceptable. Inuit Qaujimagatuqangit (IQ) or Inuit traditional knowledge, or ‘what Inuit have always known’, has become something of a political slogan in Nunavut and must be used, in its broadest sense, in every political and bureaucratic decision, as well as in all programs in education, health, land and wildlife management and research of any kind. A decade ago the acceptance of IQ in environmental and ecological research has shed light on how Inuit knowledge can translate into subject areas once deemed the property of Qallunaat institutional researchers. Through indigenous entrepreneurship IQ is injected into economic development, another recent approach to have Inuit values resonate through urban circumstances. As Edmund Searles writes, “With more job and educational opportunities available to Inuit young and old, and with more and more businesses owned and run by Inuit entrepreneurs, an urban Inuit identity is becoming less stigmatized even as the rhetoric used by Inuit politicians relies on cultural dichotomies that oppose Inuit culture with town-based lifestyles.” By taking cue from and ingraining common Inuit values and knowledge into community planning, perhaps a recognizably Inuit urban identity can be physically revealed. But how does one integrate IQ into urban environments when the entire premise of IQ is knowledge or wisdom developed before the arrival of Qallunaat, before towns existed?

“Community planning really means doing the thinking that leads to profound consensus on the purpose and direction of the settlement; it means putting words to the idea that self-governing peoples must exercise their right to live in settlements designed to complement and support their chosen lifestyle. It means thinking with the heart as well as the brain. It means having a collective memory that actively informs the future so that the community can dodge the fate of repeating the same mistakes. It means the inhabitants, who understand what is at stake, taking control.” Harold Strub³⁶

³⁶ Strub, H. (1996). *Bare Poles: Building Design for High Latitudes.* Ottawa: Carleton University Press, 1996), 93

Hybridization and Cultural Cultivation

On the social media website Facebook, a group exists called ‘You might be an Inuk if...’ The group is for Inuit comments only, and regularly reveals themes of identity and place. One member wrote that you might be Inuk if you are, “still living traditionally but mixing it with modern...and mix your Inuktitut language with Qablunaaq” (posted July 15th 2012). An earlier post exposes a dialogue between two members contemplating the use of the internet as inauthentic to Inuit identity, how it would be a dream to abandon city life and learn to survive on the land, and that “every Inuk is now ‘urbanized’” (posted June 13th 2012). These comments sum up how many Inuit feel about their modern identity. Generally, it seems to be one of finding a balance or bridge between tradition and modernity, between town and land. In this way, Inuit identity is hybridized to cope with the dramatic cultural changes that occurred in the last few generations.

If Inuit identity is hybrid, then places which express and celebrate Inuit identity should also be hybrid, combining tradition with modernity and urbanity with natural landscape. Of course this is a broad description so to begin, how does one choose which traditions to strengthen? Who has the cultural authority? Interestingly, though urban settings like Iqaluit oftentimes have been regarded as places where Qallunaat values eclipse those of Inuit, it is here where observable cultural differences can be easily identified. To a Qallunaat outsider, distinctly Inuit cultural activities stand out against the familiarity of Qallunaat ways. Only through cultural immersion, rather than an academic approach, can these differences be observed. However that does not condone any authority declaring which activities to perpetuate. Insightful observations are only a preliminary step in designing for cultural continuity. The community itself must determine which aspects of their culture are potent throughout society and are worth advancing, letting others inevitably become lost.

In Government of Nunavut economic development literature, the establishment of territorial values such as cultural pride, access to land and language can be found. However, this is simply doctrine since specific routes to ensure cultural distinctiveness are not apparent. Considering the social organization of Inuit society as non-hierarchical,³⁷ where each household is responsible for their own food, shelter and clothing, a consensus is formed from individual decisions about livelihood. But with so many combating viewpoints on what defines Inuit identity, a consensus is hard to find.

³⁷ Collignon, B. Knowing Places: The Inuinnait, Landscapes and the Environment. *Circumpolar Research Series* No. 10. (Canadian Circumpolar Institute Press, 2006), 29

“...And then there is Tim Pitsiulak. While Annie Pootoogook’s and Shuvinai Ashoona’s deep-delving work can be understood within the framework of traumatized colonialization and feminism, Pitsiulak’s art reflects another reality. It reveals his attachment to place, the rituals of the hunt, and the pleasures of providing, while representing a mode of masculinity in which he can take pride. With confidence and some defiance, he challenges the south’s guilt-ridden view of the North as a place of tragedy only.” Sarah Milroy³⁸

³⁸ Milroy, S. *The Hunter Artist*. *The Walrus*. thewalrus.ca/the-hunter-artist/



Fig. 1.6 Tim Pitsiulak "Family of Eight" 2008
Lithograph 38.2 x 56.4 cm.

“In keeping with their more individualistic vision, Inuit see identity as open-ended. It cannot be enclosed within specific categories or defined according to precise criteria. Identity may have to do with anything one deems important, including elements — like religion — that do not come readily to the mind of scholarly observers. As stated by Watt (2000), you are an Inuk when you want to be one. Inuktitut dictionary descriptions of what an Inuk is can only come out with factual — even trivial — definitions: Inuit live in the Arctic and their skin is not white.” Louis-Jacques Dorais³⁹

³⁹ Dorais, L.J. Comparing Academic and Aboriginal Definitions of Arctic Identities (*Polar Record*, 2005), 1-10

From an architectural standpoint it is possible to create hybrid spaces that begin appeal to the larger themes that represent Inuit identity as a combination of tradition and modern, town and land. The field of architectural regionalism often harmonizes local - traditional - processes and built forms with modern materials. It also favours responsiveness to local climate and landscape conditions. Contemporary landscape architecture revolves around the hybridization of urban places with natural or manufactured landscapes. Both of these fields offer navigation in the search for an urban Inuit architectural voice. Since retaining close ties to the land is an important aspect of Inuit identity, perhaps communities can be developed with a stronger connection to land, through climatic design and views. Transportation is often by snowmobile, so perhaps communities can be designed to sustain such movement through urban routes. The process of hunting and sharing food is common throughout Nunavut, so perhaps a country food co-op can become the cultural focus of downtown economic activity instead of generic, big box grocery stores.

Similar to how Inuit printmaking became a constructed tradition and vessel for Inuit identity beginning in the 1950s and 60s,⁴⁰ the intention is that contemporary architecture in Nunavut can follow suit, becoming a critical vernacular and a tool for developing an Inuit identity in urban places. In the following chapter, a closer analysis of the most urban place in Nunavut, Iqaluit, is presented to reveal the distinguishing processes, forms and environmental responses worth enhancing.

⁴⁰ Root, D. Inuit Art and the Limits of Authenticity (Alberta College of Art, 2007)

* * *

PART 2 - SPATIAL ORGANIZATION

“In Canada, the high latitude community that properly serves the needs and aspirations of its population has not been built.” Harold Strub

WHAT MAKES THE CAPITAL [un]responsive to the lifestyles, dreams and realities of Nunavummiut? This section presents current urban characteristics of this place that are worth strengthening in the formation of a regional design.

Mialigaqталiminiq

“the place where the Americans lived”

[p. 47] Crowell had established the Crystal Two base on an island far up the bay in October [1941] and there he had spent the winter as commanding officer of his small garrison of ten men.

[p. 63, On July 22, 1942, in Frobisher Bay, looking for Crystal Two weather station] Examining [the island's] skyline with binoculars, my eyes at last lit on a small flag or rag on a staff protruding from the top of the highest ridge.

We were soon rewarded by looking down from the summit on a broad stretch of level tundra, on the far side of which stood two houses and the radio tower of Crowell's camp. As we approached, Crowell and a soldier came out to meet us with high-powered rifles loaded and ready to repel an invading force. Happily, Crowell recognized me. He had received no word of our coming, nor had his radio operator heard our message of the day before. We took them wholly by surprise.

[p. 69] ...examination of the proposed field by Crowell's camp proved it to be inadequate for an airport of the size required. We must therefore proceed to the head of the bay as soon as possible and examine the site favored by Hubbard, lying east of the Sylvia Grinnel River and abutting on Koojesse Inlet.

[p. 70] About 6:30 P.M. the Polaris and the Morrissey anchored in 20 fathoms near a high island beyond which we could see the wide expanse of level land which was evidently the proposed airport site. Crowell and Barkin were eager to get ashore and examine the terrain and lost no time in mobilizing an Army tent and camping gear. The idea of spending the first night ashore at this important site appealed to me strongly and I tossed my sleeping bag into the lowered whaleboat. With us was Paluchi [Nakasuk], an Eskimo patriarch of Frobisher Bay whom Crowell had taken on as guide, philosopher, and friend, factotum and counselor soon after his arrival the previous October.

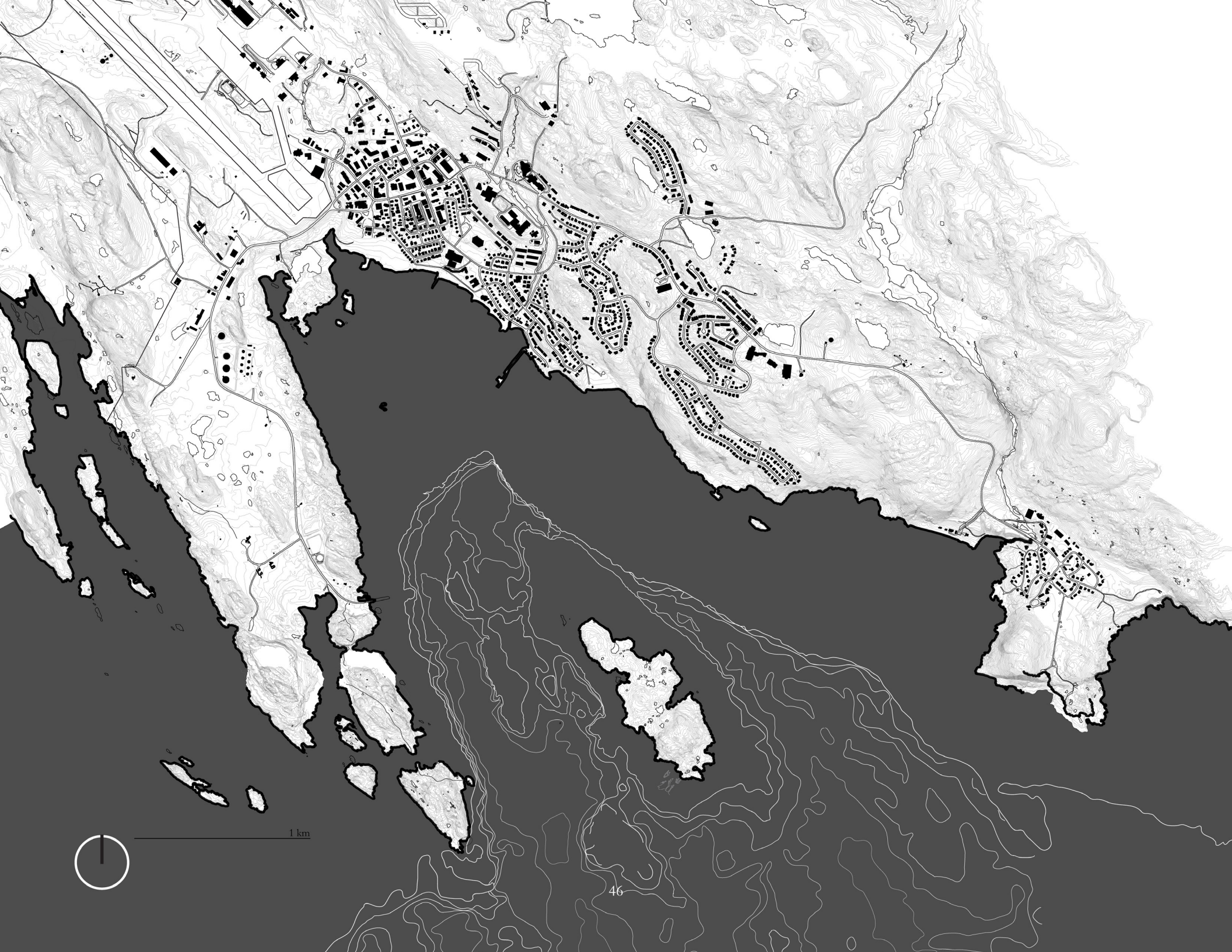
Before the sun set we had pitched our tent on a level bench of turf, moss, and wild flowers, commanding a beautiful view of the bay and the wide plain, destined soon to become a great airport.

Crowell and Barkin in their eagerness to explore the ground for airport development, breakfasted hastily on a slice of bread and a bit of ham and made off when the sun was barely above the horizon. I accepted Paluchi's offer of a cup of tea and then explored on my own...

Forbes, 1953

Fig. 2.1 (opposite) Frobisher Bay, Nunavut.





1 km

Place of Many Fish

Iqaluit is located near the mouth of the Sylvia Grinnell River that empties into Frobisher Bay, named after the 16th century explorer Martin Frobisher. The origins of Iqaluit are unique in that it was not a HBC, missionary, or RCMP post like many other Arctic settlements, but a US Air Force refuelling site as part of the Crimson Route. Originally positioned on Crowell Island fifty-six kilometres from the current city site, the former base of Crystal Two determined the Inuktitut naming of the island Mialigaqталiminiq, ‘the place where the Americans lived.’ The base was later moved to the head of Frobisher Bay since it was more advantageous for the construction of a long runway. This new site, Crystal Two Advanced Base, was chosen in part by a local Inuk, Paulusi Nakasuk, who offered his knowledge of suitable sites to the Americans. The area had always been bountiful in fishing and hunting opportunities and had been occupied by Inuit for countless generations. Initially named Frobisher Bay, the settlement grew adjacent to the airport, its 2600m long runway dwarfing the community. Though the airport was not actively used during the WWII it quickly became a hub of Cold War surveillance as part of the Pinetree Line. The city was renamed in 1987 to Iqaluit, ‘place of many fish.’ It has grown over the limited, flat gravel area of land on the shores of Frobisher Bay and now feels the pressure of being squeeze between Arctic Ocean and large rock outcrops to the north. As the city moves quickly towards capacity, now estimated at 10,000 people by 2020, development pressure on easily graded land is likely to become increasingly difficult to support. New buildings may have to find footing on the rocky hills that cradle the city, fill in empty spaces within the core, or find suitable land on the fringe of the city.

The assortment buildings and artifacts in Iqaluit visualize the complete narrative of its being. Its fabric catalogues the intentions and visions of the individuals, organizations, and removed forces which shape the lives of its current inhabitants. The architectural expression of this place is unmatched, ranging from Thule sites to institutions that “look at home on Mars.”¹ Iqaluit’s military roots have given cause to a legacy of experimental architecture that belies centuries of vernacular habitation. In 1958 proposal for “Frobisher Bay, the Domed City of the North” was offered to the Canadian government by the department of public works. The nuclear powered “space age” complex was comprised of a series of high rise apartment buildings radiating from a central, domed communal space. While the project was never fully realized, its influence is seen in the multi-use “Astro Hill” complex. Housing a hotel, restaurant, swimming pool, theatre, several government departments and an eight-storey apartment building, the complex was originally conceived as part of an even larger network of buildings connected by underground tunnels. However, this strategy for creating enclosed complexes was abandoned when it was discovered that instead of gathering the community, they polarized people into those who lived strictly indoors and those who braved the outdoor winter environment.² Built of reinforced concrete, ‘Eight Storey’ – as it’s known locally – is one of the last projects to be constructed

¹ Pfeiff, M. 2010. Head into the Arctic Easy. *The Globe and Mail*. <http://www.theglobeandmail.com/life/travel/destinations/head-into-the-arctic-easy/article571484/>

² Zrudlo, L. Psychological Problems and Environmental Design in the North (Quebec: University of Laval Press, 1972), 71

Fig. 2.2 (opposite) The layout of Iqaluit is visibly drifted by northwest winds. The urban core sits on the shores of Koojesse Inlet. At low tide nearly a kilometer of public space extending from the core becomes available.

constructed by this method. The cost of shipping concrete, aggregate and skilled workers, combined with the rarity of favourable pouring conditions makes this method tremendously expensive.

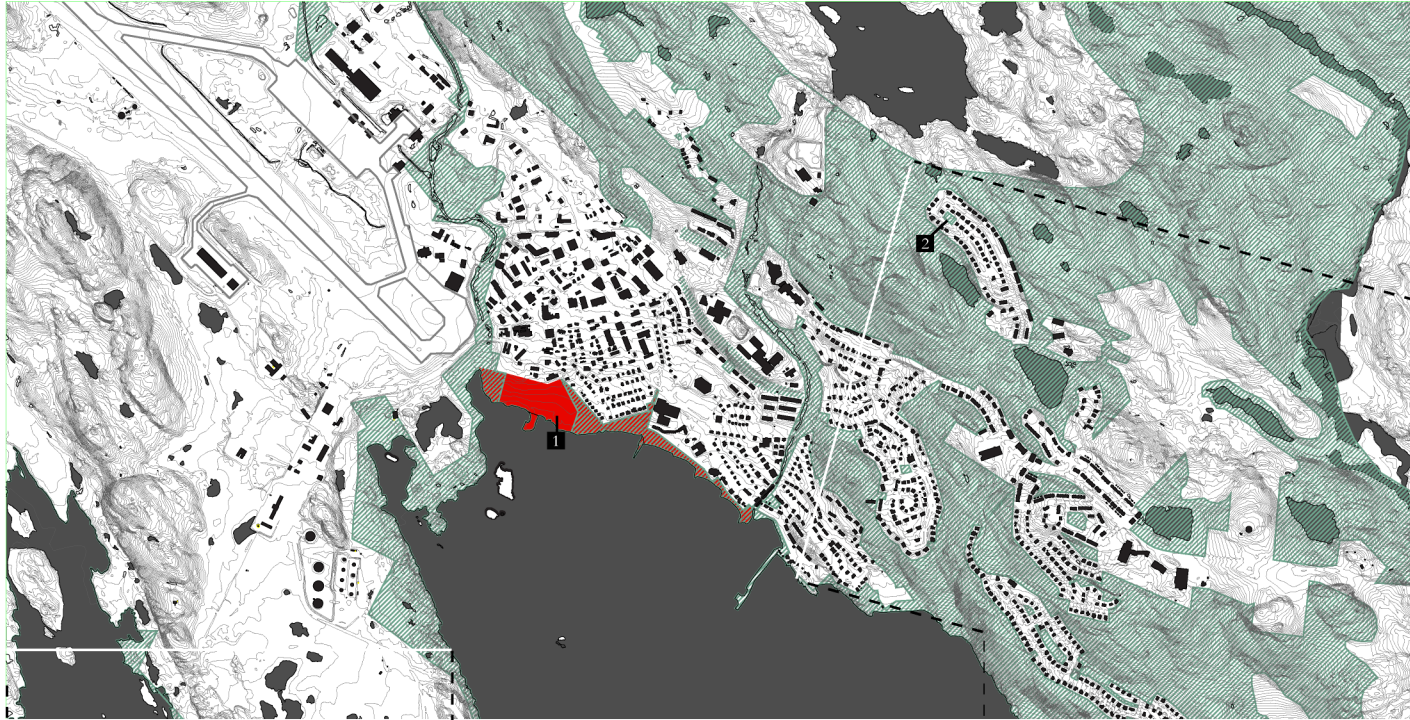
³ Hallwalls Gallery. *Aesthetics for the Cold: Emerging Architectural Ideas* (Buffalo: Hallwalls, 1983)

In the 1970s and 80s a variety of “pioneer futurism” buildings were constructed in Iqaluit. The airport terminal, City Hall, Nakasuk Elementary School, Inuksuk High School and Baffin Correctional Centre form a series of icons – visions of future societies and statements about alternative values.³ They encapsulate the spirit of regionalism, yet offer underwhelming progress. Their aesthetic involves extruded and streamlined forms to reduce glare, heat loss and snow drifting. They introduce striking colours to the city scape with their massive prefabricated panels made for ease of shipping both by air and barge. Elevated and nearly windowless, their effect is “other-worldly”, transcending conventional typologies. Though it may be true that their bold forms are complimentary to the landscape, mimicking crystalline structures of ice and wind-swept snow drifts, the reality is their sealed and dark interior spaces offer poor working environments.

The dramatic, exterior expression of these public institutions are not completely out of place in Iqaluit. Buildings here don’t have projecting planes, such as the balconies and overhangs found at midlatitudes, for fear of them being destroyed by wind. Instead, they tend to be extremely compact and can be found with interesting angles and shapes to address wind performance and entrance identification as seen in the Unikkaarvik Visitor’s Centre. The downtown is an awkward collection of aluminum paneled commercial buildings, retrofitted military row housing, discarded shipping containers, wood-sided family homes with boats and snowmobiles resting between patches of arctic cotton, and the central landmark; an igloo shaped church. There is one main intersection, Four Corners, which experiences three periods of congestion a day. The hub of activity is found at the converging realms of the dusty Nakasuk Elementary School playground and Northmart, a big box grocery and department store where 24 cans of Pepsi at \$36 a case are sold shockingly fast. Walk into the peripheral residential areas sporting names like “Tundra Valley” and “Legoland” and houses are brightly coloured, perched upon rock outcrops. Here, it is not uncommon to see polar bear or seal hide stretched on wooden frames and dogs taking shelter between pile foundations.

Fig. 2.3 (opposite) Open space between development is where processing occurs for the informal, traditional economy. It is also a recreational space facilitating an extensive mobility network. However, this remarkable asset has yet to be acknowledged in “uniquely northern” public space designs.

The movements of people, trucks, snowmobiles, ATVs and boats are a constant sight in Iqaluit. Mobility, being a necessity to life in the North, has paved way for an astounding network of organically produced trails throughout the city. Starting in residential neighbourhoods, they cut around corners, between buildings and over the creeks that surround the downtown core as they make their way to the waterfront. Their use enhances the fluid pedestrian move-



Suburban Playground

The imported typology of 'suburban playground' is often found filled with children playing in late into the summer sunlit evening. During the winter, these exposed spaces are dark and cold.



Urban Core Waterfront

Iqaluit's urban core meets the waterfront in two resulting conditions. The eastern half contains a visitors centre, museum, cafe, elders centre and sheds. The western half (1) holds the potential to continue the layering of informal structures and cultural institutions.



ment of northern communities, promoted by the absence of fences and public nature of all buildings, homes and offices alike. They occur in the unprescribed places, those deemed unsuitable for development. Like fingers of Nuna reaching into the city, these open spaces provide pedestrians protection from dusty summer roads, a well ventilated workspace for carvers in a plume of soapstone particles, and a quick route for snowmobiles to get onto the land. These unprogrammed corridors offer something that the imported suburban playgrounds of Iqaluit's recent developments do not. Urban yet natural, it is a place where traditional activities thrive under city lights.

City planners have attempted to provide outdoor gathering places, but have achieved unexpected results. Child playgrounds mimic their southern counterparts, squeezing into vacant plots of land in residential neighbourhoods. Lots are leveled and covered with gravel before swings and slides are placed. In the summer they are seen filled with children who stay out late, playing under the midnight sun. Adversely, "uniquely northern" outdoor spaces in Iqaluit are virtually empty. The beautiful display of massive carvings in a downtown sculpture garden exists hidden in the shadows of main street businesses. Though the space lacks consideration of site conditions, the carvings it contains are a size considered foreign to Inuit culture. Another missed opportunity in appropriate outdoor public space is seen in front of the elder's centre. What could be a meaningful place to sit and intimately converse with elders is in actuality, an unsheltered and deeply-graveled circle built for rare large events but more commonly used as a pedestrian thoroughfare. Much like Nunavut itself, Iqaluit Square's symbolic nature is clear. However, as a first attempt at identity making and serving its inhabitants, it is lagging.

The urban core meets the ocean in two resulting conditions. While the eastern half of the waterfront contains a visitors centre, museum, cafe and elders centre, the western half quickly transitions into the Northmart's back-of-house area, residences and a coast guard managed beach for offloading freight. Beyond this core condition, the waterfront extends in both directions. On the east, a waterfront cemetery marks the head of a stunning trail historically used by Inuit walking from the small community of Apex to the amenities at the military base of what was then Frobisher Bay. To the west, sled dogs are kept chained between airport runway lights, and beyond, a short walk through Iqaluit's industrial park leads to the Sylvia Grinnell river. Iqaluit's waterfront holds the potential to reverberate its resident's coastal heritage, but currently it is failing to properly do so.

The waterfront is lined, almost the entire length of the city, by understated sheds. Used primarily by hunters and trappers to store equipment and to use as a workspace, these sheds are constructed from excess building materials

and scraps left behind after the sealift leaves, representing Iqaluit's only true vernacular architecture. Some are built atop qamutiks to be dragged onto the land for hunting accommodation. Others act as a last resort to escape crowded housing conditions. Handed down from one generation to the next, the only way to construct a new shed is to wait for an existing one to be cleared, commonly by fire, and hope city bylaw officers do not interfere. With some controversy they remain on the beach, their aesthetic masked by surrounding derelict conditions. Individually, they are sculptural but as a collective they result in something far greater. They allow for the filtration of public movement and views to Frobisher Bay. They also harbor cultural activities and service local lifestyle. Together they form an interstitial space between city and land, between traditional and modern ways of life. Thus conceptually, they exemplify the vision of urban Inuit identity. Contempt for their presence threatens this minimal hold architecture has on developing an urban Inuit character.

An opportunity exists for the western section of the waterfront to continue the rich layering of trails, cultural institutions and informal structures found on the eastern half. Such a remedial concept would strengthen the public perception of this underutilized part of the city while upholding the characteristics that make it such a critical example of identity. The potential of this place resides in the enhancement of vernacular sheds through greater encouragement of construction while maintaining ocean access and views. Additionally, by constructing new public amenities, increased use and pride in this distinctive urban space would help strengthen a vision of Iqaluit's identity as a hybrid place.

* * *



Fig. 2.4 Open expanses of natural landscape separate Iqaluit's neighbourhoods because the steep terrain is unsuitable for development.



Fig. 2.5 Snowmobiles and boats are stored in patches of arctic cotton that exist between buildings. Facilitating essential northern transportation is rarely considered in building designs.

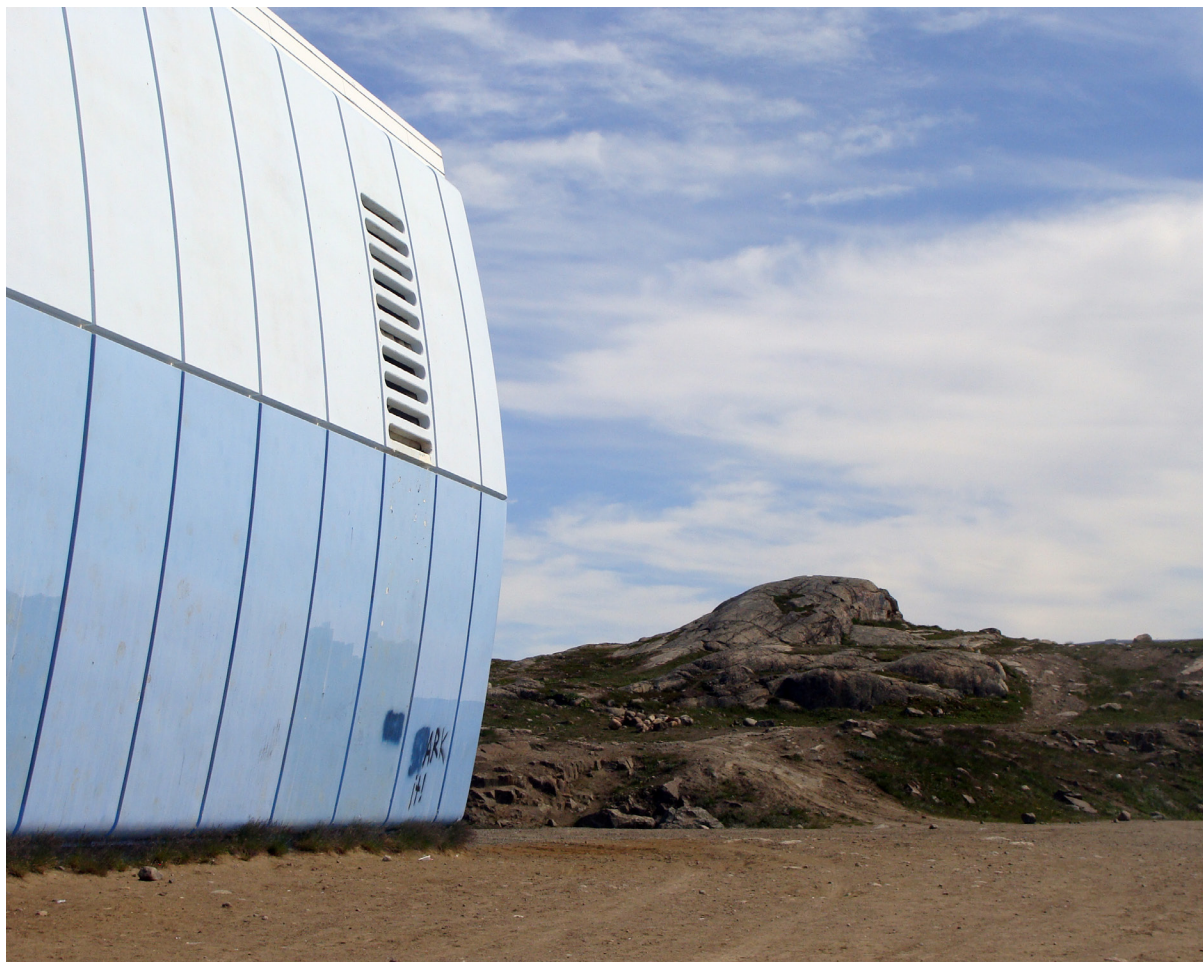


Fig. 2.6 Trails climb Astro Hill to reach Inuksuk High School. Built in the 1980's, the school is one of the few buildings in Iqaluit which attempt to provide an alternative vision of architecture.



Fig. 2.7 Sheds, boats and snowmobiles line the waterfront of Iqaluit's downtown core. The importance of this space as an interstitial space between tradition and modernity, land and city, is often overlooked.



Fig. 2.8 Niuraivik Road connects Iqaluit Airport with Frobisher Bay. The point where the road transitions onto sea ice is one of the busiest for snowmobile traffic.



Fig. 2.9 The Unikkaarvik Visitor's Centre sits on the waterfront overlooking Frobisher Bay. A sharply angled exterior form and bright colouring characterizes the building's aesthetic. It is a local building style worth enhancing.



Fig. 2.10 Nakasuk Elementary School is located in Iqaluit's urban core. Although iconic, the building offers poor indoor quality.



Fig. 2.11 Sheds are sometimes used as housing due to Iqaluit's housing crisis. At the western edge of the waterfront boat scraps, excess building materials and garbage mask the potential of the waterfront shed corridor.



Fig. 2.12 As a makeshift solution to ingraining Inuit values into the built environment, motifs are painted on otherwise blank walls.



Fig. 2.13 With no carving studio, carvers work outside, unsheltered, at all times of the year.

PART 3 - SEASONAL RHYTHMS

"It is a world of contrasts, of the yearly rush from the cold, dark sterility of winter through a short and explosive spring to a few green months of life under the night-time sun. And so the swing back through rapidly shortening days of mist, rain and frost to winter, snow and ice." Ralph Erskine

EXTREME ENVIRONMENTAL CONDITIONS and resulting harmonious processes should be considered when designing in Nunavut. Research is presented in a hybrid fashion, presenting what traditional responses, current methods and future experiments must be considered.

Seasonal Rhythms

“I see myself as trying to create an architecture of its place, of its time, of its technology, of its culture. The principles of architecture are questions. Before starting any project I ask: What’s the geology, what’s the geomorphology, what’s the history, where does the wind come from, where does the sun come from, what are the shadow patterns, what’s the drainage system, what’s the flora? I’m just working in my own milieu in a way that’s appropriate. It’s an attitude, and I take it as a total responsibility...” Glenn Murcutt

Design in any latitude should be intrinsic to its environment. In hot, arid climates buildings sprawl and open to encourage air flow. In cold climates buildings condense to expose less surface area and wall cavities thicken to insulate against outdoor temperatures. In Nunavut, and across the Canadian Arctic, many buildings and communities were designed as if sunlight, wind, or snow did not exist. Ignoring environmental design criteria seems to originate in industrial society, where fossil fuels afford reliable heating and cooling.⁴ With this persisting attitude, buildings in Nunavut are often inward-facing, declaring independence from the Arctic landscape that sustains its inhabitant’s livelihood and culture.

One aspect of regional design in architecture is to build in harmony with local environmental conditions. This is no different in the Arctic where the harsh climate demands special consideration in terms of mere human survival. Temperatures in the winter hover around -28 degrees Celsius across the Canadian Arctic but can plummet to -60 degrees Celsius with wind chill. Wind gathers blowing snow to be deposited around any topographic prominence in this treeless landscape. Below the surface permanently frozen ground, or permafrost, can support pile foundations as long as building heat does not melt the permafrost’s structural stability. Similarly, frozen ocean offers reliable support during the winter but as summer approaches the melting surface becomes a hazardous barrier until open waters reign. The spectrum of daylight hours is expansive, ranging from zero to twenty-four, depending on latitude and time of year. Almost every environmental condition follows a seasonal rhythm, dramatically changing over the course of the year, forcing animals and people to be flexible and adjust.

Regional design in Inuit culture has always been a natural occurrence. Since, on southern Baffin Island people lived above the tree line homes were built from what local materials they could find: snow, bone, sod, stone, driftwood and animal skin. The most iconic of dwellings, the iglu, is inseparable from the environment, being built from – and annually returning to – Nuna. Since the establishment of permanent settlements in the high-latitude Canadian Arctic,

⁴ Strub, H. Bare Poles: Building Design for High Latitudes (Ottawa: Carleton University Press, 1996), 41

annually returning to- Nuna. Since the establishment of permanent settlements in the high-latitude Canadian Arctic, building processes, much like everything else, has been imported from southern, mid-latitude provinces. The result are buildings which do not perform suitably with this climate nor its people. Poor building performance results in vandalism, physical and mental health issues, ultimately raises concerns about how the built environment is degrading northern communities.⁵ Buildings here must be designed in accordance to climactic conditions if they are to withstand abuse by the extreme Arctic elements. The greater asset this attitude represents is a sense of belonging; that buildings rooted in local conditions will offer attentiveness and respect to inhabitants.

⁵ Knotsch, C. & Kinnon, D. If Not Now... When? Addressing the Ongoing Inuit Housing Crisis in Canada (Ottawa: National Aboriginal Health Organization, 2011)

With the design philosophy of Glenn Murcutt in mind, the following sections describes critical environmental conditions which should be considered in every high-latitude design: sunlight, wind, snow, water and ice. By analyzing the pitfalls of current design paradigms, thoughtful questions and inventive solutions are unearthed. While this section may only describe a few, and perhaps only the iconic traditional responses, it should be expressed that these only skim the surface of how northern people have lived in harmony with Nuna.

* * *

⁶ Bennett, J. & Rowley, S. Uqalugait: An Oral History of Nunavut (McGill-Queen's University Press, 2004), 387

⁷ Plateau Subdivision: A Sustainable Arctic Subdivision, <http://www.city.iqaluit.nu.ca/i18n/english/plateau.html>

Nuna

Sunlight

Light has a vastly fluctuating effect in the north. In the fall, daylight hours dwindle quickly. Inuit would orient igluit and their ice (or thin hide) windows towards the diminishing source of light to take advantage of what daylight does occur during this season. During the winter, the sun dips below the horizon for days, weeks, and even months without returning, depending on latitude. At this time of year the only light in the sky is offered from dancing aurora borealis which, though ripe for inspiring legends, offer no warmth. When the sun finally rises above the horizon a new year begins. This is cause for much celebration.

"I remembered what I heard and indeed [what] I did and still do is to smile at the sun when we see it for the first time with only half of your face, while the other side of the face must be a straight face. The reason was that it was going to get warmer once again, so one side of the face that smiles welcomes the warmer temperature to come, while the other still faces the reality that it is going to be cold for some time longer." Mark Ijjangiaq

Growing more intense every day, spring sunlight becomes blindingly bright as it beams down and reflects off snow. Inuit would carve snow goggles to reduce brightness and glare. As summer approaches snow and ice melt revealing thick spongy tundra which soaks up sunlight, reducing the danger of snow blindness. Then as quickly as it came, summer simply ends. The warming effects of the sun instantly vanish, leaving dwindling luminance as the single function of its presence.

Since many eastern Arctic communities were formed suddenly and with little consideration of site conditions, their original layout did not react to sunlight patterns. The trend is only recently being reconsidered with Iqaluit's Plateau subdivision. By protecting berry picking areas, establishing a network of walking and snowmobile trails, and aligning streets to wind direction, the layout of the development begins to offer an alternative vision for Iqaluit's growth.⁷ The individual buildings in this subdivision are oriented for southern exposure and passively collect solar heat from large, high quality windows. They defy the standard construction of buildings having few or no windows in the "fight" against cold temperatures. But even those buildings with windows, often the imported picture window found commonly in midlatitude suburban homes, are not free from problems. Sunlight pours into rooms during the spring and summer and becomes trapped by super-insulated wall cavities. In the winter, low angle light reaches deep into interior spaces, however, building envelopes built from lightweight materials due to high shipping costs do not

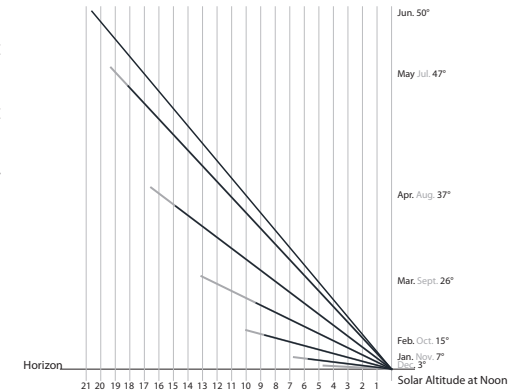


Fig. 3.1 Solar Elevation Angle

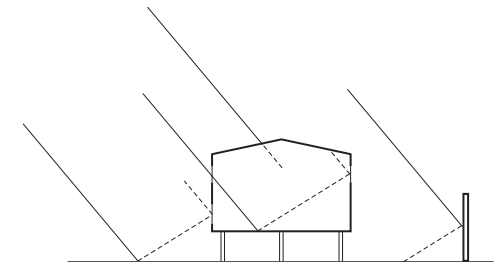


Fig. 3.2 Building windows trap heat from direct sunlight causing a greenhouse effect, while direct sunlight hitting outdoor vertical surfaces cause indirectly warmed microclimates

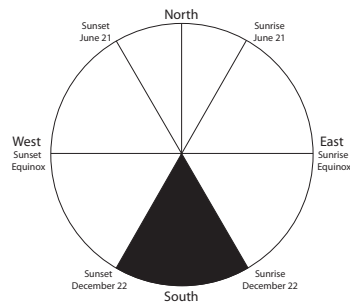


Fig. 3.3 Iqaluit Sun Angle in Plan.

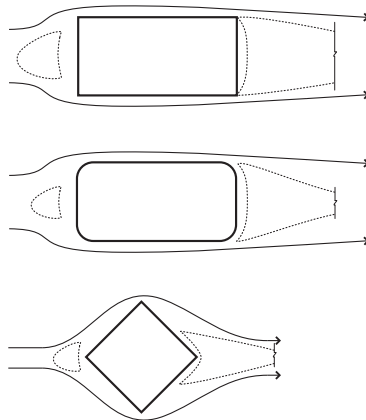


Fig. 3.4 Building form effect on snow drifting.

⁸ Bennett, J. & Rowley, S. *Uqaluraiit: An Oral History of Nunavut* (McGill-Queen's University Press, 2004), 233

provide the thermal mass needed to absorb heat during the day and release it during the night. When direct sunlight warms outdoor surfaces, indirect heating of a space occurs. Sheltered from the wind, these microclimates are fleeting moments of paradise. They make great public spaces and contributing to the character of the public realm existing between buildings. Those spaces swathed in shadows are empty of public pride, becoming places of shared neglect.

When there is a feast of summer sunlight, northern residents take advantage by staying outside late into the well-lit night. Public spaces which afford the creation of microclimates should be promoted. During the winter, a famine of sunlight demands building design to collect and distribute as much as possible throughout interior spaces. As architect Ralph Erskine writes, "Here houses and towns should open like flowers to the sun of spring and summer but, also like flowers, turn their backs on the shadows and the cold northern winds, offering sun-warmth and wind-protection to their terraces, gardens and streets." Being on a south-facing slope, Iqaluit has the opportunity to promote sun exposure in its community planning and building design, but so far has seen little inventiveness to take advantage of a scarce resource.

* * *

Wind

Wind is always present in the north. In the summer, wind can be a blessing, keeping hoards of mosquitoes at bay. Adversely, summer winds in communities cover vehicles, homes and people with a layer of dust and dirt. With no resistance from trees, winter wind sweeps across tundra, picking up snow and depositing it on slopes, in ditches, against and behind windward facing vertical surfaces. It drifts snow in a constant direction, creating navigational resources for those travelling across featureless landscape.

"In building an iglu the direction of the wind had to be considered. The ventilation hole required constant maintenance. Drafts also had to be considered. The entrance also required constant maintenance. When the entrance was built the lee side of the iglu was avoided, otherwise the entrance would get buried." Martha Angugataiq Ungalaaq⁸

Proper site selection and orientation are essential in diminishing the negative impact wind and drifting will have on a single doorway or an entire community. Improper planning can cause massive drifts to reach the eaves of houses and block roads, making access difficult for water, sewage, and fire services. In Iqaluit, a new residential development on the Road to Nowhere stresses the importance of proper siting and highlights how Inuit Qaujimagatuqangit can begin to ingrain itself into urban planning.

When first designing the new subdivision, elders warned city officials that the area is problematic due to drifting. The roads in this area are named "Anuri" and "Aputi", Inuktitut for "wind" and "snow". Despite this knowledge, the development was built and suffered immense drifting problems; drifts which completely submerged entire homes beneath the snow. After insurance in this neighbourhood tripled, residents demanded relief. A \$40,000, 16-foot tall temporary snow fence was erected but quickly fell into disrepair after withstanding the abuse of vandals and climate from one winter season. Another fence proposal was designed to cup the subdivision from the Northwest to the Southeast, consisting of a series of six fences stretching nearly one kilometre and costing as much as \$1 million.

In Iqaluit, wind blows in from the Northwest, visibly drifting the layout of the city. Streets align with the direction of the wind, accelerating air flow. By placing entrances parallel to wind direction, drifting in front of doorways can be minimized. Raising buildings higher on their pile foundations allows air to flow underneath. This both diminishes drifting and reduces the amount of heat transfer from the building into the frozen ground beneath. Shaping the exterior form of the building can clear rooftops or build insulating drifts. Similarly, material choices can affect the performance of buildings under varying wind conditions, to the advantage of the designer.

* * *

Water to Ice

All but one of Nunavut's 26 communities are located on the coast. The territory contains 40% of the country's coastline. Each of these communities perched on the shoreline have an intimate ocean heritage that far predates European contact. For the majority of the year the ocean surface is frozen solid. Beginning around October, long after the snow has begun to fall, the ocean changes from frigid to frozen. Break-up is usually not seen until July, although changing climate has forced this to occur increasingly sooner.⁹ This long period of sea ice is vital for hunting, travelling and recreation. It provides a platform from which to hunt marine species. Its flat surface allows snowmobiles to travel with

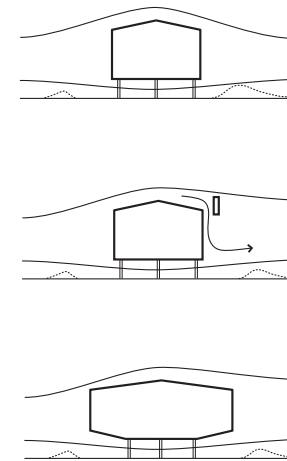


Fig. 3.5 Building form effect on air movement.

⁹ Laidler, G. *Inuit and Scientific Perspectives on the Relationship Between Sea Ice and Climate Change: The Ideal Complement?* (Kluwer Academic Publishers, 2006), 407-444

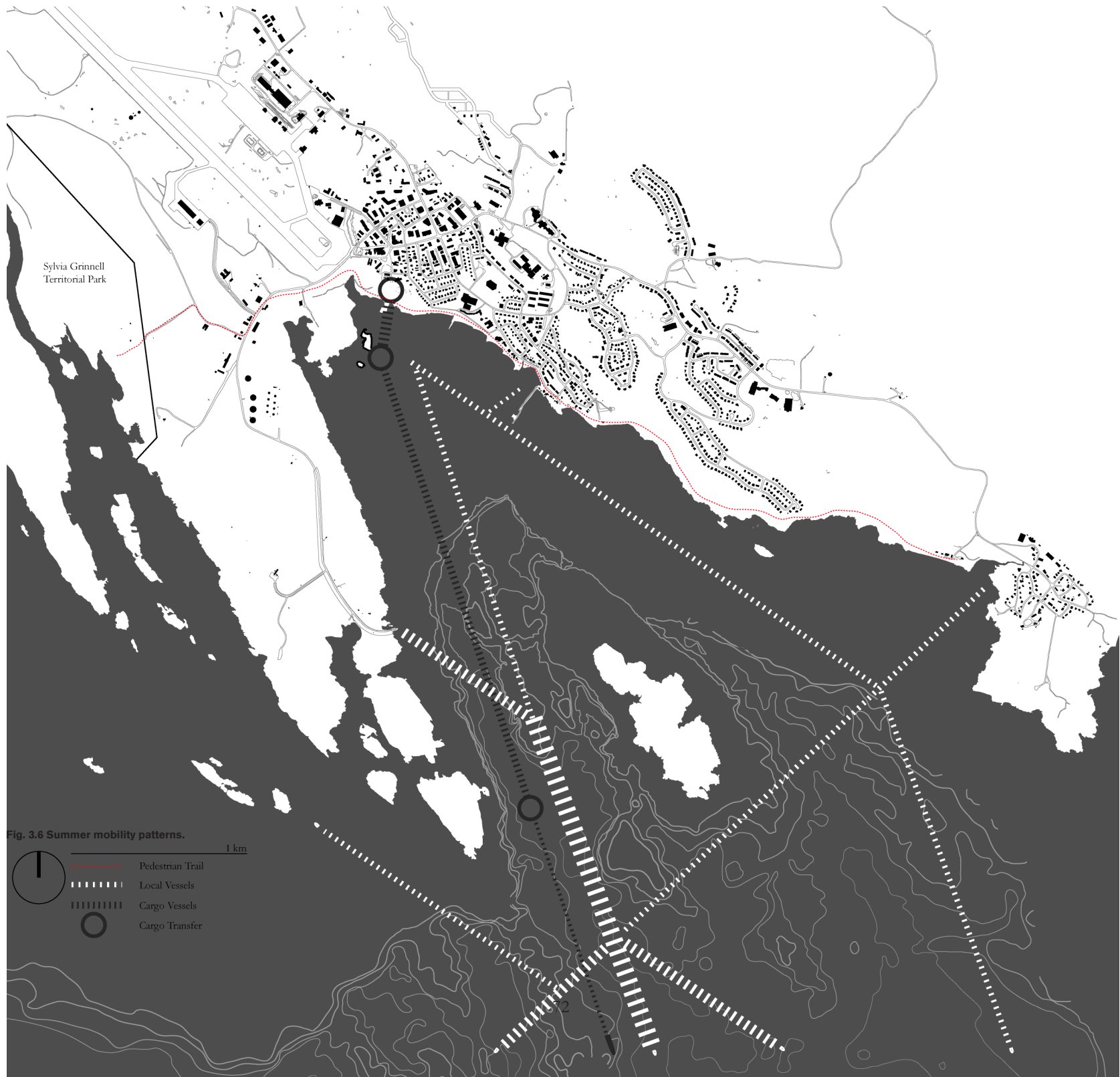


Fig. 3.6 Summer mobility patterns.

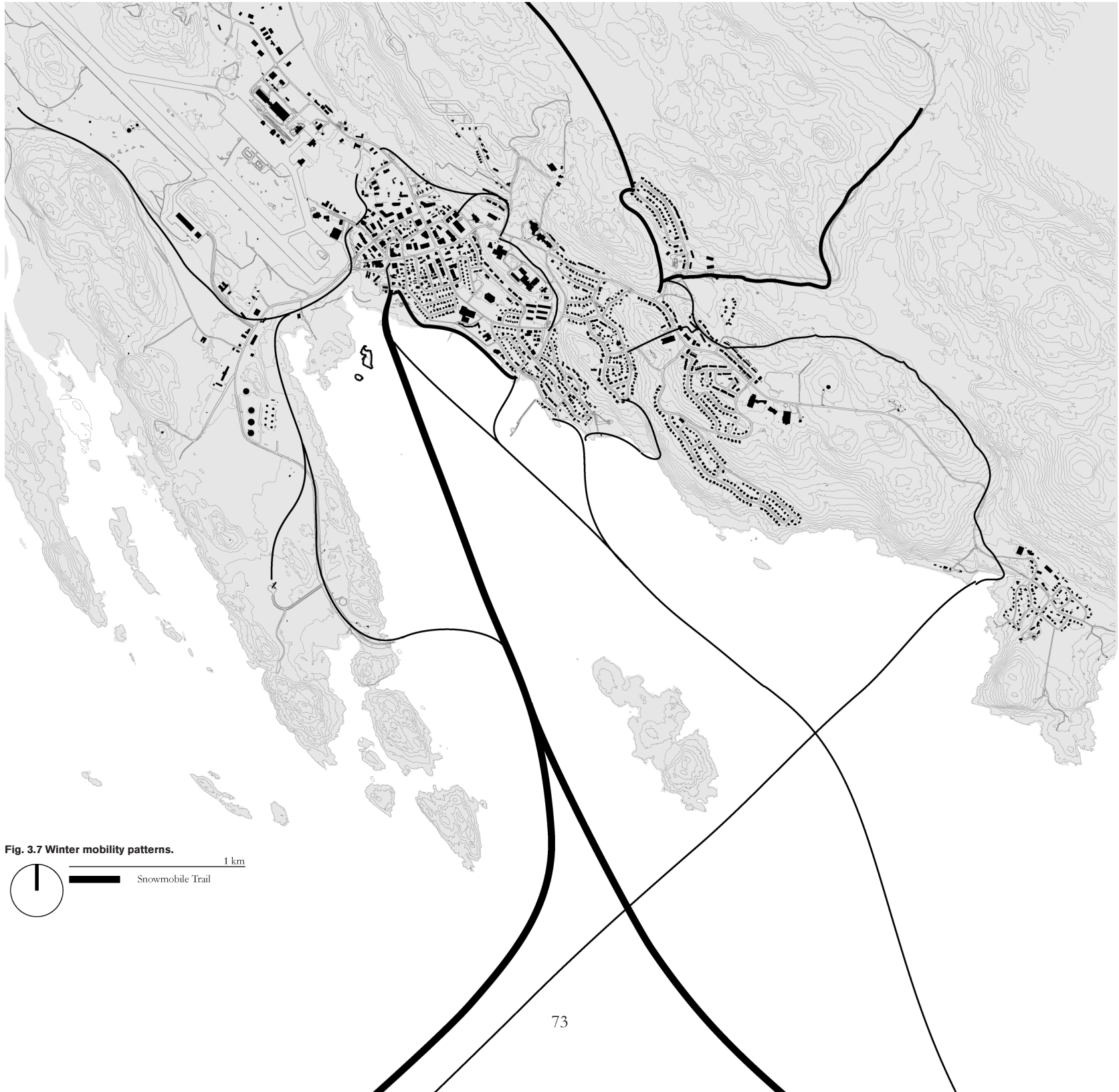
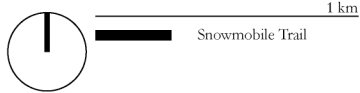


Fig. 3.7 Winter mobility patterns.



relative ease. Para-skiers use this flat open area to catch a breeze. Without it communities are landlocked and isolated. Mid-summer, a short period of open water allows for motorboats to access hunting and camping grounds.

However there is a period where no surface movement can occur. During break-up and freeze-up ocean conditions impose great risk and prevent movement. Leads in the ice can open with little warning. For those on sea ice, ability to move at a moments notice could be the difference between life and death. The use of tents and shacks for accommodation on the ice means time spent packing up, which increases risk or loss if cracks appear. A shed haphazardly screwed to a qamutik has been the only attempt to address this safety concern and necessity for mobility.

The tidal difference in Frobisher Bay is one of the greatest in the world. In Iqaluit, this translates to a kilometer of exposed land extending from the urban core at low tide. Low tide presents access to mussels and kelp and groups of harvesters can be seen enjoying this shoreline activity throughout the summer months. Though it is possible to collect in the winter, a thick layer of ice poses a dangerous challenge. Ice can freeze several meters thick along the shore, and when the ocean retreats, mammoth-sized blocks rest on the ocean floor creating caverns and tunnels harvesters in Kangiqsujuaq, Quebec have been known to wedge themselves between.

With such an extreme difference in ocean height, the tides turn quickly. Boats returning from harvesting must wait their turn to use minimal marine infrastructure. Ports become chaotic and hazardous as retreating water increases the urgency to moor, offload or tow away boats. For supply ships, this tidal situation translates directly to an increase in shipping costs. Since there are no ports in Nunavut that can accommodate even the most modest of cargo ships, vessels must be moored offshore. Goods are then transferred onto barges which get as close to the community as possible. When the tide goes out, forklifts carry goods from the barge onto shore where they are stored or transferred yet again onto trucks for delivery. The increased handling of goods means higher prices for construction materials, vehicles, non-perishable food items, and anything else that arrives by ship to the north.

While cargo shipments through open water remain imperative for mass delivery of modern essentials, travel over ice is of utmost importance to the livelihoods of Nunavummiut. Formally infusing this movement pattern into the fabric of communities has yet to be realized.

* * *

Nunavummiut

The seasonal variations of the Arctic environment have always influenced Inuit living patterns. These rhythms are so profound they remain wedged into the lives of northern people. The celebration of these rhythms results in the movement of people from winter homes in town to summer life in outpost camps on the land. The accepted reality of this seasonal power is found in the logistical rush of summer cargo shipments from southern Canada.

Logistics means being able to move materials, equipment and people to the right place at the right time. For northern people, logistics is life. Schedules, methods and scales of movement are much different today than they were 50 years ago. The small size of communities coupled with the cost of shipping vehicles to the north and treacherous road conditions, result in a highly pedestrian urban movement pattern. At a regional scale, movement by boat, ATV and snowmobile are most common to allow access to hunting grounds, summer camps and neighbouring communities. There exists no roads connecting the Arctic archipelago to mainland Canada, nor are there roads between any communities, only trails, camp sites and cabins.

Without roads, Nunavut is tethered to the rest of Canada through marine and air shipping routes. Shipment by air is common, with passenger and cargo flights to Iqaluit daily and flights to communities a few times a week. However, flights can often be disturbed by wind, snow and fog conditions. Cargo vessels offer a cheaper shipping solution than plane but are even more unpredictable. For most places in the Canadian Arctic, the shipping season is both short and inconvenient. Battling weather conditions and the breakup / formation of sea ice, ship schedules are tentative at best. Launching from Montreal, Iqaluit's first ship is seen days after spring breakup. As the vessel makes its way through the Arctic many communities must wait until late summer for the arrival of goods and materials. These shipments are a lifeline in the north, and the arrival of a limited few ships carrying the entire annual fuel supply for Iqaluit for example, underscores the dependency northern people have on them.

The sight of the first sealift on the horizon sparks excitement throughout the community. It marks the arrival of cases of beer, diapers, furniture, and all luxury items that have been accumulating in a Montreal warehouse over the year, waiting for the ice to break and the ships to depart. Large wooden crates used in the shipping process litter residential neighbourhoods as families unpack their annual supply. Construction materials also arrive by ship. Unfortunately, their arrival is late in the construction season. If the order is askew, an entire year can be lost waiting for the correct materials to arrive. Building materials that can be packed 'nested' are preferred in order to eliminate wasted space. Lightweight materials are also favoured, resulting in most buildings being constructed of dimensional lumber,

plywood, and corrugated metal. Excess materials from faulty orders and empty wooden shipping crates are left in the community and are often used to create makeshift sheds. Constructed from 'local' materials and using local skills, these sheds constitute as the only urban vernacular building type in the north.

An essential consideration in any designer's process, logistics become extra challenging in the arctic with great distances, limited infrastructure and uncertain weather. There is a small window during summer when open water allows ship access. This causes the shipping season to be short, forcing materials to often arrive at the end of summer when construction is in full swing, classes are beginning, arctic char are returning to inland lakes and caribou hunting begins. This means that residents must choose between providing food for their family, receiving an education or working within the wage economy.

One solution to this dilemma has been for Inuit families to spend the summers in outpost camps or at family cabins on the land. This time spent on the land allows for the attainment of country food (native animals and plants). Perhaps more importantly, it provides a balance in lifestyle and identity, bridging town and land, traditional movement and modern sedentary living. Unbeknownst to most southerners who telephone northern workplaces in vain, many Inuit employees take summer months off with their families to hunt, fish, eat, sing, and tell stories under the midnight sun. In Iqaluit, some families occupy a site within walking distance of the city. "The Causeway" protrudes from the shoreline and separates downtown Iqaluit from the Sylvia Grinnell river. Though less venturesome than boating half-way down Frobisher Bay like some, this small action emphasizes the significance of seasonal movement to Iqalungmiut. Yet the weight of this activity has not shifted the operation of city.

The value of this summer retreat to the health of the community is obvious. Understanding how can this tradition be cultivated within the structure of urban society could help address questions of Inuit urban identity. The opportunity exists for this seasonal rhythm to inform school and industry calendars, but so far has not been pursued. Additionally, outpost camps being used as a base from which to pursue small commercial and entrepreneurial Inuit businesses has also not yet been attempted. If such notions were practised the existing character of this place would be amplified. Then perhaps a Nunavut-specific approach to community building would be visibly recognizable.

* * *



Fig. 3.8 A visit to a cabin along the Sylvia Grinnell river is a common escape from the routines of life in Iqaluit.

8 Points on Iqaluit Design

A list of guidelines for design in the Iqaluit region is derived from the social, environmental and spatial conditions detailed in the previous chapters. Using these points, the thesis proposal seeks to provide an alternative vision of architecture that breaks from the cycle of standard design approaches currently dominating the composition of Iqaluit, while simultaneously harmonizing with existing local conditions that galvanize the spirit of northern design.

1. Local livelihoods and cultural activities need to be facilitated throughout civic spaces. Not only will the formalization of livelihoods into community development instill pride but also, will ensure cultural relevance.
2. The decline of communal construction knowledge in Inuit culture can be addressed by promoting informal building. Encourage higher quality design through workshops and training. Forge meaningful designs using materials and construction processes existing in the community. Quarried stone, corrugated metal and wood as well as shed and qamutik construction techniques could have greater influence over the architectural language in Iqaluit.
3. Access and views to the land are highly valued to Iqalungmiut and must be ingrained into community planning. Urban public buildings should be sited on the waterfront to allow for views and movement to the shores of Frobisher Bay.
4. Interior circulation of public buildings should be considered as public gathering spaces, not simply corridors. It should become an extension of Iqaluit's existing fluid pedestrian networks.
5. Outdoor spaces should create microclimates that work at multiple scales of gathering throughout the year and accommodate the many forms of mobility in the north: cars, trucks, snowmobiles, and ATV's.
6. Allow environmental and spatial context to shape building form. Adjust ceiling heights to relate to hunting sheds, slant walls to carve out sheltered entrances or use bright paint to continue the colourful fabric of existing public institutions.

7. Consider how buildings meet and engage the ground yet recognize environmental realities such as permafrost and the building or reduction of snow drifts.

8. Seasonal rhythms should alter the operation of Iqaluit from program scheduling to building occupation. By offering training during freeze-up and break-up, Iqalungmiut can efficiently use this time of poor mobility. During the winter 'season of congregation', festivals for singing, dancing, sharing food and cultures should fill weekends in the city. Conversely, the summer being the 'season of the individual', public infrastructure should dot the landscape, making access to land universally available.

* * *

PART 4 - VISIONS OF IQALUIT

“In recent decades, the Inuit have regained a high degree of control over their lands and experienced widespread cultural and political renewal. They now have what may be a unique opportunity; a chance to create a self-sustaining economy. And yet the tumultuous social changes, the controversial politics of hunting (the Inuit’s primary economic activity), and the uncertainties of resource exploitation in the delicate Arctic environment – all of these factors make the Inuit cultural renaissance still a very uncertain affair. In both cultural and natural terms, the far north may be on the verge of profound transition.” Lisa Mastny

CRITERIA established in chapters 1-4 which define Nuna-Regionalism are tested in this final chapter. The proposal stems from the observation that, above all else, economic self-determination is the most promising way to ensure social progress in Nunavut. Within Iqaluit, as with many other indigenous communities in Canada, subsistence hunting, gathering, arts, crafts, and sharing are a major contributor to the cultural and economic framework. When developing a facility to house economic activities, these largely informal programs deserve critical examination.

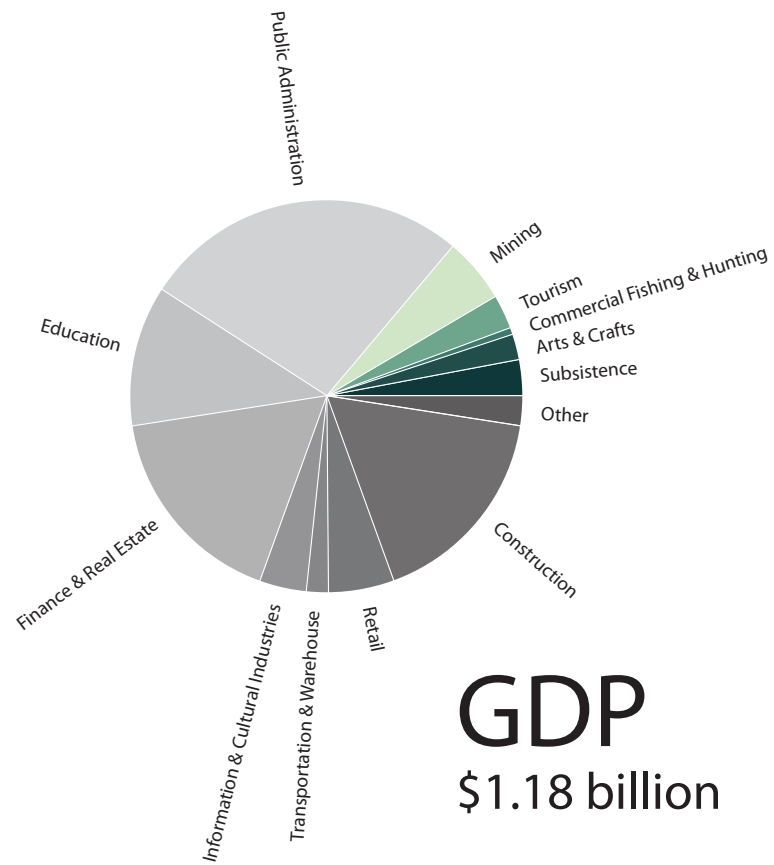


Fig. 4.1 Annual GDP of Nunavut, 7 per cent generated within Nunavut, 93 per cent of revenue from federal government.

Mixed Economy

Before contact with Europeans, Inuit economy was based on a system of hunting and food sharing. Sharing was necessary for physical and social welfare. It instilled a sense of one's belonging to the community. It was also a support system; knowing that someone you shared food with was someone you could turn to for help at a future date. Rules governed the distribution of large game animals. Those who made the kill would earn certain portions. The hunting party would receive their portion and others in the community, such as widows and elderly, were also considered.

"There has always been a distribution system for hunters. It depends on the person that caught the walrus. This is applicable on all walrus hunts no matter what kind of hunt. The ones that made the kill got the fore-flipper section and the ones that did not make the kill received the chest section. Those who came in afterwards would get the hind-flipper section. The hunters that made the kill would get the areas that had more meat in them as their share of the catch. I also used to see hunters that had caught a bearded seal... In a situation where a bearded seal was caught with a few hunters involved, a distribution system was practiced. Once the kill was made and skinned, it would be divided up, as the meat would be used to feed the dogs... When there were only two hunters involved in the kill, they would take half each; that also included the skin." Zachariasie Aqiaruq¹

Beginning in the early twentieth century significant changes in hunting practices emerged as trappers and traders influenced Inuit to hunt small game for trade. While most material goods were of no use to mobile people, rifles did have tangible benefits. Trapping became such a pronounced activity, that seasonal movements and settlement patterns began to transform.² While alternating movements were still respected, the winter and spring were now times of mainland caribou and the individual; summer and fall the times of the ocean, seal, and community. During the 1950s and 60s, with the growing presence of US military and government factions, some Inuit – who had begun to settle in permanent communities – shifted their yearly land-use routine again. Women and children would spend the winters within the community while the men, accompanied by their sons, would hunt fox and caribou. In the spring the entire family would go out on the land to fish, hunt geese and catch seals basking in the warmth of spring sunlight.

Today, the traditional pursuits of Inuit such as hunting, fishing, sealing, childcare and the production of clothing remain hugely important to the quality of life for Nunavummiut. Together, they form a subsistence economy which is not typically measured in Gross National Product. Considering country food alone provides an estimated

¹ Bennett, J. & Rowley, S. Uqalurai: An Oral History of Nunavut. (McGill-Queen's University Press, 2004), 88

² Freeman, M. Inuit Land Use and Occupancy Study, vol. 1 (Ottawa: DIAND, 1976)

³ Sivummut Economic Development Strategy Group. Nunavut Economic Development Strategy: Building a Foundation for the Future. (June 2003).

⁴ Impact Economics. 2010 Nunavut Economic Outlook: Nunavut's Second Chance.

⁵ Simpson, L. Nunavut '99: Changing The Map of Canada. Retrieved October 8, 2012, from Nor-tex Multimedia Incorporated, & Nunavut Tunngavik Incorporated.

⁶ Impact Economics. 2010 Nunavut Economic Outlook: Nunavut's Second Chance.

⁷ Ibid.

replacement-cost value of \$30 million annually³, the dollar value of this economy cannot be ignored. Beyond its monetary value, it contributes positively to the health, education, culture, and spirit of the Territory.⁴ Hunting feeds families with natural, local and nutritious food. Selling skins and extra meat creates cash revenues which offset hunting costs. The byproducts of the hunt drive Nunavut's arts and crafts industry, supplying caribou antlers, walrus and narwhal ivory for carvers and skins for murals, garments and toys. Clothing made from animals skins also holds a cost-replacement and survival value – nothing has yet surpassed the insulating efficiency of caribou pelts.⁵ It is important to recognize the larger bond the subsistence economy creates between man and the natural world. A complex web of beliefs, values and attitudes have directed Inuit hunters to sustain Arctic ecosystems from which they depend. The subsistence economy is a tie between Inuit and Nuna, recognizing that “to use is to protect.”

Since the subsistence economy is largely informal, little quantifiable data can be presented beyond the generally known fact of its importance. Research conducted in the 1970s and 80s remain the source for data in the value of traditional activities.⁶ The absence of new data could be because past research is still accurate, or more likely, that the users of this information don't realize it is out-of-date and potentially misleading. Growing concerns regarding the state of animal populations also demands an increase in data collection. There has not been enough scientific or empirical data or documented traditional knowledge to assist in the management of animal populations from the perspective of public programming and harvesting quotas.⁷ Accurate counts are critical for the continuation of traditional hunting. Since Arctic animals have been globally labelled as the distressing indicators of climate change, their status will have major impacts on hunting restrictions and conservation policies. A symbiotic partnership of Inuit hunters and researchers opens the prospect of pooling knowledge from multiple sources for a more accurate estimate of animal population and health.

The economy in Nunavut today is a type of mixed economy featuring both wage employment and subsistence livelihood. For most Nunavummiut, the issue is not choosing which economy to participate in, but how to achieve a balance between the two. Traditional activities based from a modern settlement require a variety of resources. Transportation to access land, tools and familial networks are paramount. Hunters also require money, often obtained through the wage-economy, to acquire equipment and fuel machinery. Sharing resources is therefore a large part of the mixed-economy. Income earned through wage employment is combined with foods and goods produced through the subsistence economy and distributed among family members and between families in the community.

The wage-economy also provides employment for an increasing population of non-hunters. Public administration has been the largest employer since Nunavut's creation, followed closely by the construction sector. However, employment in the wage-economy is still low, and at 16%, Nunavut's unemployment rate is one of the highest in Canada. The number of people eligible to join the workforce is expanding rapidly, growing 38% by the end of the decade. However, there are not enough jobs in Nunavut to support this blooming workforce. Public administration, the largest employer in Nunavut, cannot absorb this expanding workforce. This points to substantial participation in the private sector, more specifically the natural resource industries of mining, fishing and tourism since these industries are the predicted foundation of economic growth in Nunavut for the next decade. Unfortunately, these industries have created few sustainable, down-stream linkages with the local economy and have generated little local employment to date. If training can be provided and broader economic spin-offs can be fostered, these industries could offer a system of economic development that functions within the North's mixed-economy. Since these industries are land-based, they hold the potential to integrate the traditional knowledge of a subsistence economy into larger scale developments.

“Many Aboriginal economies continue to rely on traditional pursuits, such as hunting, fishing and trapping, largely for subsistence. Public policy has often ignored traditional economies or, at worst, undermined their viability—yet these activities remain a vital component in the mixed economies of northern communities, a preferred way of life for their participants, and an important well-spring of Aboriginal culture and identity.”⁸

Nunavut's mixed economy represents a bridge between traditional and modern lifestyles which exemplifies the ambitions of urban Inuit identity. How might future economic development in Nunavut recognize the importance of this mixed economy and formally integrate it into the community fabric? To this question the following section presents how other Indigenous groups throughout Canada have used their traditional land-based livelihoods in conjunction with the global economy to develop a strong economic framework which works within their cultural boundaries.

* * *

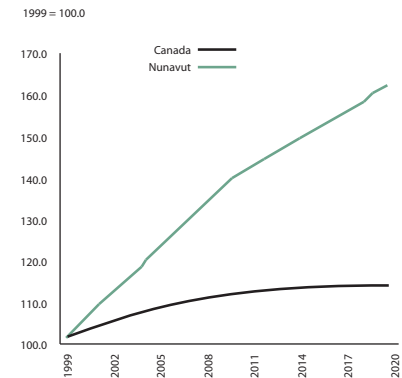


Fig. 4.2 Projected Growth in Working Age Population 1999-2020

⁸ Vail, S. & Clinton, G. *Nunavut Economic Outlook* (The Conference Board of Canada, 2001)

Indigenous Entrepreneurship

“The first priority is economic development. This is obviously the most essential step to improving the lives of Aboriginal people and their families.”

Prime Minister Stephen Harper, November 2007

“Indigenous people are struggling to reassert their nationhood within the post-colonial states in which they find themselves. Claims to their traditional lands and the right to use the resources of these lands are central to their drive to nationhood. Traditional lands are the ‘place’ of the nation and are inseparable from the people, their culture, and their identity as a nation. Traditional lands and resources are the foundation upon which indigenous people intend to rebuild the economies of their nations and so improve the socioeconomic circumstance of their people – individuals, families, communities, and nations.”

⁹ Anderson, B., Dana, L., & Dana, T. 2006. Indigenous Land Rights, Entrepreneurship, and Economic Development in Canada: “Opting-in” to the Global Economy. *Journal of World Business*, 2006), 45

¹⁰ Hindle, K., Anderson, R., Giberson, R., & Kayseas, B. Relating Practice to Theory in Indigenous Entrepreneurship: A Pilot Investigation of the Kitsaki Partnership Portfolio (Lincoln: University of Nebraska Press, 2005), 3

Many Canadian Indigenous groups view economic development as the route through which they can attain their socio-economic objectives. These objectives include greater control of activities on their traditional lands, and end to federal economic dependency, the strengthening of culture and values and their application to economic development, and improved quality of life for individuals, families and communities.¹⁰ As written in *Relating Practice to Theory in Indigenous Entrepreneurship*, “...Participation in the global economy through entrepreneurship and business development is widely accepted as the key to economy building and nation “re-building”...The demand is that this participation must be on their own terms for their own purposes, and traditional lands, history, culture, and values play a critical role. There is an intriguing symmetry between the modernity of the desire for global business competence and competitiveness and the insistence upon the distinctive importance of cultural heritage in developing new enterprise... Recognizing the challenges they face in attempting to compete in the global economy on their own terms, Indigenous people are increasingly developing enterprises in the form of partnerships of all types among themselves and with non-Indigenous enterprises. As both a form and a context of business organization, the partnership or alliance model is particularly fraught with the need to blend the old with the new, heritage with innovation.”

In order to create viable, long-term businesses, Indigenous people are forming partnerships and heavily investing in human capacity building through education, training, institution building and demonstration of Indigenous rights to land and resources. The businesses created are shaped by Indigenous entrepreneurs who identify unmet needs and related opportunities and in response create products and services. However this entrepreneurship has greater emphasis on collective participation rather than the individual, and a desire to preserve culture and community values rather than the purely market-driven motivation of classic entrepreneurial endeavours. At the heart of their enterprises is the recognition of treaty rights to lands and natural resources as considerable capital. Beyond their economic value, these rights also allow the group to ‘veto’ resource developments on their land.

The Nk'Mip Project is a series of economic development activities by the Osoyoos Indian Band (OIB) which provide an excellent example of an Indigenous group participating in the global economy while making considerable progress in rebuilding their community economically, socially and culturally. The band created the Osoyoos Indian Band Development Corporation (OIBDC) to own and operate the project. With the slogan 'working with business to preserve our past by strengthening our future' the OIBDC has secured a route for community building while respecting culture. The band began its investments with a vineyard in the 1960s. By the 1980s, a winery was established on the group's lands. The success of the winery is evident in its purchase by Vincor, prompting a second winery, Nk'Mip Cellars to be built in 2002. The vineyards and new winery are part of a larger development which includes the \$5 million Nk'Mip Desert and Heritage Interpretive Centre, a campground and golf course. Targeting the growing market for cultural/ecotourism, the centre educates visitors about Canada's only desert ecosystem that is their traditional land.

The Nk'Mip Project is consistent the the characteristics of Indigenous entrepreneurship. Traditional lands form the foundation of the enterprise and their management and the well-being of the community is central to the project. The OIB seeks to attain economic self-sufficiency to preserve their community, control activities on their traditional lands, improve Indigenous people's quality of life, and strengthen culture, values and language and reflect those throughout their developments. Though no mention of this economic strategy is specifically outlined in Nunavut's government publications, these goals are reflected in vision statements. In *Tamapta: Building Our Future Together*, and the *2003 Nunavut Economic Development Strategy* the Government of Nunavut identifies versions of these same goals, inadvertently supporting the idea of Indigenous entrepreneurship in the Territory.

What does exist in Nunavut to promote meaningful Inuit employment is the Nunavut Development Corporation (NDC). Similar to the OIBDC, the NDC builds upon local knowledge, land rights and tradition skills to create businesses. It provides local carvers, hunters, seamstresses, and the arts community with venues to market their talents. With food processing facilities like Kitikmeot Foods in Cambridge Bay and Kivalliq Arctic Foods Ltd. in Rankin Inlet, the corporation offers a way for country food to hit Nunavut markets. Kiluk Ltd. and Taluq Designs Ltd. support the production leather and fur garments and Inuit packing dolls. These businesses are the avenue for cultural activities to support economic and social progress is Nunavut communities.

Fig. 4.3 Much like the Nunavut Development Corporation, Arctic Cooperatives Limited have a vision of people working together to improve their social and economic well-being. Their facilities, like this one in Sanavik, house a number of operations. Though the bold form and horizontal lines meld well with the surrounding landscape, a lack of windows and public interface leave great room for improvement in these building typologies.



In smaller communities, businesses evolved from the NDC are a major contributor to the pool of wage-employment opportunities. Interestingly, in Iqaluit where more opportunities for wage-employment exist there are no NDC venues. The most infamous place in Nunavut for the destruction of Inuit culture does not seem to match investment in these activities. They exist in a largely informal realm. Carvings are sold in restaurants to transient tourists. Tapestries are brought into private offices to entice employees during a coffee break. Hopeful buyers line up in the cold to purchase char from a hunter's sea-can dispensary.

Given the low employment opportunities for the growing labour force in Iqaluit, entrepreneurship should be further explored. Building on this economic framework, Iqaluit has the opportunity to develop these small-scale, individual activities into larger commercial ventures that compete in the global economy. By formalizing and organizing current subsistence activities and producing new products to expanding markets, the entire community can benefit. Identifying unmet needs and related opportunities are the first steps towards social and economic progress in Iqaluit. What prospects are emerging and how they support the goals of Indigenous economic development are examined in the following section.

* * *

Emerging Industries and Opportunities

“The land provides all of our needs to be whole, functioning individuals — and that can include the jobs and prosperity that come with mining activity, but only when government and industry are prepared to recognize the value of the land in the lives of the people who live there.”

Nishnawbe Aski Nation Grand Chief Stan Beardy

“Nunavut enjoys a rich variety of organizations, each of which brings resources, energy, and knowledge that is critical to our social and economic success. We envision the development of strong, collaborative partnerships that focus the full diversity of Nunavut’s collective vision, while ensuring tangible benefits for all partners. All jurisdictions in Canada strive for some form of collaboration on economic development. In Nunavut this collaboration — shared commitments and partnerships — is essential if we are to achieve the velocity required for Nunavut’s economy to take off. Cooperation, partnership, shared commitments and consensus have been the tools used to create the Territory and to develop its governance structure. These tools now must be applied to the economy.”¹¹

¹¹ Sivummut Economic Development Strategy Group. Nunavut Economic Development Strategy: Building a Foundation for the Future (June 2003), 65

Nunavut has a wealth of natural resources; from fresh water, marine and land animals, oil and diamonds to glaciers, fords and northern lights. For centuries Inuit have thoughtfully harvested natural resources since the health of the land is directly related to the health of human communities. The symbiotic relationship of Inuit use and management of Nuna is becoming increasingly explored. The Nunavut Land Claims Agreement delineated Inuit ownership of 356,000 square kilometres of surface lands, and 37,000 square kilometres of subsurface mineral rights. In the past few decades pressure to develop northern resource industries for national and global markets has proven economically successful. However, this is not without contention. The ramifications of resource development activity on Arctic ecosystems is difficult to forecast. How large-scale industry will effect local livelihoods and wage disparity is largely uncalculated. What is known, is that Nunavummiut attitudes towards development are widely positive since these industries will be the vessel to which social goals, which may not be so readily apparent, can be achieved.

Natural resource industries currently in operation throughout Nunavut include mining, fishing and tourism. These three industries are seen as most significant prospects for internal economic growth and therefore decreased federal economic dependency. The mining and fishing industries yield optimistic prosperity, yet direct Nunavummiut participation remains low. Within the tourism sector, a lack of tourist products, hospitality training and artist workspace hinders progress. Without mechanisms to improve labour mobility and infrastructural investment, Nunavut is not reaching its potential, as Adrienne Clarkson puts, “to practice a form of economic and social intervention in the North that involves the participation of the indigenous peoples — who, after all, have much more experience and knowledge of preserving and sustaining their habitat.”¹²

¹² Heinbecker, P., Burney, D., Welsh, J. & Clarkson, A. Making the North Real (*Diplomat and International Canada*, May-June 2005), 15.

The economic leakage these industries currently facilitate is unacceptable. With a national focus on advancing large-scale resource industries in Nunavut, Iqalungmiut must leverage their wealth and infrastructure generating capacity to the advantage of local circumstances. Assuming the unhindered progression of industry presence on Baffin Island, how might impact benefit agreements (IBAs) be used to strengthen traditional pursuits - activities which give purposeful employment? By taking a closer look at mining, fishing and tourism operations in the Iqaluit region, the following sections unveil parallel development opportunities for Iqalungmiut ventures. Strategic partnerships and critical programming are devised to balance both industry and entrepreneurial needs.

“We will do our best to implement the [Nunavut Land Claims] Agreement in such a way that it will not be a barrier to development. We did not negotiate the Agreement to put a barrier in front of development but to ensure that we have a say in that development. We would not have put so much time, energy and money into negotiating for the mineral rights to much of the most prospective land in Nunavut if we intended to block mineral development. Even much of the land for which Inuit own only the surface was selected because of its mineral potential, so that we would receive the opportunities that come by way of impact and benefit agreements on these lands.” James Eetoolook¹³

Diamonds & Serpentine

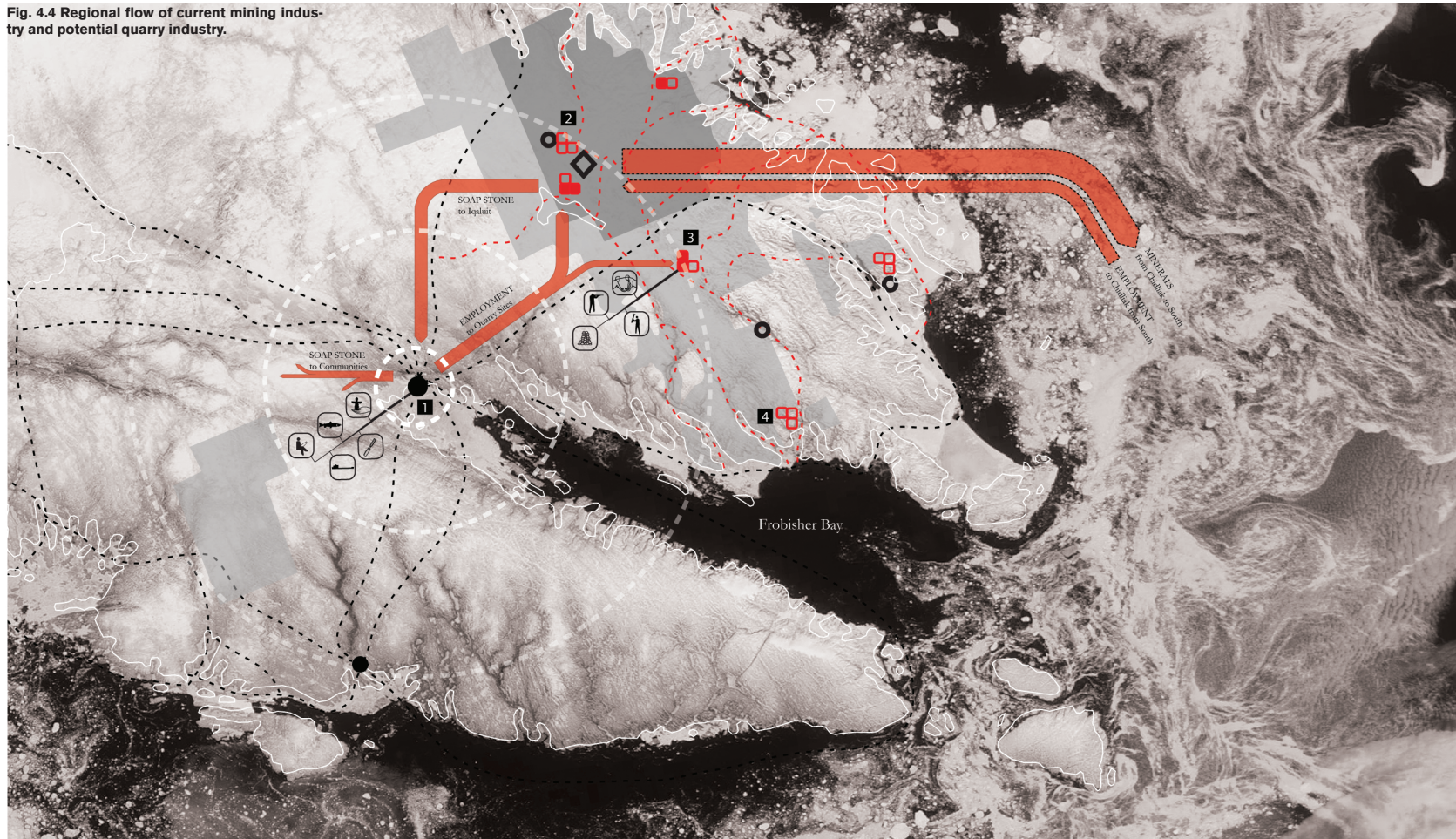
Nunavut’s economy will be shaped by the life cycles of four or five mining projects over the next ten to fifteen years.¹⁴ What has become somewhat expected with most mining operations that impact indigenous communities in Canada, an IBA has the potential to provide greater downstream benefits from these mining projects. Typical IBA provisions include direct and indirect employment, education, and measures for local cultural and environmental protection. The terms of an IBA can include anything from the mining company building a training centre in the would-be impacted community, to a supply of country food and carving stone at the mine site for Inuit employees. The largest diamond mine exploration project in Nunavut – Chidliak - will be negotiated with beneficiaries of Iqaluit and Pangnirtung. If the IBA negotiated for the Chidliak project could include the construction of an entrepreneurial economic facility in Iqaluit, a leap towards economic self-determination could be acquired without depending on government funds.

In addition to probing for diamonds, this opportunity could be used to negotiate parallel exploration for the rare carving stone used by Inuit artists. Serpentine, dolomite and quartzite are types of stone used by artists on Baffin Island, but deposits are scarce and difficult to access. In some communities the lack of material has been described as

¹³ Eetoolook, J. Mining and the Nunavut Land Claims Agreement. (Nunavut Mining Symposium, 2000)

¹⁴ Impact Economics. 2010 Nunavut Economic Outlook: Nunavut’s Second Chance.

Fig. 4.4 Regional flow of current mining industry and potential quarry industry.



- | | | |
|----------------------------------|-----------------------------------|-------------------------|
| 1 Nakasuk Facility | - - - Existing Snowmobile Route | ■ Seasonal Outpost |
| 2 Temporary Chidliak Camp | - · - · Proposed Snowmobile Route | ● Temporary Outpost |
| 3 Quarry Site | - - - Existing Air Route | ◊ Community |
| 4 Temporary Rented Camp | - · - · Existing Network | ◊ Chidliak Diamond Site |
| | — Proposed Network | ◊ Nickel Sites |
| | ■ Peregrine Prospecting Zone | ■ Chidliak Project Zone |

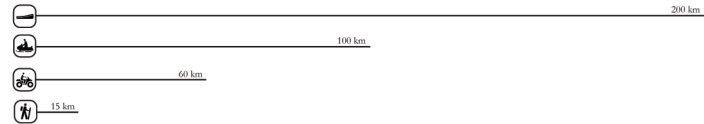
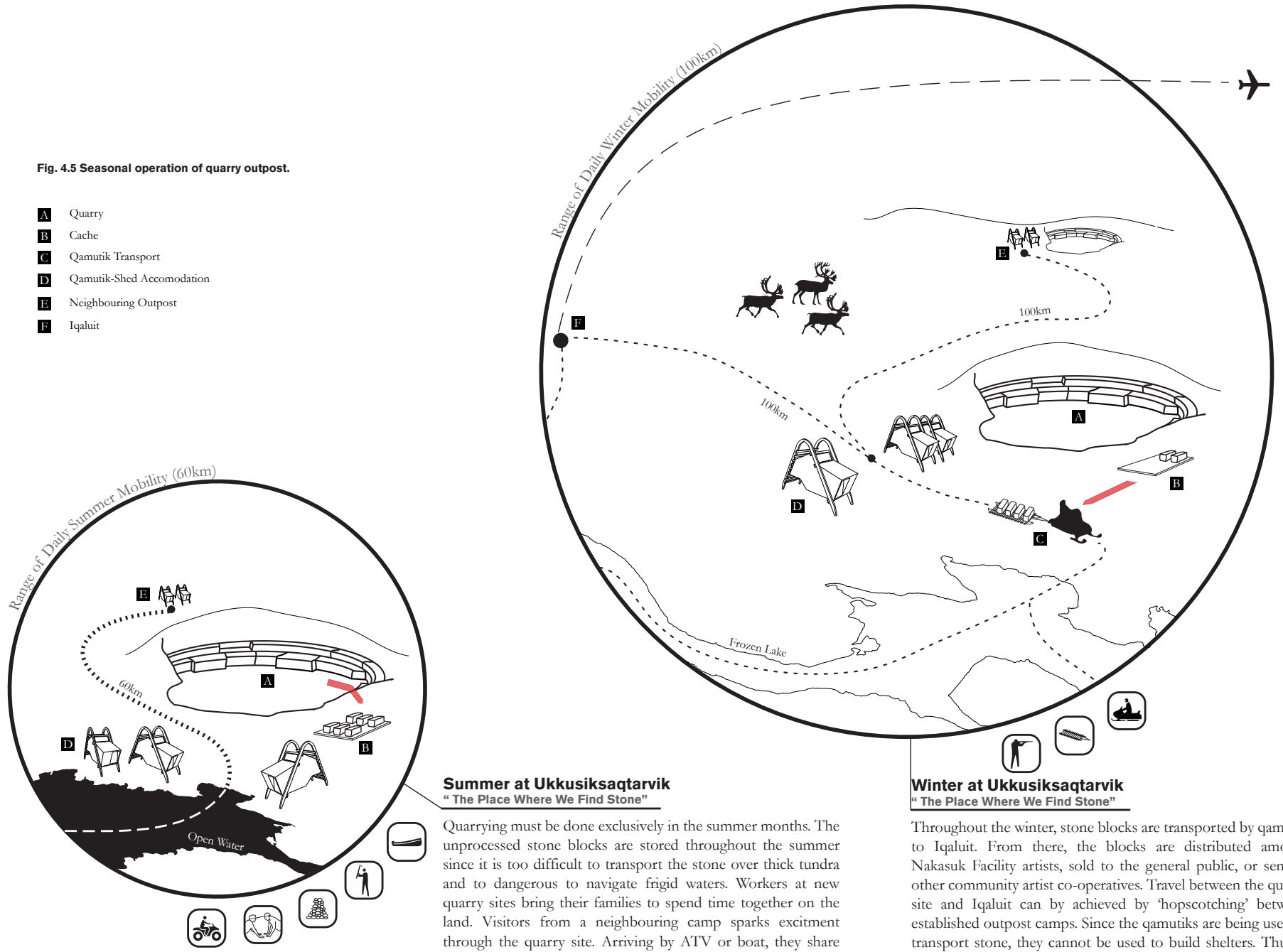


Fig. 4.5 Seasonal operation of quarry outpost.

- A** Quarry
- B** Cache
- C** Qamutik Transport
- D** Qamutik-Shed Accomodation
- E** Neighbouring Outpost
- F** Iqaluit

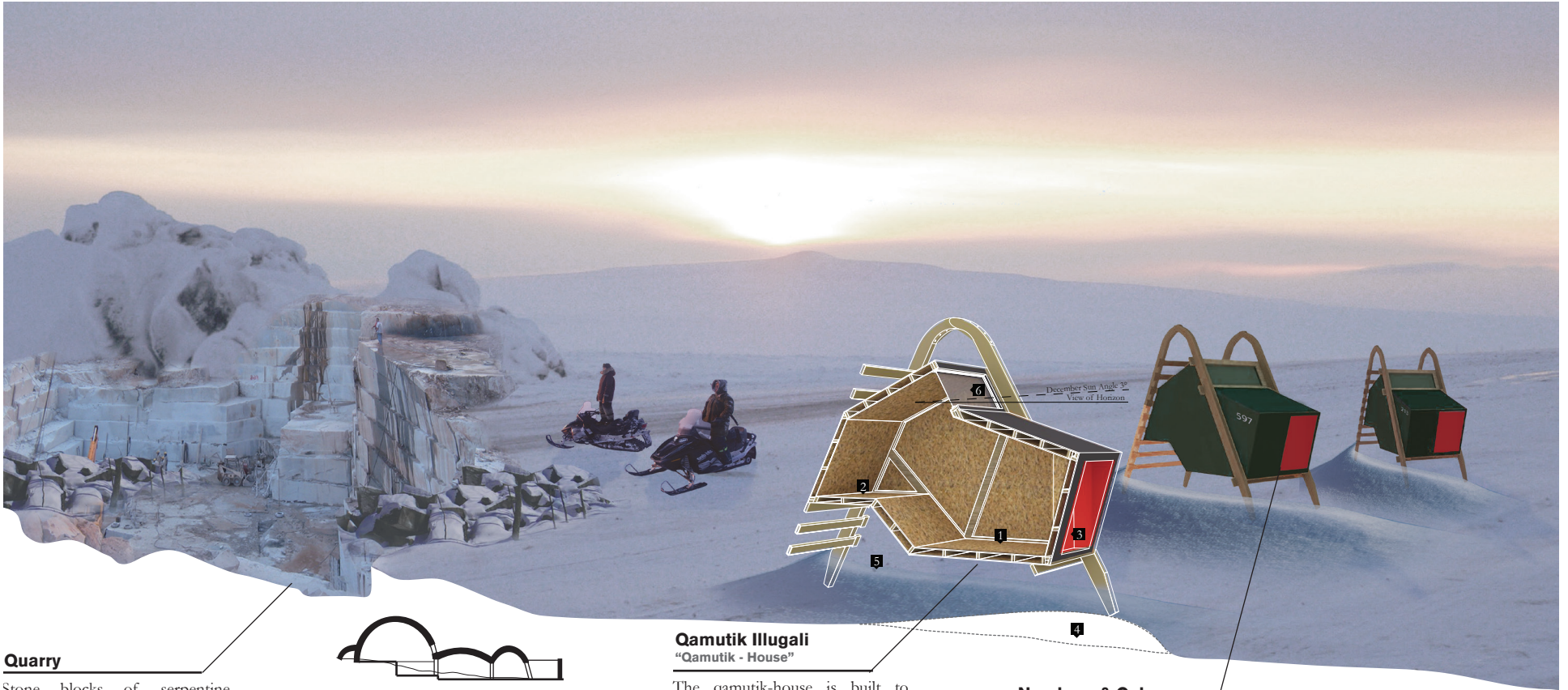


Summer at Ukkusiksaqtarvik
 “The Place Where We Find Stone”

Quarrying must be done exclusively in the summer months. The unprocessed stone blocks are stored throughout the summer since it is too difficult to transport the stone over thick tundra and to dangerous to navigate frigid waters. Workers at new quarry sites bring their families to spend time together on the land. Visitors from a neighbouring camp sparks excitement through the quarry site. Arriving by ATV or boat, they share food, stories, and knowledge of surrounding resources and weather conditions with the workers and their families.

Winter at Ukkusiksaqtarvik
 “The Place Where We Find Stone”

Throughout the winter, stone blocks are transported by qamutik to Iqaluit. From there, the blocks are distributed amongst Nakasuk Facility artists, sold to the general public, or sent to other community artist co-operatives. Travel between the quarry site and Iqaluit can be achieved by ‘hopscothing’ between established outpost camps. Since the qamutiks are being used to transport stone, they cannot be used to build shelters. Thus, a network of outpost camps must be established for the transport of stone from quarry sites further than a single day’s journey from Iqaluit. The stone network can also be used by hunters who take advantage of cache points and serviced routes.



Quarry

Stone blocks of serpentine, dolomite and quartzite are quarried from identified sites during the summer. They are cached on storage platform to await the arrival of advantageous winter travel conditions. Loaded onto qamutiks, the stones are transported to Nakasuk Facility in Iqaluit for processing and distribution for artists in the community and region.



Igluit "Snow Houses"

In the winter, when sea ice was occupied, igluit (snow houses) were constructed. The quality of snow was critical in cutting blocks. It had to be dry, well packed and accumulated in a single snowfall, since multi-layered sections would fracture. Cut from the same area which would later form a cold trap on the interior, the blocks would be laid in a spiral. The walls were angled to create a domed space and gaps would be packed with snow. A small hole would be created at the top for ventilation and a tunnel entrance would be built. The iglu would be oriented so that a small window above the entrance would face daylight.

Qamutik Illugali "Qamutik - House"

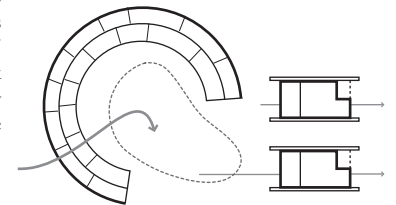
The qamutik-house is built to function in the winter. The accommodation typology leans from the iglu in form by creating a cold trap at entrance level and raising a sleeping platform. In its orientation, the qamutik-house reduces its windward face, shelters the entrance from wind, allows drifting to create access to the building and an exterior space to shelter dogs. Above the endtrance is window which collects direct winter sunlight and reflects this passive heat towards the sleeping area. The entire enclosure is raised within the qamutik structural framework. A hybrid design of qamutik, iglu, and shed, the accommodation unit seeks to find a balance design of local processes, lifestyles, aesthetics, and environment.

Numbers & Colours

Members of the Nakasuk Project to receive full access to qamutik-sheds. The general public may gain access to the network through rental options, each unit being denoted with a numbering system.

Bright red is used in the entrance of the structure so that occupants can find the building in case of blowing snow or fog. The dark exterior resembles the iconography of bolders or inuksuks on the horizon.

- 1 Sunken Entrance and Living Space
- 2 Raised Sleeping Platform
- 3 Recessed Entrance
- 4 Snowdrift Access Ramp
- 5 Sheltered Storage
- 6 Window



"One would arrange a sleeping area on the lee side of an area with rocks... We did not just sleep anywhere. We needed to find the perfect spot for the night." Uqalurait: An Oral History of Nunavut

critical.¹⁵ This problem is urgent since carving is a major economic facet throughout Nunavut (about one-third of Cape Dorset's economy is based on carving.) Currently, the artists themselves must assume the daunting task of quarrying their own stone. Summer is the only time it can be quarried. Without ocean access, this stone must be cached until winter arrives and it can be transported by snowmobile. Immense overhead expenses of gas, shelter and food are but one burden to the process. The skills needed to be able to travel overland are a prerequisite that many young Inuit are not developing since they no longer rely on hunting to obtain food and clothing. Once the stone arrives in town, protected and well ventilated space in which to work is impossible to find. There are no carving studios in Iqaluit, so artists either work outdoors in the open, under their homes, or in makeshift sheds. There has not been a quarry training program in Iqaluit since the 1980s, and with a lack of equipment, expertise and management, removing the stone is dangerous as known deposits are haphazardly gouged. People working in the quarry are getting hurt in the atrocious working conditions. Jutani Parr, a talented young artist, was killed while trying to collect carving material. His father was buried in rubble for several hours at the same site in Cape Dorset.

"It is not an easy job trying to quarry stone from off the land. Every year we have to find a shabby boat to take us to the stone. The boat might have no proper pump to drain water. We drain the water from the boat by hand because it leaks, and when we get to the quarry site, we have to take the rock out of the ground without proper quarrying tools." Johnny Aculiak¹⁶

Unfortunately, the issue is only worsening. The Inuit Art Foundation, who provided the majority of professional development resources and workshops for carvers, dissolved in March 2012. Moving forward, partnership between private industry and both public and entrepreneurial sectors will be imperative for progress. A new facility in Iqaluit would allow quarrying and carving programs to emerge, providing working and retail spaces for artists engaged with stone. While traditional carving techniques would likely be used by artists in the offered workspaces, new and inventive processes could be pursued if the building were to facilitate such. The identification of new carving stone quarry sites would stock a carving stone co-op to enable the distribution of this critical medium to artists throughout the region. Using mobile structures inspired by vernacular qamutiks, a proposed qamutik design would assist in the transportation of stone during the winter when snow and ice cause an ease in movement. These structures would have the capability to be assembled into a shelter, providing accommodation and storage for personnel quarrying and caching raw stone throughout the summer. Once brought into the urban setting, they would serve as both carving workspace and market venue.

¹⁵ Ukkusiksaqtarvik: The place where we find stone: Carving Stone Supply Action Plan, Nunavut (Pangnirtung: Department of Economic Development and Transportation and Community Economic Development Division)

¹⁶ Kudluk, H. Johnny Aculiak: 'It seems to me that our cultural will die off one day if we do not keep carving.' (Inuit Art Quarterly, 1997), 27

Fig. 4.6 (opposite) Daily operation of quarry outpost.

¹⁶ Kudluk, H. Johnny Aculiak: 'It seems to me that our cultural will die off one day if we do not keep carving'. (Inuit Art Quarterly, 1997), 27

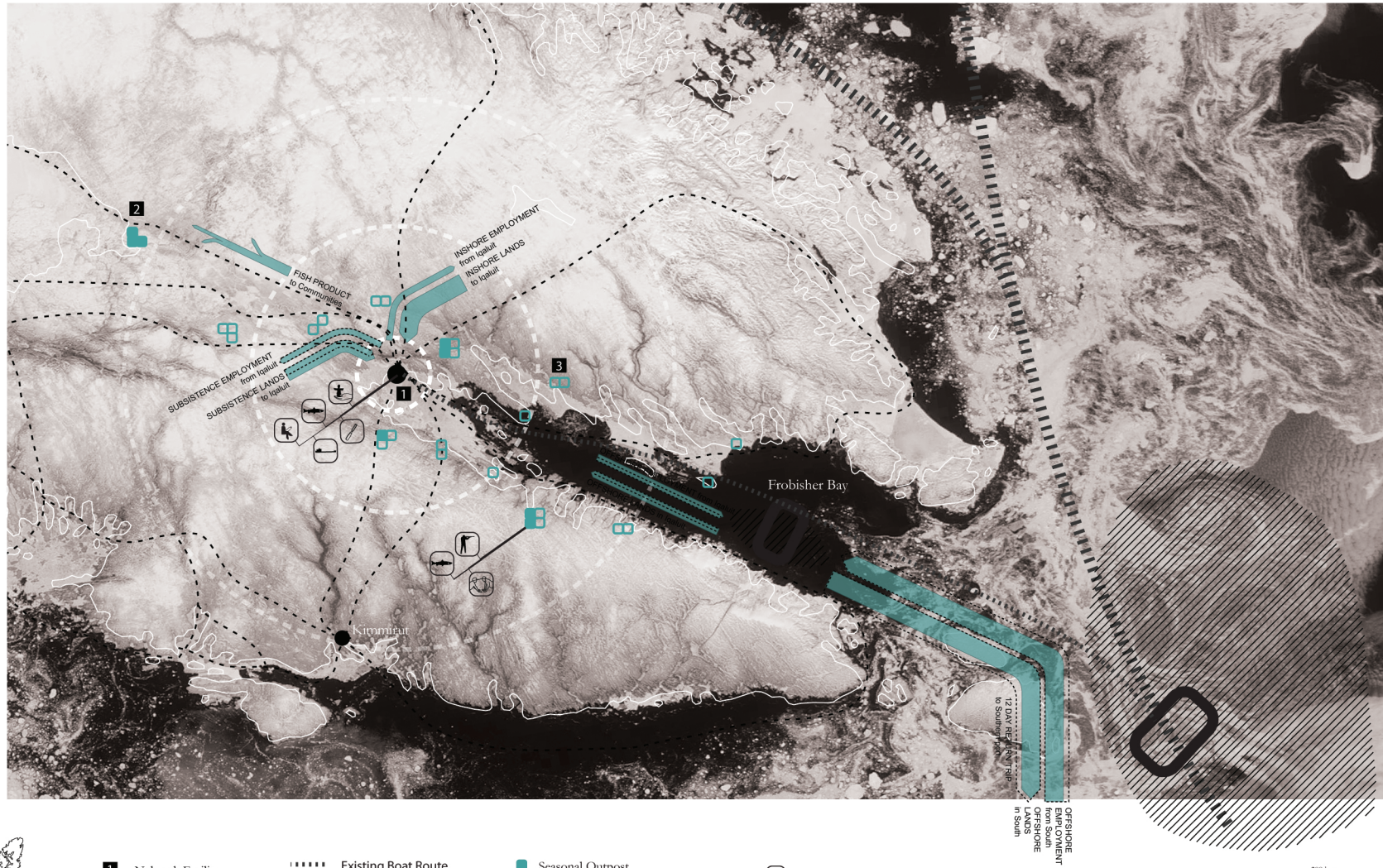
Char & Leather

Fish have always been an important source of food for the Inuit who, at different times of the year, catch both ocean dwelling and land-locked fish species like turbot, char, trout, whitefish, and grayling. With weirs, nets and longlines Inuit harvest char for subsistence use. In other northern communities, the use of fishwheels enables greater harvest sizes allowing small operations to sell commercially.

Twenty years ago, the extent of Nunavut's marine resources were virtually unknown. Today, Nunavut takes part in a highly competitive offshore fishing industry as well as near shore and inland fisheries. Currently, much of the wealth generated by Nunavut fisheries never enters Nunavut's economy. As a result, major opportunities to develop offshore harvesting, inshore harvesting and onshore processing remain untapped. Though 25 out of the 26 communities in Nunavut are coastal, there is little port infrastructure that can accommodate even the most modest of offshore fishing vessels. With the recent emergence of the fishing industry Nunavummiut have had little time to develop the needed infrastructure to compete with southern companies from Newfoundland and Nova Scotia. Today these southern vessels dominate the offshore turbot deposits located just beyond Frobisher Bay. Iqaluit sees only a fraction of the profits by selling quotas and landing on average one vessel per season, while Newfoundland and Nova Scotia land 30-50. It is estimated that if Iqaluit could supply offshore fishing vessels marine services, cold storage, warehouse and container facilities it could land half of the offshore fleet currently taking the 12 day return trip to southern ports.

Like many other settlements, a community-based, inshore fishery in Iqaluit, "place of many fish", is overwhelmingly desired. In addition to the proposed quarry training centre, a fish processing facility in Iqaluit would allow subsistence hunters a place to cooperatively commercialize their livelihoods. In May 2012, Jim Currie, owner of Iqaluit Enterprises passed away. His country food processing business was the only supplier in Iqaluit. The demand for country food is astronomical, and with the closing of Iqaluit Enterprises a significant gap has been opened. The proposed processing facility would fill this void – offering Iqalungmiut with fish, seals, walrus, caribou, beluga, ptarmigan, and what other catches local hunters can supply. Collecting country food takes place on the land, and qamutik-sheds, -racks, and -smokers, would provide the necessary outpost camp from which to base these activities. Their role would be to offer accommodation, storage, on-site processing (including gutting and smoking) as well as transportation of goods to Iqaluit for regular country food markets.

Fig. 4.7 (opposite) Regional flow of current offshore fishing industry and potential inshore fishing industry.



- 1** Nakasuk Facility
- 2** Fishing Outpost
- 3** Temporary Shed Rental

- Existing Boat Route
- Existing Snowmobile Route
- Existing Air Route
- Existing Network
- Proposed Network

- Seasonal Outpost
- Temporary Outpost
- Community
- Offshore Trolling Zone
- Offshore Turbot Habitat



200 km

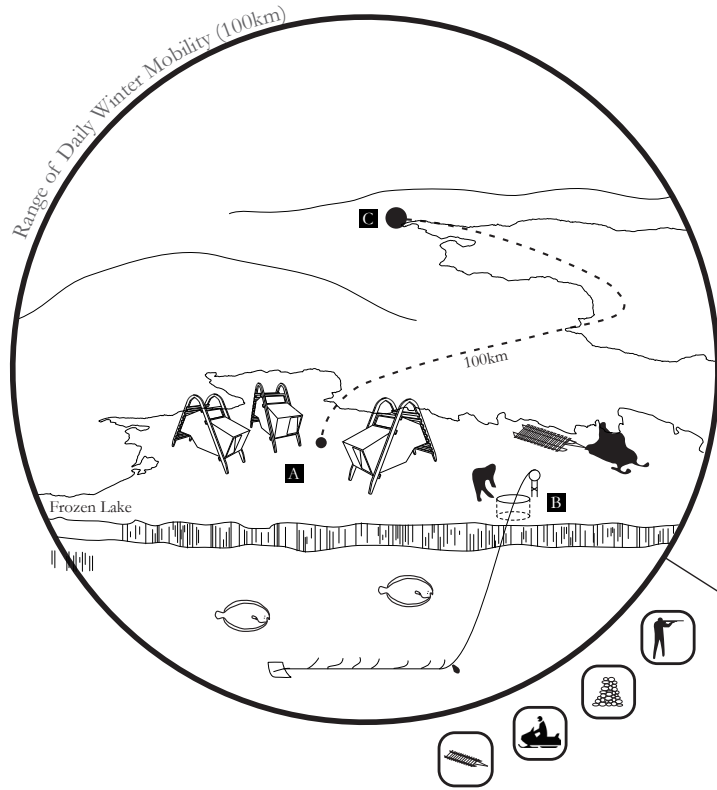
100 km

60 km

15 km

Fig. 4.8 Seasonal operation of inshore fishing outpost.

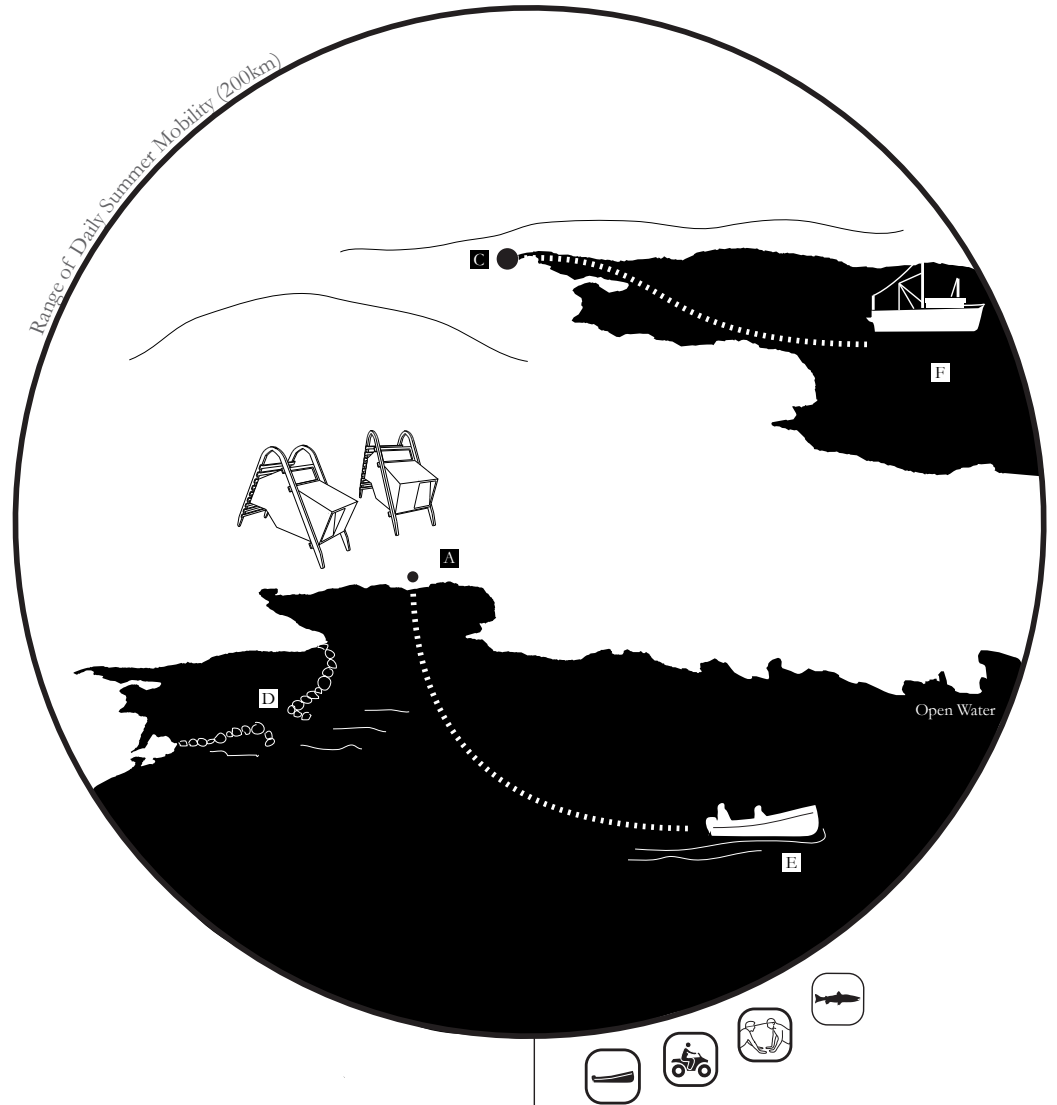
- A** Fishing outpost
- B** Longline and pulley
- C** Nakasuk Facility
- D** Fish weir
- E** Local canoe boat
- F** Offshore vessel from southern provinces



Winter at Fishing Outpost

During the winter, every water body freezes into a hunting platform. From here, turbot can be caught using a longline. Seals can be ambushed at their breathing holes. Narwhal can be hunted from the floe edge.

Seasonal outposts are made possible by qamutik-sheds. It is here where catches can be cached, accumulating until they are transported to the Nakasuk Facility for processing and distribution. Animal by-products from the winter harvest such as bones, leather, and fur are used by artists.



Summer at Fishing Outpost

Arctic char are typically caught during the spring and fall season when the fish are running. Local harvesters often use nets to capture this bounty, however with increased capacity fishwheels can be used (as they are in Alaska). After spending time at an outpost processing and drying the fish, locals can return to the urban Nakasuk Facility to further process, package and distribute their product. During the summer months, offshore vessels dominate the Davis Straight in the pursuit of turbot. By luring these vessels to the Nakasuk Facility with cold storage, warehouse and container facilities, half of the offshore fleet is estimated to land in Iqaluit.



Fig. 4.9 Daily operation of inshore fishing out-post.



Fish Drying Rack

Arctic char is regularly caught when they make their migration as young from nursery lakes to the ocean. As adults, the fish return to the same lake as their birth during the fall. Lakes which are partially frozen are most desirable since their deep waters can be fished without the use of a boat. Once caught, the fish are deboned and criss-cross cuts are made in the flesh. The char are then hung on a drying rack until all the moisture has gone.



Skin Stretching Frame

Nunavut waters abound with seal. Not only do these animals provide nutritious food, but their fur is used in the garment industry. Before the skins can be sewn, the hide must go through a series of treatments. It must be cleaned immediately with fresh water to remove blood, salt and fat. Then it is laid on a board where fat and blubber can be scraped away. After additional washing and scraping, the skin is stretched around a frame to dry. To soften the skin, it must be painstakingly chewed or stamped upon to remove stiffness.

Fish Weir

A weir is a circle of stones made into a barrier that can block the fish from traveling but allows the passage of water. It is used to catch large quantities of char running through streams on their way to or from the ocean as well as ocean dwelling char trapped by low tides. Though this method is ancient, it is still used today in modern commercial fisheries such as Kitikmeot Foods in Cambridge Bay.

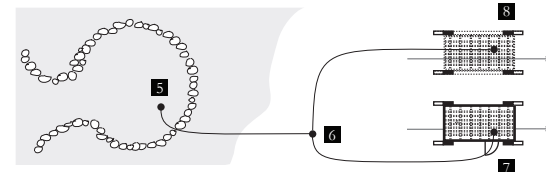
- 1 Portable Wood-burning Stove
- 2 Repurposed Qamutik Slats
- 3 Arctic Char
- 4 Stretched Seal Skin
- 5 Fish Weir
- 6 Deboning
- 7 Smoking
- 8 Drying & Stretching

Qamutik-Smoker

The qamutik-rack typology aids in the drying of fish and skins. The majority of the structure is built from two adjoined qamutiks. Wooden crosspieces are then secured between the qamutik structure. Left open or partially enclosed, the qamutik-rack allows for fish drying, fish leather and hide stretching, as well as product storage and protection from wind and rain.

Qamutik Innirvili "Qamutik-Frame"

The qamutik-frame typology aids in the drying of fish and skins. The majority of the structure is built from two adjoined qamutiks. Wooden crosspieces are then secured between the qamutik structure. Left exposed to the wind and sun the qamutik-rack allows for fish drying as well as fish leather and hide stretching.



"Our fishery is both new and old. It is young in terms of exploring the immense potential of its resources and in developing the commercial aspects of the fishery. At the same time, the fishery is tied closely to the ancient traditions, knowledge and culture of the Inuit of Nunavut." Olayuk Akesuk

“I would have liked to hear some Inuit throat singing, to learn more about how they hunt, and use the seal products, etc., but the opportunities never arose. I would have loved to meet the elders, and hear their stories, but again, short of barging into their meetings, how do you meet them? ... The educational programs aren’t in place. The ones that are, are too expensive.”¹⁷

¹⁷ Milne, S. *Baffin Island, Nunavut, Canada*. In *Extreme Tourism: Lessons from the World’s Cold Water Islands* (Oxford: Elsevier Limited, 2006), 93

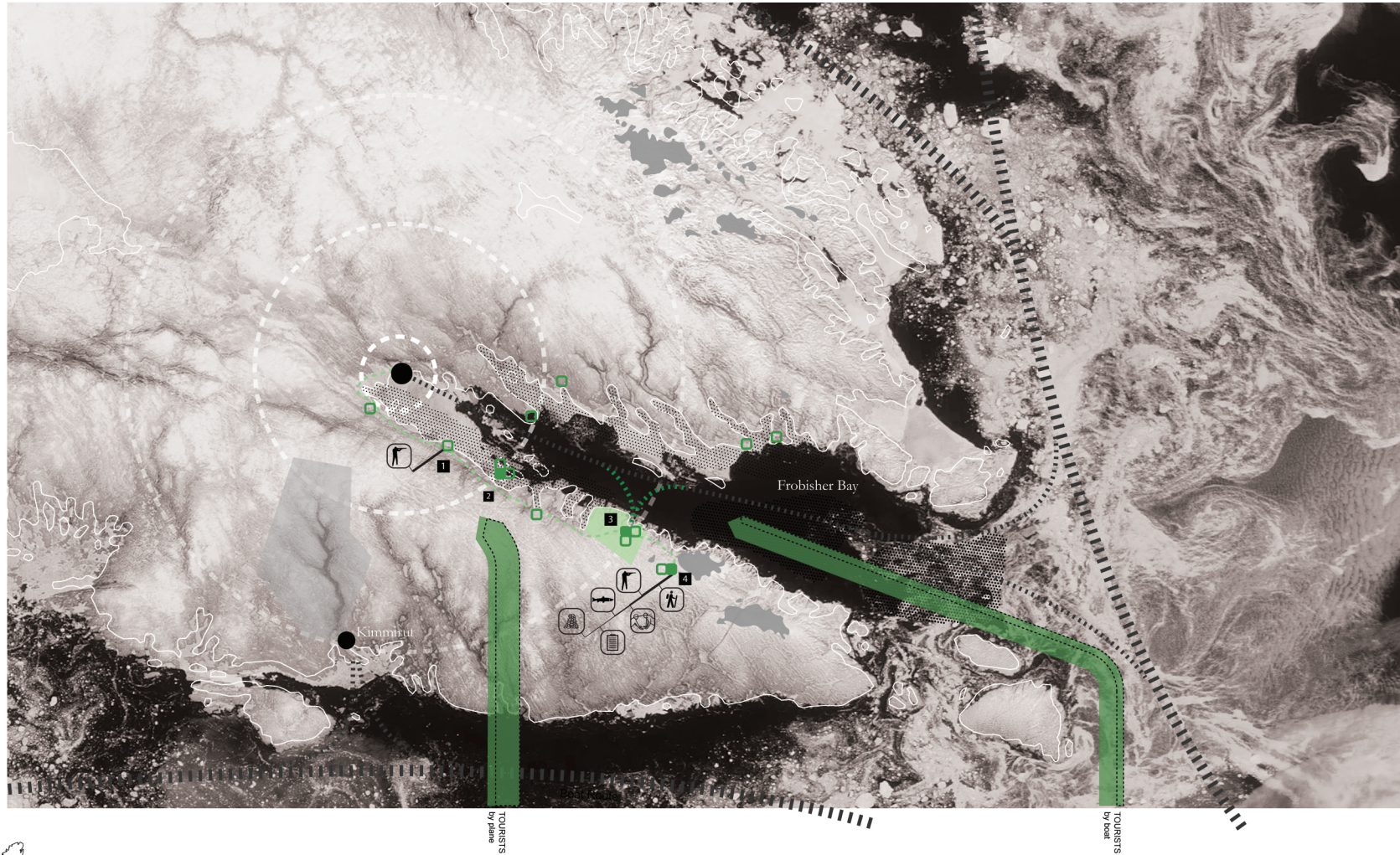
Beluga & Runways

Nunavut’s tourism sector is largely undeveloped; lacking tourism products, community infrastructure, trained operators and suffering from an inadequate yearly budget of \$4 million. Tourism is estimated to be worth \$30 million annually in Nunavut, making it one of the territory’s largest economic sectors. The main tourist season is July and August and many travel on small, expert-led packages that characterize the region. While “consumptive” forms of tourism such as sports, hunting and fishing, have long been part of the region’s tourist industry, government policy has assisted non-consumptive tourism, such as soft adventure (hiking, kayaking), wildlife viewing and arts and cultural tours.

Eco-tourism and business travel are why tourists come to Nunavut. A lack of tourist destinations in Iqaluit have prevented eco-tourism from reaching its potential, especially when most tourists travel through Iqaluit on their way to smaller communities where a so-called “authentic” experience is found. Packages which appeal to travelers seeking eco-tourism and soft adventure should be offered in close proximity to Iqaluit to capitalize on the existing flow of people.

Destinations must be conceived. Fortunately, there is no lack of stunning scenery, history and wildlife in the area. Frobisher Bay contains Thule sites, the original military base of Mialigaqtaimiq, “the place where the Americans lived”, and beluga whale feeding and breeding grounds. Data on the size and health of beluga populations in Frobisher Bay has not yet been recorded, however local hunters continue to harvest during the summer season. A proposed trail network which traces the origins of human settlement along Frobisher Bay could be a fantastic tourist package to offer. Beluga viewing and monitoring stations could provide a tourist destinations, a cache point for local hunters, and a data collection sites for ecological researchers. This triangulated relationship allows tourists to discover the unique environmental and cultural practices they have traveled so widely to view, allows hunters to maximize their harvest, and allows researchers to collect crucial data which in turn will inform how hunters operate. Besides appealing to tourists, researchers and hunters, new tourist camps along Frobisher Bay could be made available to the general public. Much like the cabins already dotting the shoreline, these camps would be erected throughout the regional landscape to provide emergency shelters, hiking lodges, cabins for school field trips and summer camps for families – making access to Nuna a common right, not a privilege. During the winter there are fewer incentives for tourists to visit Nunavut. To combat this lull in the tourist season, festivals should be created to perpetuate the drum dancing, Inuit games, and throat singing that gathers crowds. Events like Iqaluit’s annual Toonik Tyme could become monthly celebrations during the cold winters - the season of congregation.

Fig. 4.10 (opposite) Regional flow of current tourism industry and potential expansion of tourism industry.



- 1** Temporary Rented Camp
- 2** Mialigaqtalimiq
- 3** Territorial Park Station
- 4** Research Station

- Existing Boat Route
- Proposed Boat Route
- Proposed Trail
- Existing Air Route
- Existing Network
- Proposed Network
- Beluga Feeding Area

- Seasonal Outpost
- Temporary Outpost
- Community
- Proposed Territorial Park
- Existing Territorial Park
- Glacier
- Beluga Hunting Area

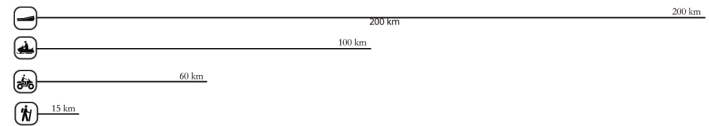
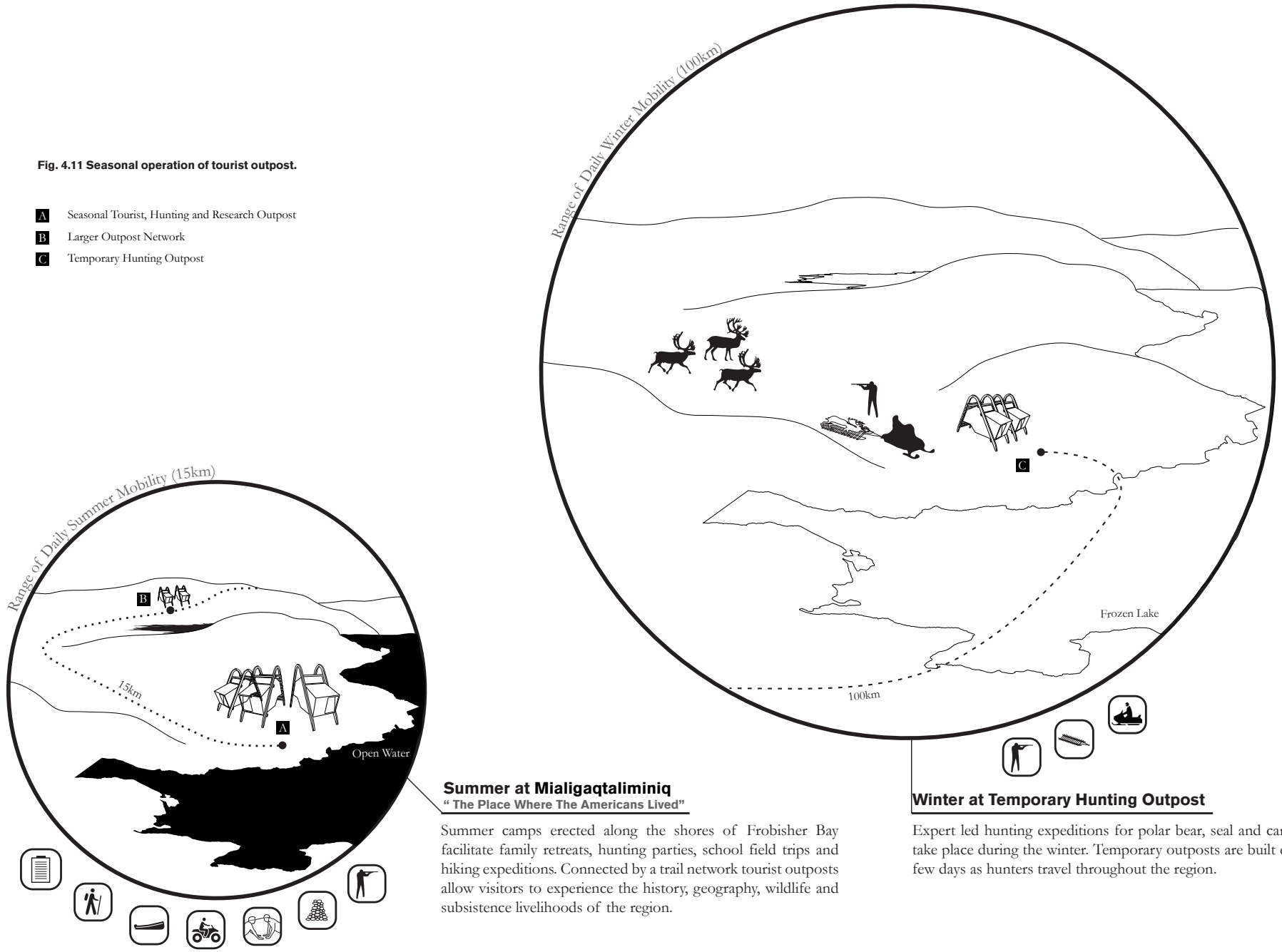


Fig. 4.11 Seasonal operation of tourist outpost.

- A** Seasonal Tourist, Hunting and Research Outpost
- B** Larger Outpost Network
- C** Temporary Hunting Outpost



Summer at Mialigaqталiminiq
 “The Place Where The Americans Lived”

Summer camps erected along the shores of Frobisher Bay facilitate family retreats, hunting parties, school field trips and hiking expeditions. Connected by a trail network tourist outposts allow visitors to experience the history, geography, wildlife and subsistence livelihoods of the region.

Winter at Temporary Hunting Outpost

Expert led hunting expeditions for polar bear, seal and caribou take place during the winter. Temporary outposts are built every few days as hunters travel throughout the region.

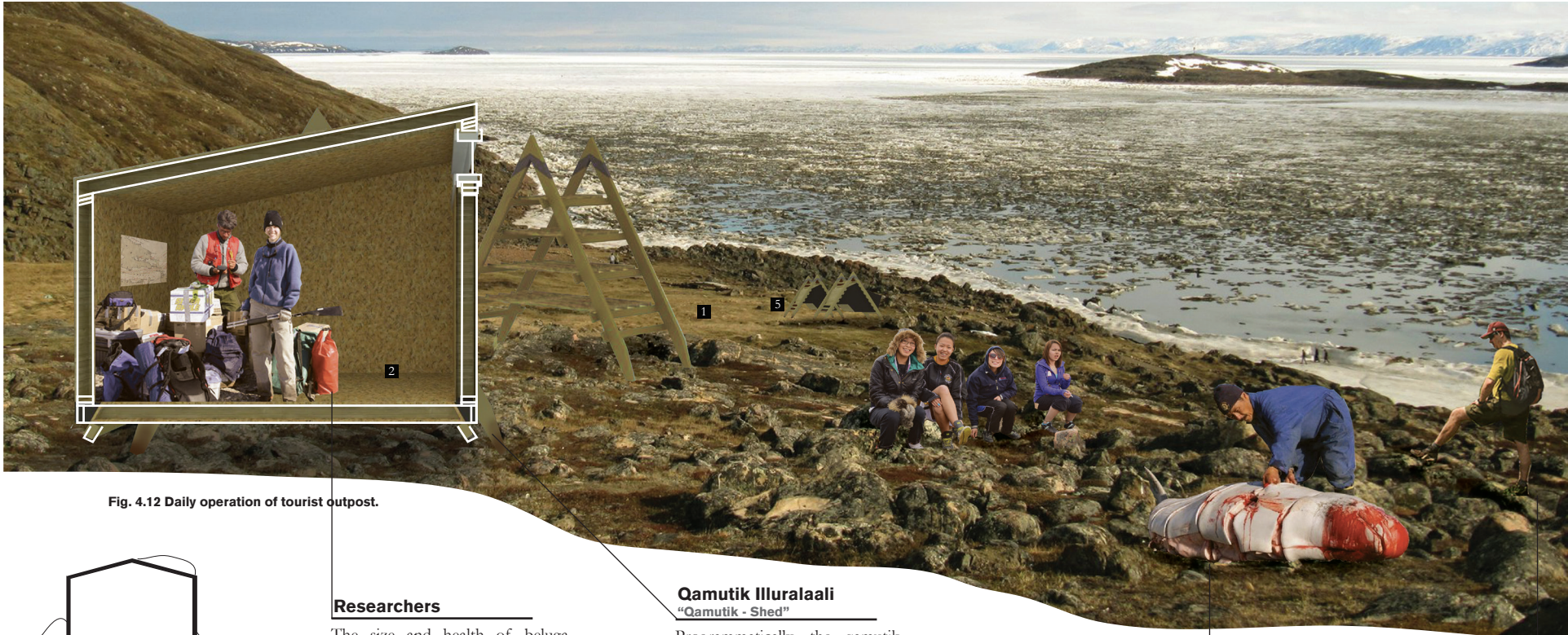
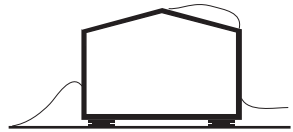
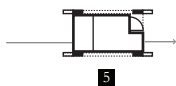


Fig. 4.12 Daily operation of tourist outpost.



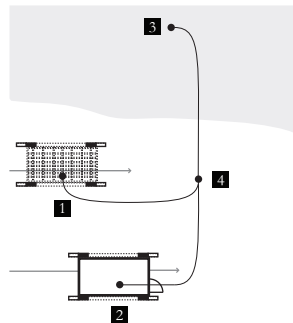
Shed

Sheds which line the shoreline of Iqaluit are commonly used for storage and workspace, much like a garage. These permanent structures are often overlooked as critical examples of urban Inuit architectural expression. Taking this typology on the land means that storage and workspace can be accommodated in the outpost camps, making these sites a new base for larger scales of subsistence economies.



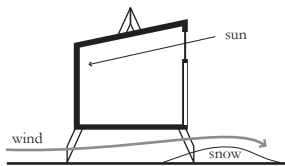
Researchers

The size and health of beluga population in Frobisher Bay are not yet recorded. Outpost camps serve the research community by providing accommodation and workspace while collecting empirical data. Additionally, research conducted along the shores of Frobisher Bay gives researchers an opportunity to gather information from local hunters.



Qamutik Illuralaali "Qamutik - Shed"

Programmatically, the qamutik-shed mimics its permanent counterpart existing along Iqaluit's shoreline. By hybridizing this enclosed storage and workspace with a qamutik, a mobile unit is formed. The qamutik-shed is elevated and shaped to promote air movement and reduce drifting while maximizing floor space. On the land, the qamutik-shed stores raw materials, gives researchers a workspace and facilitates larger indoor gathering. In an urban condition, the qamutik-shed becomes a stall where hunters and artists can both produce and sell their products.



Hunters

Members of the community possessing the skill to hunt and butcher a beluga whale are invited to teach tourists, youth and the general public. Using their estimates in addition to empirically collected data, beluga population health is recorded and used to inform the hunt. Outpost sites can be used as bases from which to pursue animals, and can also be used as cache points to maximize hunting efficiency.

Tourists

Eco-tourists and school groups come to the outpost camps to witness a beluga hunt. The group is educated on cultural practices, butchering techniques and enjoy a taste of fresh muktuk.

- 1 Muktuk Drying Rack
- 2 Storage & Gathering
- 3 Beluga Feeding Ground
- 4 Butchering & Sampling
- 5 Accomodation

"We quickly realized that tourists were regarded as Greenpeace members. We asked several times to join a seal hunt but noticed lots of reluctance and got negative answers... I regret this fact. It would have been very interesting for us." Pond Inlet tourists 1993 (Grekin, 1994)

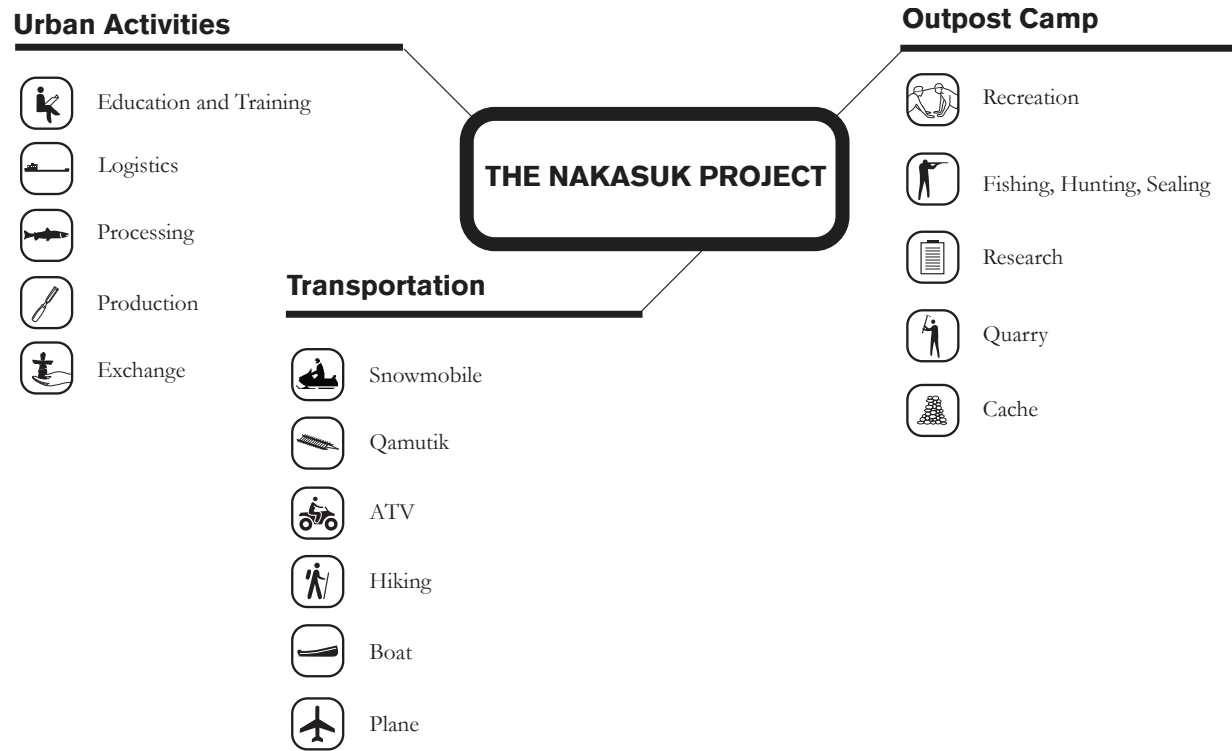


Fig. 4.13 The Nakasuk Project

The Nakasuk Project

The architectural proposal materializes from both the impending development of resource projects and the habitually unsought investment in cultural activities as economic catalyst in Iqaluit. The Nakasuk Project is a network of routes, mobile structures and an urban facility housing an accumulation of enterprises which use both traditional and modernized cultural activities for economic profit. Programatically, the urban facility offers a processing plant for inshore fishing, hunting and sealing; a quarry training program accompanying a carving stone co-op with workspaces and gallery; sewing studios; a daycare; market; prefabrication shop; and community freezer. This building is known as the Nakasuk Facility. A congruent system of mobile structures, varying in typology, is proposed for the transportation of raw materials to Nakasuk Facility, as well as accommodation and workspace for personnel on the land. These structures are cumulatively known as qamutik-units. Their typologies range from cabins and sheds to more utilitarian models such as smokers and frames.

The Nakasuk Project draws its name from Paulusi Nakasuk. He is understood to be a founder of Iqaluit, but more importantly, represents the moment of hybridization between tradition and modernity, between city and land. His spirit is what continually inspires the idea of the proposal. The Nakasuk Project can be understood as both a cultural and architectural hybrid. It exists in a space between tradition and modernity. The facility allows for modern cultural production and therefore the constant redefining of such traditions. Modern reinterpretation combined with new technologies generates a way for traditions to evolve and maintain relevance in contemporary society. In an architectural sense, the Nakasuk Project is programmatically hybrid, somewhere between an economic hub and a community centre, combining both private production and public spaces.

Core Fabric and Public Access (Page 116-117)

Made painfully clear in this map is the fact that what public access does exist in Iqaluit is largely limited to foyers and sealed corridors. During the nine month long winter season, with few if any windows, the effect is suffocating. By offering extensive indoor and outdoor public spaces, the proposal addresses this urgent demand for places to do work, meet friends, or take in views of the land. Few places in Iqaluit offer a less interrupted view of the land than the waterfront.

A temporal boundary, the waterfront moves with the daily tidal flow, at the city core in the morning and far off in the distance by midday. During the winter, a blanket of snow causes the shoreline boundary to disappear entirely. Denoting the edge of the city, hunting sheds line the entire downtown waterfront. Their informal construction and

low roof height allow public access and the maintenance of views through gaps in their layout. Walking through the shed corridor one might find an artist carving caribou antlers, a seal pelt drying on a wooden frame, or a collection of scrap snowmobile parts. Embracing this unique public experience, the project begins by strengthening this crucial display of northern distinctiveness.

Qamutik-unit fabrication in the partially constructed Nakasuk Facility begins the project phasing. Workshops offered at the Facility teach Iqalungmiut how to develop a hybrid qamutik and shed design that elevates vernacular performance. They begin by occupying gaps in the current shed fabric. The continuous addition of qamutik-units along the waterfront reinforces communal values of public movement and views to Frobisher Bay. Over time they extend into the undeveloped western waterfront. Their aggregated form starts to create parallel corridors of alternating positive and negative space. Set back from one another to allow maximum solar exposure, each row of qamutik-units creates a wind-sheltered, and sunlit pedestrian route. Additionally, the rows align to existing pedestrian trails that move between the downtown core and the waterfront. At certain moments, the qamutik-units form encapsulated gathering spaces. Serviced by qamutik-sheds, outdoor markets can occur throughout the year allowing this currently underutilized space to finally blossom with activity. Sheltered by qamutik-smokers, groups of Iqalungmiut can gather around a shoreline campfire. Summer tourists can spend a night in a qamutik-cabin in the city, taking in a view no other accommodation here is able to offer. The new spatial organization of the waterfront allows for the qamutiks to create responsive architecture as an individual unit, but as a sum of parts, the qamutik-units begin to shape a new, yet familiar spatial typology.

The spreading of qamutik-units along the shore assigns the entire core waterfront as the urban site of the project. Their occupation in the urban environment can be temporary or semi-permanent and varying organization of qamutik-unit program can creating spaces for work or for play. The flux in the number of qamutik-units inhabiting the shoreline varies seasonally, even daily, thus making the exact urban boundary of the project vague.

Daily & Seasonal Calendars (Page 118-119)

Occupation of the greater Iqaluit region expands the project boundary further. Outpost camps around quarry sites, fishing holes and beluga grounds promotes greater habitation of Nuna. Often these sites are familiar places long known for their bounty. A seasonal fishing camp might be assembled on a site the Kilabuk family has used for decades. Others might build a temporary camp at their annually visited beluga breeding ground, dismounting and reassembling

the camp as they follow the spring migration. In this sense, the site of the project exists in the memory-scape of Nuna. It exists throughout the regional places of interest anchored in ecological abundance and cultural significance.

However, the Nakasuk Facility, where the operation of heavy equipment in processing and production, in addition to formal education and training, must be sited in an accessible and permanent location. It is the interface of regionally mobile qamutik-units with the permanent, urban Nakasuk Facility which create a heightened architectural condition. By siting the Nakasuk Facility on the point of convergence for various seasonal routes, the building seeks to ensure steady traffic of suppliers and consumers throughout day at any time of the year. Pedestrian trails, cargo shipping and hunting routes overlap at one critical and currently undeveloped point on Iqaluit's waterfront.

The shed corridor established between the Nakasuk Facility and the Unikkaarvik Visitor's Centre is part of a larger trail network. Beginning in Apex, this trail follows the shoreline west, through Iqaluit, and into the Sylvia Grinnell Territorial Park (see Fig. 3.6). By reinforcing the presence of this trail, summer tourists wandering Iqaluit will find themselves in the steps of the Nakasuk Facility where carvers, working in plain sight of this trail, will be exposed to potential customers. The experience of seeing carvers working outside, talking to them about their designs, and taking in the astounding views of Frobisher Bay is the reason why seasonal tourists come to Iqaluit.

The summer sealift unloads its cargo on the beachfront adjacent to the Nakasuk Facility (see Fig. 3.6). This results in two advantageous programming conditions. First, excess shipping materials are in close proximity and can be easily gathered and stored in the Nakasuk Facility for qamutik-unit construction. Second, this vital flow of goods means that a shipping route is always cleared of rocks and icebergs, making this place a convenient route for hunter and pedestrian flows. As such, this is the exact point of entry the majority of hunters use when returning to Iqaluit on their snowmobiles during the winter (see Fig. 3.7). This means that not only can catches be easily unloaded into the processing plant, but qamutik-units can be immediately stored and can avoid navigating through Iqaluit's congested intersections.

These converging routes, combined with ample gathering space and the close proximity to existing commercial vendors like Northmart, suggests that a market at Nakasuk Facility would be successful. An arts, crafts and country food market is overwhelmingly desired for the capital city, but has yet to be consistently offered. With an increase in supplied goods and formality, the market could be offered bi-weekly, coinciding with the schedule of hunters

returning to the city to unload their stocks to Nakasuk Facility for processing. The market is formed when qamutik units aggregate in the Nakasuk Facility's designed microclimates. Flanked by armatures extending into the landscape, these spaces face south and are protected from prevailing winds, allowing for outdoor public gathering. What costs they produce from creating additional building envelope they make up for in providing functional outdoor spaces that are well protected and universally accessible. A supporting lobby space adjacent to this outdoor microclimate enables movement between indoor and outdoor market space. This is especially important during early spring markets when outdoor temperatures can reach -40 degrees Celsius. While some venders may request small fees for their product, others are encouraged to maintain the custom of sharing. Perhaps exchanges would be sought, offering three fresh char for a weekend of baby-sitting. In any event, the market allows the community to come together; to share food and knowledge in a new public forum.

The seasonal rhythms of the arctic environment effect the community in two important ways; the shipping schedule and the hunting schedule. With sealift shipments arriving shortly after spring break-up, the construction season commences. However this is also the time to catch char and beluga in the newly exposed liquid hunting ground. Iqaluit residence must make the individual decision whether to participate in the wage or traditional economy; a dilemma harbored in the minds and hearts of Inuit people across the territory. The Nakasuk Project attempts to negotiate competing schedule demands and align calendar events for logistical ease. This not only assists Iqalungmiut with their ability to balance a life in the community and a life on the land, but it also allows the Nakasuk Facility and qamutik-units to be used more efficiently.

A traditional Inuit year in south Baffin Island consists of five seasons beginning with early spring. During this time the Nakasuk Facility is bustling with hunters bi-weekly returning to the city to unload their qamutik-units full with catches of caribou, seal and fish. These animals are processed in the Facility to produce fresh meat, smoked fish jerky, cleaned antlers, leather and fur. These products are either distributed amongst resident artists for further production, or sold immediately at the facility's market.

The spring season is characterized by the extreme shift from ice to water. Land is the first to witness signs of the changing season. As snow melts thick tundra is revealed and both flowers and insects burst forth. Travel over the spongy ground is encumbering, however far less of a risk than traveling over melting sea ice. Taking advantage of this time of poor mobility, the Nakasuk Facility offers training courses for the upcoming quarrying and fishing season.

Similarly, qamutik-units are repaired during this time when the land is unsuitable for travel.

Each summer, cargo vessels arrive in Iqaluit to unload annual supplies of food, building materials and luxury items. Excess shipping containers and construction waste are left in the city and used by the general public for informal shed construction. New qamutik-unit designs follow this same principle, utilizing “found” materials left behind on the unloading beach adjacent to the Nakasuk Facility site. Out on the land, quarry sites are being harvested for their precious carving stone. The material collected on site will have to be cached until snow falls, providing suitable conditions for transporting stone to the city. During the summer, tourist camps are also being assembled along Frobisher Bay. A new territorial park halfway down the Bay is added to the developing hiking trail from Iqaluit. Highlighting archeological Thule remains, the original site of Iqaluit on Crowell’s Island “Mialigaqталiminiq”, local flora, fauna and glaciers, this tourist package aims to take advantage of the current tourist flow through Iqaluit. In the city, accommodation in waterfront qamutik-cabins creates a unique tourist experience.

Materials collected from the summer shipping and construction season are stored within the Nakasuk Facility. During “freeze-up” of Frobisher Bay, vessels are unable to navigate through icy waters and building sites close for the fall season. This becomes an opportune time for qamutik construction. With the Nakasuk Facility’s storage space filled with gathered building materials, fabrication workshops are held to teach hunters and recreationalists how to design, construct and assemble qamutik-units. As the season continues, the stock of building materials is depleted. Once a layer of snow covers the land and the oceans freeze, a new fleet of qamutik-units are ready to be released.

At the start of winter, qamutik-units are dispensed onto the land. Taken to familiar fishing sites, they form a new outpost camp. The entire winter season can be spent in these small, familial camps. Fish harvesting, processing and smoking can be done on site and finished products can be taken to market in Iqaluit bi-weekly. Operating on a larger scale throughout the region, freshly caught fish can be transported to Iqaluit each day for processing, market or shipment to other parts of the north. In the quarrying field, the qamutik-units haul cached carving stone back to Nakasuk Facility for storage in the now empty prefabrication shop. As artists work the stone throughout the winter, the stock of stone dwindles, allowing the shop to open again for sealift material as the Bay begins to thaw.

Project Phasing & Program Organization (Page 120-121)

Through the daily and seasonal variations in building occupation and program make an understanding of calendar

events vital to the project, thinking about how the proposal develops on a large time scale presents its own challenges. Phasing the construction of the Nakasuk Facility is imminent due to the size of the building and the need to ship building materials over a quick summer period. The construction schedule is divided into two phases.

In the first phase, the western, industrial half of the Nakasuk Facility is built. Structural glulam beams are shipped to Iqaluit from Montreal in the early summer. The design of this wing of the building is such that the glulam beams are able to be shipped in a “nested” fashion. This minimizes the amount of vessel space they occupy, thus reducing shipping costs. The sealift conveniently unloads at the project site. Chosen, in part, for this reason, the Nakasuk Facility sites itself here to take advantage of shipment ease and reduce building costs. Additionally, excess materials from annual shipment packaging or faulty building material orders are left behind to be ransacked. These found materials, once brought into the prefabrication shop of Nakasuk Facility, become the foundation for constructing qamutik-sheds.

This wing of the building also houses the processing facility. In an effort to divert southern-bound vessels from making the 12 day return trip to Nova Scotia or Newfoundland throughout the summer season, the processing facility supplies a warehouse with processing tables, cold storage, smoking and drying rooms and packaging. However, this facility exists primarily to promote the local, inshore fishing industry as well as hunting and sealing that occurs during the long winter season. A community freezer is provided at the facility for both those working with the Nakasuk Project, and for the entire city. By-products of this processing, such as ivory, antlers, bones, fur and leather are distributed to the artists working within the building. Finished products from the processing facility such as dried caribou jerky, smoked turbot or fresh and frozen char can be either shipped to neighbouring communities or sold within the building’s market space.

Though artists in the building are supplied with a variety of by-products, they also receive a favoured material – stone. A stone co-op is offered to assist in locating, harvesting, and transporting carving stone from sites around the Iqaluit region, to artists both within the Nakasuk Facility and throughout Nunavut. Individual carving studios face the outdoor gathering space. They can be either accessed from the interior to avoid winter temperatures, or opened up in the summer to allow a cool breeze to refresh the dusty studio. Artists are welcomed to explore their craft through contemporary techniques such as stone lithography and the use of CNC machines in the facility’s modern studios.

This initial phase of the proposal is the economic engine which drives the future ability for Iqaluit to construct the second phase of the Nakasuk Facility. Qamutik-units are employed to harvest raw materials, fish and animal processing is underway, and carving studios are established. Similar operations of this size in other parts of Nunavut, such as Papiruaq Fisheries Ltd. in Qikiqtarjuaq, are expected to be earning substantial net profit after 5 years of subsidy contributions from the Government of Nunavut and the Nunavut Development Corporation. (Nunavut Development Corporation 2009/2010). Given this framework, the second phase of the Nakasuk Facility can be expected to commence after 5 years of operation.

¹⁸ Nunavut Development Corporation, Annual Report 2009/2010.

While the first phase can be considered an economic hub, the second phase can be understood as a community centre. Offering studios, classrooms, gallery space and lounges, the second phase responds to the modern requirements of a growing community. Given Iqaluit's high demand for public amenities, this wing of the building offers social spaces with plenty of opportunities for the exchange of both goods and knowledge. The form of this section of the Nakasuk Facility is concerned with the residential zone it encounters. With the roof height kept as low as the surrounding homes' eaves, an appropriate spatial relationship is formed. This, unlike the nearby Northmart which seats its encumbering bulk in the center of the waterfront, obstructing visual axes and insensitively reacting to its surround residential context.

Southern Exposure & Qamutik Corridor (Page 122-123)

The corridor of existing sheds along the waterfront slowly becomes overtaken by qamutik-units. Sheds, which currently are aligned perpendicular to the water's edge, are abandoned for qamutik-units that react to sunlight, wind and pedestrian movement conditions. Eventually, the organization of the waterfront is augmented, though its development remains intrinsic and familiar. The corridor remains largely informal, however through design workshops a critical vernacular structure is realized. This development contributes to the unique character of the waterfront while increasing public perception and usage.

At the height of the project's operation, the qamutik corridor functions as an extension of the Nakasuk Facility. This formal building allows for the large-scale operation of currently subsistence pursuits. The southern facade of the facility is exposed to passive solar heat gain to a degree not yet attempted in Iqaluit. All interior gathering spaces are flooded with light and warmth, a trait that is non-existent in Iqaluit's current fabric. Glazing which offers an expansive view of the horizon creates, from the heart of the city, an intimate connection with the land.

Microclimates (Page 124)

An outdoor gathering space located at the entrance of the Nakasuk Facility is sheltered from prevailing winds by protective armatures. While it can be argued that these projecting spaces increase the building's envelope, thus increasing building cost and heat loss, it is important to note the benefits of such a design decision. The form of the two armatures creates between them three positive spaces. The first positive space contains a rock garden for informal gathering. It is here where temporary markets can be erected through the organization of qamutik-sheds. Adjacent to this gathering space is the interior lobby; a space which can be used to service the markets, allowing people to warm themselves indoors or set up tables for those markets occurring on especially cold days. The second positive space occurs at the center of the building. This space has a lower elevation to allow pedestrians and snowmobiles to effortlessly travel across the site. The lowered ground surface also creates a barrier between the heat of the building and the permafrost below. Carving studios look over this lowered space. In the summer, their studio doors can be opened to access fresh air and entice passersby to purchase their artwork. The third positive space is an unloading and access zone for qamutik-units returning to the Nakasuk Facility to begin processing their catches. Essentially, this positive space is a working zone where hunters unload, qamutik-units can be fabricated, and the public can skin their catches before storage in the community freezer. The 'pay-back' of these positive, microclimated spaces are that they provide temperate outdoor areas that are fully accessible. Beyond simply a warm and sheltered place to escape cold weather, these areas are serviceable and offer to the community spaces which facilitate local livelihoods against the backdrop of the natural landscape.

Nuna, Qamutiks & Nakasuk Facility (Page 125)

The western facade of the carving studio is outfitted with projecting planes intended to slow wind movement and capture passing snow. The effect creates a natural ramp to the Nakasuk Facility's qamutik unloading zone. By appealing to Iqaluit's various forms of mobility and thoughtfully addressing the interaction between the building and landscape, the project becomes rooted in the specifics of its locale.

Covered Market (Page 126)

Both a communal and individual carving studios are facilitated in the Nakasuk Facility. Operated as a co-operative, the carving studios receive their material supplies via the quarrying and processing programs. They are also privy to shared tools such as CNC machines, sanders, chisels, and lithograph presses. While the communal work space is privately accessible for co-op members, individual studios are available to the public for rental. Both organized and informal

markets can be held within the carving studio corridor. An overhang parallel to the prevailing winds shelters outdoor carving and circulation space without risking damage by strong gusts. In fact, the overhang takes advantage of wind conditions by using wind deflectors to accelerate air movement and clear away stagnant snow.

Negotiation (Page 127)

When the tide is low, the ocean floor is revealed to consist of a carpet of isolated rocks. The eastern gathering space of Nakasuk Facility continues the fabric of the ocean floor. By extending the layer of isolated rocks seen during low tide, the Facility expresses a connectedness to its surroundings, extending the language of the natural landscape to the entrance of the building. Arranged in a fashion which promotes informal gathering, these rock gardens begin to provide more than simply an aesthetic function. In the center of the building, an opening is revealed. This space is a lens from which to view either the city or Frobisher Bay. Forming an interior lounge, it is a space of negotiation, a place between city and land. Stocked with rock-like benches, the interior mimics the ocean floor of Koojesse Inlet revealed at low tide.

Iconography (Page 128-129)

The north elevation of the Nakasuk Facility is a result from both the environmental criteria of reducing exposure to wind and the iconographic reaction to the landscape beyond. North-facing offices are equipped with picture windows to create specific views of the city in addition to reducing exposure to prevailing winds. From the city, the windows offer a playful break from an otherwise stark elevation. In the center of the elevation, the interior lounge exhibits extensive glazing, creating a substantial lens from which to view the conditions beyond the building, maintaining existing and important view corridors. Additionally, it is at this point in the elevation where the landscape is lowered, protecting existing mobility networks across the site. Where these networks meet the building, splashes of red denote entrances, reminders of the playful design aesthetic emerging in the city. When observed from a distance the entire elevation begins to blend with expression of its natural context. The bold form mimics rock outcrops gently sloping towards Frobisher Bay. In the summer, the wooden slate facade fuses with the colours of Iqaluit's sandy waterfront. By preserving views, accessibility, methods of mobility, and existing aesthetics while allowing environmental conditions to prominently shape the design, the northern elevation is an expression of what can be achieved when designers apply a number of the 'Points on Iqaluit Design'.

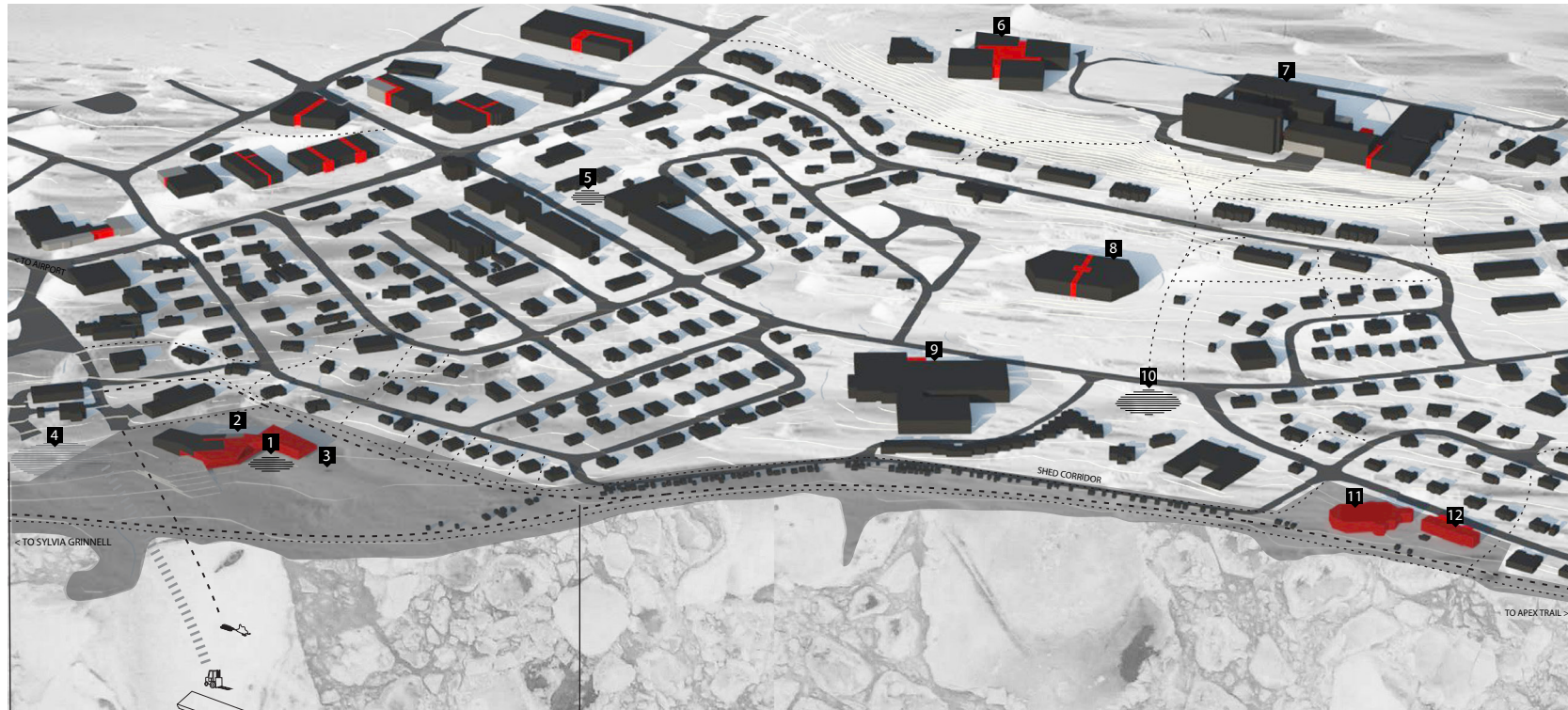


Fig. 4.14 Core Fabric and Public Access.

Sealift

The sealift transports cargo from Montreal or Ottawa to Iqaluit a few times during the summer. Once the cargo arrives in Koojessee Inlet it is transferred to barge during high tide. During low tide the cargo is transported by forklift onto the shore. It is here where the cargo is stored until further distribution. Excess packaging materials are left in the city and used in the construction of informal structures.

Shed Corridor

Iqaluit's waterfront is lined with informal structures. These sheds facilitate cultural activities, supply the storage not accounted for in almost all housing designs, and allow for the filtration of movement between the city and land. By encouraging informal building of a higher quality, the character of this important space can be amplified.

Southern Exposure

Public spaces with exposure to direct southern light is rare in Iqaluit. What indoor public spaces exist are stifled due to few windows in the 'fight' against the Arctic climate. The Nakasuk Facility reacts to northern exposure by minimizing facade surfaces and window areas in direct contact with prevailing winds. The southern facade opens to capture direct sunlight and create sheltered south-facing gathering spaces.

Mobility, Access & Views

Mobility is key to life in the north. The Nakasuk Facility accommodates this by allowing snowmobile access both into the building for off-loading and repairs, and below the building for unobstructed movement between city and land. Interior circulation forms a spine along the southern facade of the facility. Views to the land are expansive while views to the city are framed. The center of the Facility is pierced by a view line that connects both city and land.

- 1 Sheltered Outdoor Gathering
- 2 Nakasuk Facility
- 3 Qamutik-Shed Storage
- 4 Sealift Unloading & Storage
- 5 Sculpture Garden
- 6 Inuksuk High School
- 7 Astro Hill - "Eight Storey"
- 8 Nakasuk Elementary
- 9 Northmart
- 10 Iqaluit Square
- 11 Unikkaarvik Visitors Centre
- 12 Nunatta Sunakkutaangit Museum

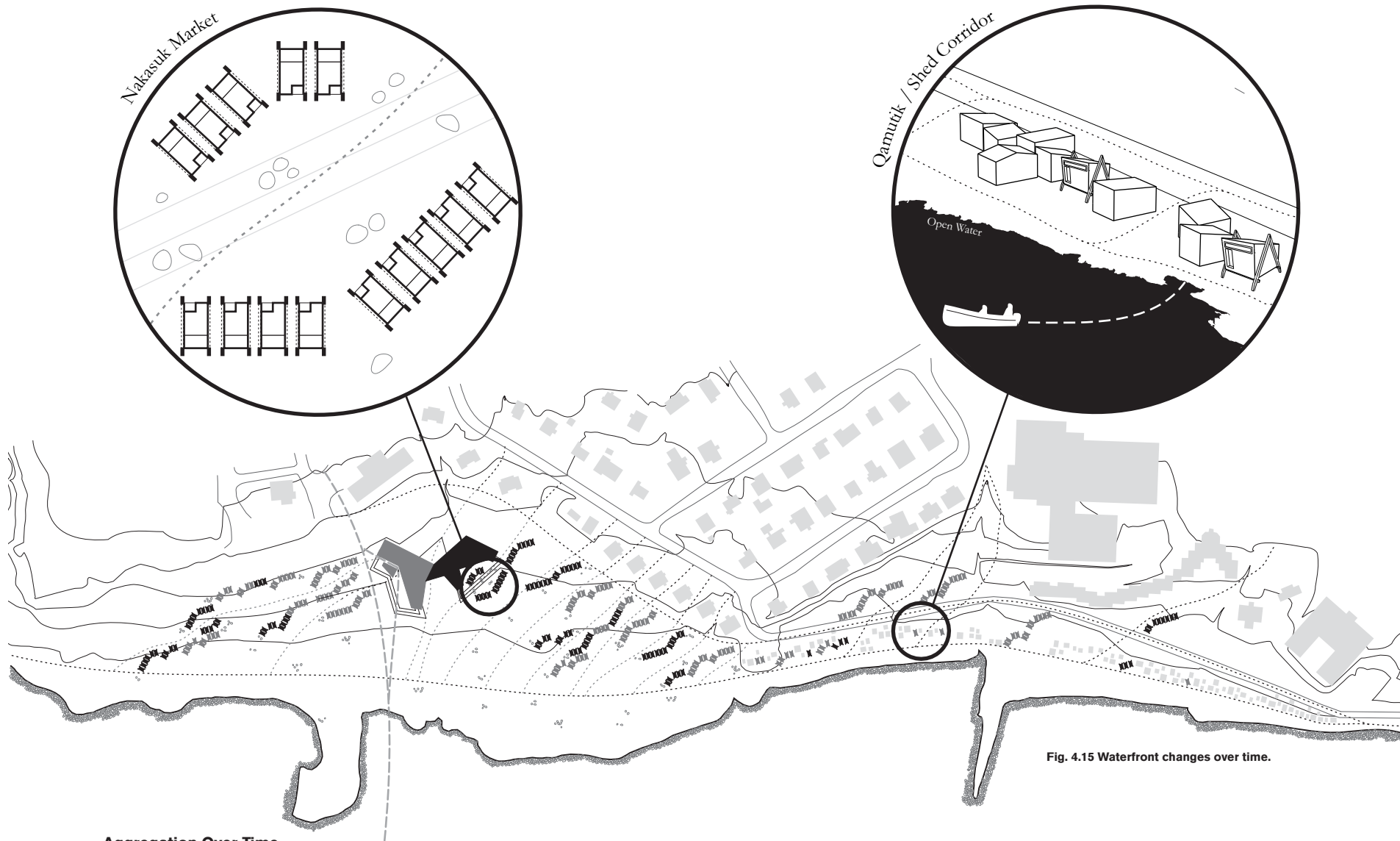


Fig. 4.15 Waterfront changes over time.

Aggregation Over Time

The project phasing begins with the western half of the Nakasuk Facility. Within this portion of the building, qamutik-units are constructed in the prefabrication shop.

Once the qamutik-units are built, they begin their occupation of both nuna and city. In the urban core,

they start to occupying gaps in the current shed fabric along the waterfront. The continuous addition of qamutik-units along the waterfront reinforces communal values of public movement and views to Frobisher Bay. Over time they extend into the undeveloped western waterfront. Their aggregated form starts to create

parallel corridors of alternating positive and negative space. Set back from one another to allow maximum solar exposure, each row of qamutik-units creates a wind-sheltered, and sunlit pedestrian route. Additionally, the rows align to existing pedestrian trails that move between the downtown core and the waterfront.

At certain moments, the qamutik-units form encapsulated gathering spaces. It is here where informal markets, friendly parties, carving, snowmobile repairing, or tourist campfires can occur.

- Existing Building
- Existing Snowmobile Network
- ... Existing Pedestrian Network
- ... Extended Pedestrian Network
- Phase One
- Phase Two

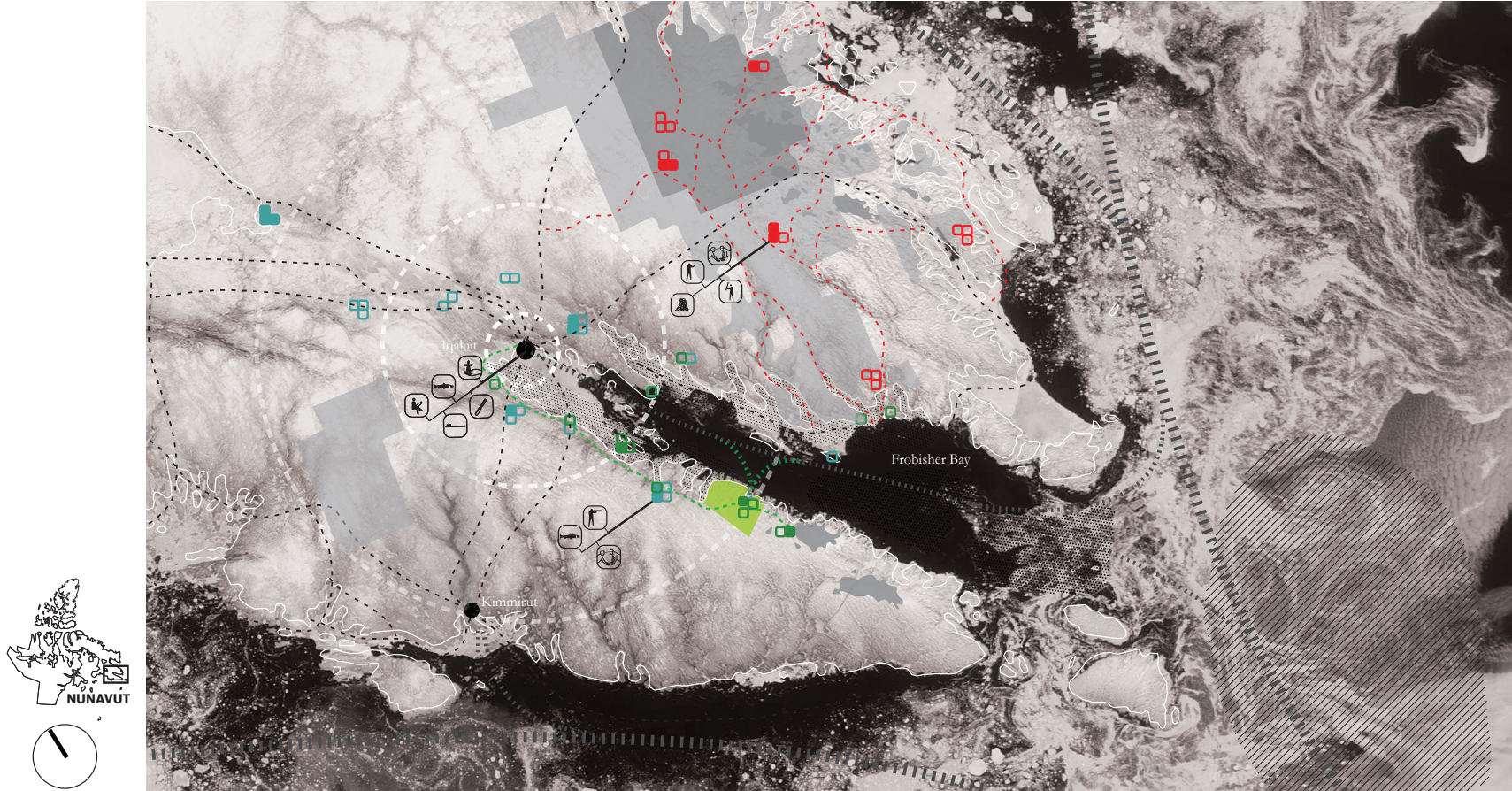
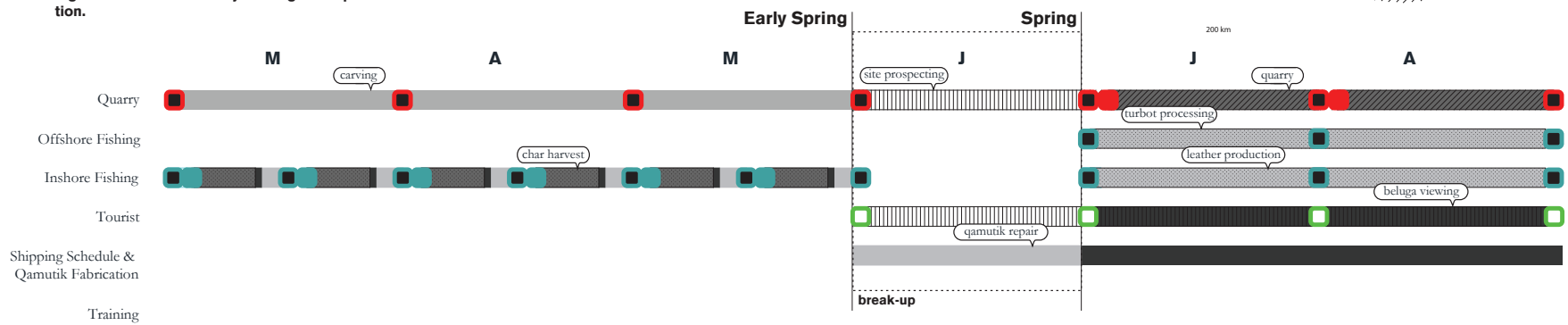


Fig. 4.16 The Nakasuk Project's regional operation.



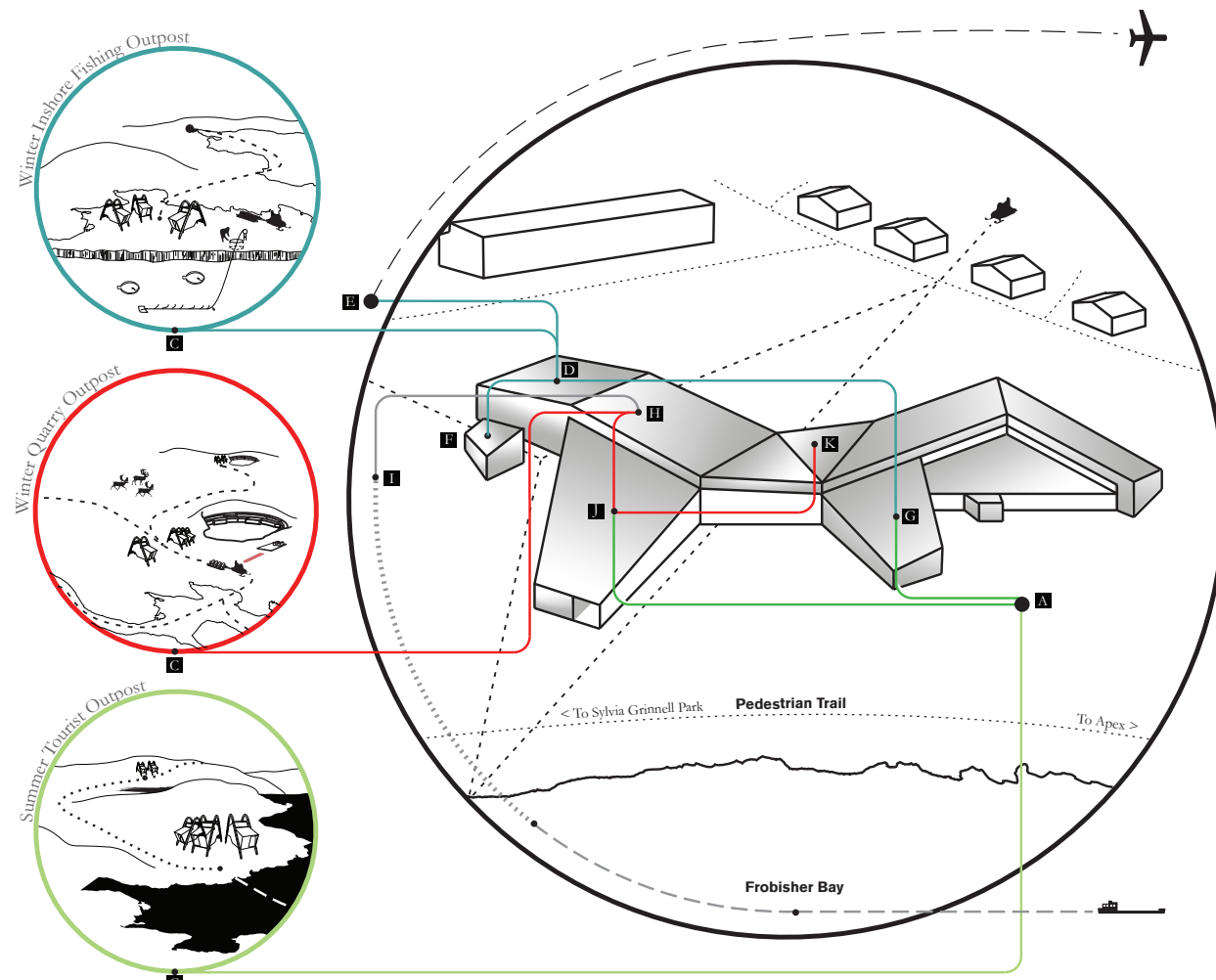
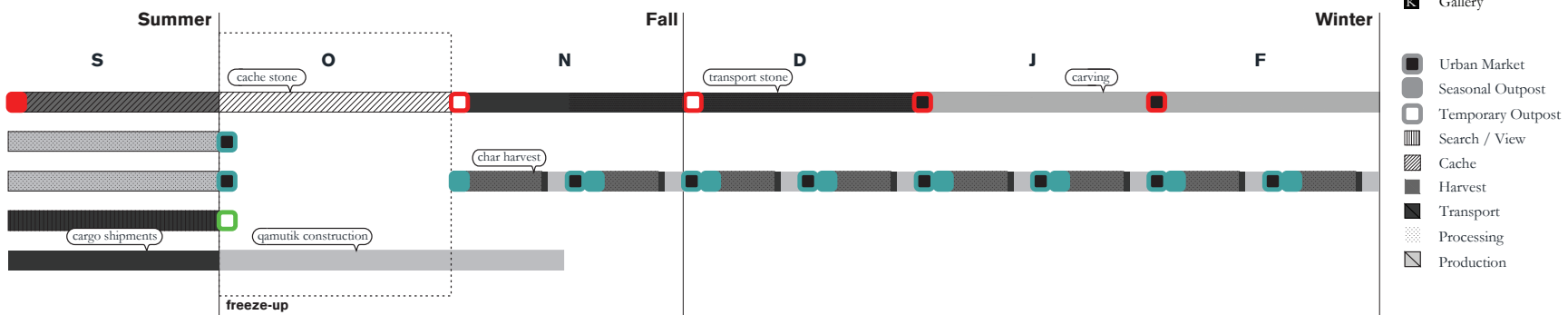


Fig. 4.17 The Nakasuk Project logistics and seasonal calendar.

Nakasuk Facility Logistics & Calendars

The seasonal rhythms of the land affect the project in two important ways; the hunting schedule and the shipping schedule. The Nakasuk Project aligns with seasonal calendars for both operational efficiency and the preservation of residents' seasonal livelihoods.

During spring break-up, when the land is unsuitable for travel, training courses are offered. In the summer, offshore fishing, processing, sewing, outdoor carving, quarrying, hiking and markets are in operation. When the bay begins to freeze, qamutik-units are under construction. Once snow covers the ground, the transportation of quarried stone begins in addition to long-line ice fishing in lakes and streams.



- A** Market
 - B** Existing Shed
 - C** Outpost Camp
 - D** Animal Processing
 - E** Airport
 - F** Community Freezer
 - G** Garment Studio
 - H** Stone Storage & Qamutik Prefabrication
 - I** Sealift Offloading
 - J** Carving Studio
 - K** Gallery
-
- Urban Market
 - Seasonal Outpost
 - Temporary Outpost
 - Search / View
 - Cache
 - Harvest
 - Transport
 - Processing
 - Production

“Here houses and towns should open like flowers to the sun of spring and summer but, also like flowers, turn their backs on the shadows and the cold northern winds, offering sun-warmth and wind-protection to their terraces, gardens and streets.” Ralph Erskine

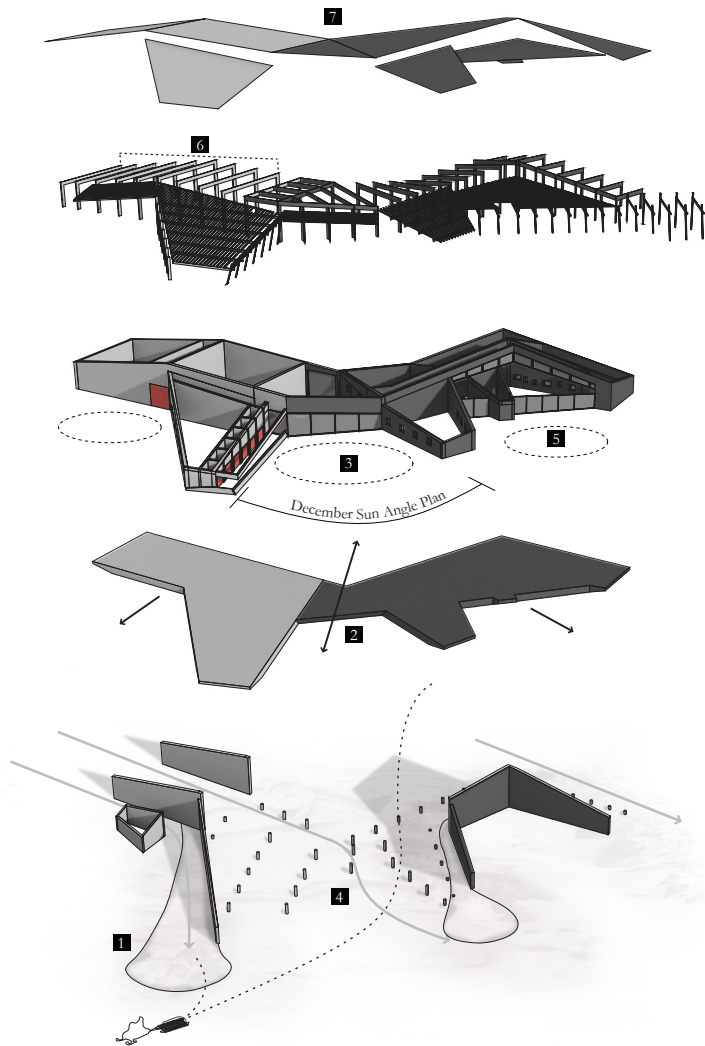


Fig. 4.18 Form concepts and project phasing.

- 1 Snow Ramp
- 2 View Through Building
- 3 Sheltered Outdoor Carving Space
- 4 Sunken Gathering Space and Access
- 5 Sheltered Outdoor Gathering, Entrance & Market
- 6 Glulam Beams With Nested Shipping
- 7 Roof

Form Concepts

The unique form of the Nakasuk Facility is a result of wind and sun conditions, the need for sheltered outdoor space and cultural values such as views and access to the ocean.

Phasing

The proposal is separated into two phases. In the initial phase the western (light grey) half of the Nakasuk Facility is built. This wing houses the fabrication space to construct qamutik-sheds, animal processing and food production spaces, and carving studios. It is the economic driver that enables the construction of phase two. In the second phase, the eastern wing (dark grey) is added. Programmed with gathering spaces, it begins to address the urgent need for public space in Iqaluit.

- A Rock Garden and Market Space
- B Entrance Vestibule
- C Classroom
- D Lobby
- E Day-care
- F Co-op Offices
- G Gallery
- H Garment Studio
- I Lounge
- J Sheltered Market and Outdoor Carving Studio
- K Carving Studio
- L Prefabrication and Stone Storage
- M Off-loading and Loading Dock
- N Animal Processing
- O Cold Storage, Smoking and Packaging
- P Community Freezer

Logistics

Some spaces in the Nakasuk Facility have a scheduled use based on the seasonal availability of raw materials. The prefabrication shop, where qamutik-units are constructed, is only used for this activity during the fall when the sealift has departed, leaving behind excess building materials. Conversely, the space is used to store the accumulating carving stone during the winter and spring.

Exchange

A biweekly market occurs in the sheltered space in closest proximity to the site's adjoining residential neighbourhood. Qamutik-sheds are erected to act as market stalls during outdoor events. Alternatively, in poor weather an adjacent interior lobby space can be used to stage the market.

Country food produced in the facility can be exchanged for cash or services. Additionally, garments, carvings, raw stone or by-products from processing can be offered to potential consumers.

Production

The Nakasuk Facility assists in the production of two product categories; food and artwork. Country food products such as dried and smoked char or caribou jerky can be produced, packaged and sold either in the facility's market or shipped to neighbouring communities.

Artwork such as sculptures, lithograph prints, clothing, jewelry and toys are facilitated in the building's studio spaces. Artists receive by-products from animal processing via the facility's distribution network. Finished pieces can either be sold in the biweekly market or displayed in the facility's gallery.

Processing

The Nakasuk Facility's processing space allows for a small fishery to run along side animal processing by the general public. The fishery runs year round, with char being caught with nets and fish weirs in the spring and fall, and turbot caught with long line during the winter. In the summer, offshore fishing vessels can access the facility to unload their harvest instead of taking the 12 day return trip to southern ports.

Other products such as, muktuk (whale skin and blubber), ptarmigan, seal, polar bear and caribou can be brought to the facility by the general public for processing, storage in the community freezer, and distribution.

Education

Training to locate and operate quarry sites is offered through classroom and on-site programs. The training schedule occurs during break-up and freeze-up when mobility is limited.

The Nakasuk Facility also provides entrepreneurial workshops for artists and hunters to learn how to formally develop their currently informal economic practices.

Furthermore, the spread of knowledge about animal patterns, weather conditions and quotas is accommodated with an extensive notice board located in the lounge.

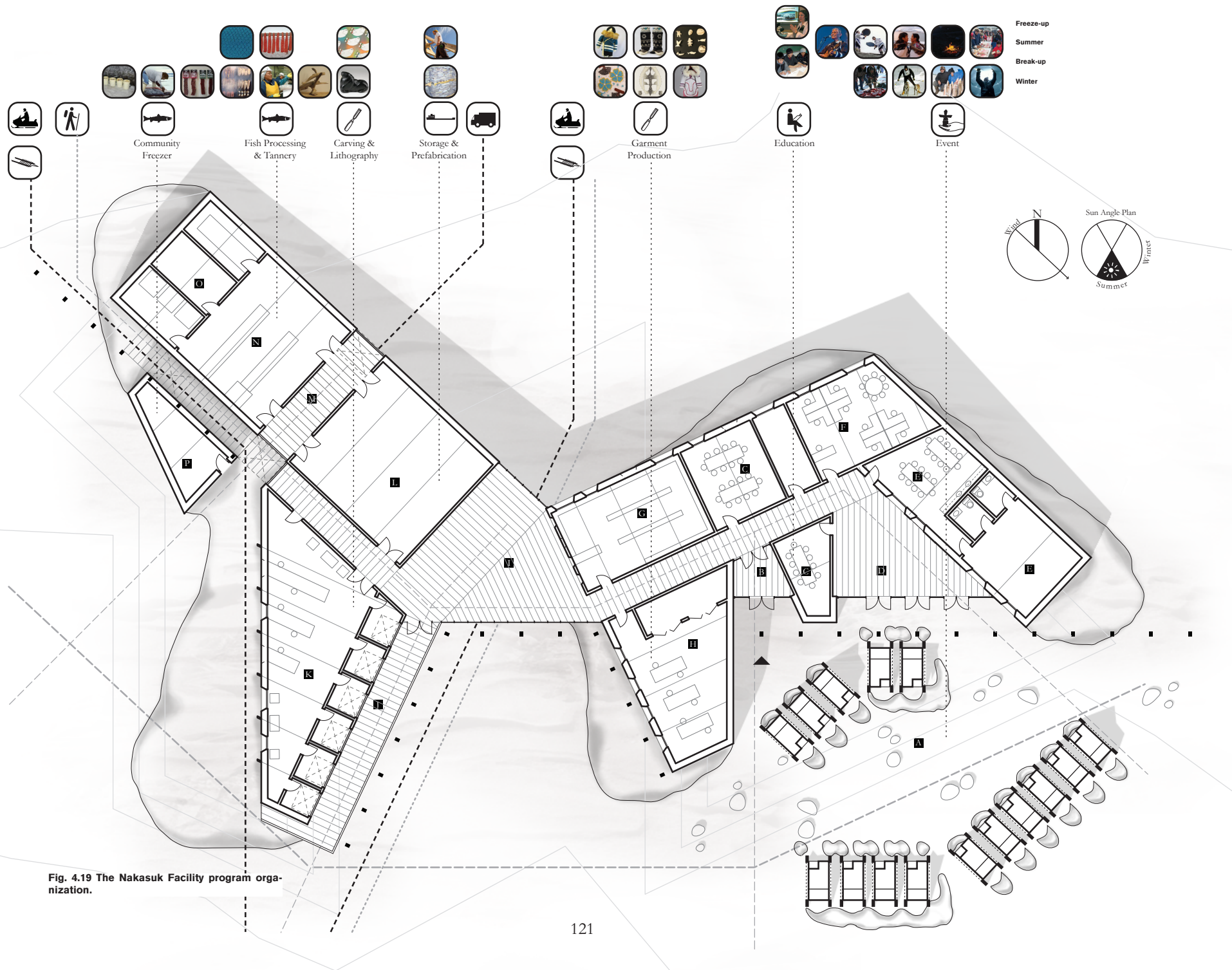


Fig. 4.19 The Nakasuk Facility program organization.



Fig. 4.20 The southern facade of the Nakasuk Facility is clad with large expanses of glazing to capture passive solar heat and to offer uninterrupted views of Koojessee Inlet.





Fig. 4.21 Outdoor winter markets are made possible by the sheltered spaces provided through wind diversion and solar orientation.



Fig. 4.22 The western wing of the Nakasuk Facility accommodates animal processing. The building is located on route for hunters returning from the land.



Fig. 4.23 Individual carving studios open to a covered walkway. Though the opportunity for retail is intentionally programmed, the experience remains informal and authentic.



Fig. 4.24 The central lounge is a space of negotiation between city and land. This interstitial space blurs the waterfront edge, carrying the fabric of the exposed ocean floor into the heart of the building.



Fig. 4.25 The northern facade of the Nakasuk Facility harmonizes with the surrounding rock formations. Given that prevailing winds batter this facade, minimal glazing is used to help with heat retention. The only exception is a single window in the center which acts as a lens from which to view the natural landscape beyond.



Conclusion

Regional differences have always been important in traditional Inuit society. “Where do you camp?” was one of the first questions asked of an arriving hunting party. Even today, travel is so common you are asked, “Where are you from?” when you meet someone new. Place and identity remain large parts of modern northern life. They are part of the foundation from which the idea of a distinct territory came into fruition.

To add to the discussion, redefining the boundary of this regionalism study to highlight how each community within Nunavut differs in its social, environmental and technological processes would be interesting. Experimenting with multiple boundary conditions would likely lead to collection of ideas about place, identity and regional design in Nunavut. As a community workshop, this approach would be effective in unearthing a materialized vision for Nunavut architecture. This, as opposed to a researcher or architect assuming the role of a filter between the read texts, heard stories, and seen circumstances which informed this proposal.

What defines Nunavut as a unique region is not yet matched in the built environment. In a place where the importation of standard, mid-latitude building types has caused cultural and physical harm, reinventing a critical vernacular is paramount. In the process of prescribing regionalism, the thesis exposes the many challenges and opportunities for design in Nunavut. The social implications of architecture in the Arctic are complex and are only beginning to be carefully considered in community design processes. Existing infrastructure in places like Iqaluit are developing a language of bold forms and bright colours; a fabric which should continue to be supported. Environmental criteria often take precedence since without their attention the building’s life-span is substantially reduced. Though the most rudimentary reactions to climate are accounted for, most projects fail to recognize the seasonal rhythms which could give life to the multitude of unambitious and encumbering buildings.

The research and design presented in this thesis seeks to identify an alternative vision for architecture in Iqaluit. One where the community is built to reflect the distinctive needs and aspirations of its inhabitants and resistance to the universality of mid-latitudes is encouraged. The research finds a grievous shortfall in the current approach to design in Arctic communities, where livelihoods and values are undermined by shortsighted development. It identifies the great strength in Inuit culture and the need for it to be continuously nurtured. The design seeks to harness cultural activities in the formation of new, yet familiar economic networks and structures. The creation of the urban Nakasuk Facility opens up the possibility of a new public realm activated by the traditional economy. Likewise, mobile qamutik sheds offer an opportunity to reoccupy the land and infuse a significant cultural value into the core of an urbanizing population.

The title 'Nakasuk Facility' is an indicator that this is a new typology for the north and begins to provoke questions about northern development. Nakasuk invites themes of modernity and tradition while Facility raises concerns of local production in the face of northern capitalism. The challenges embedded in implementing this kind of project are that it inherently raises questions about the authenticity of cultural practices and the relevance of cultural production in an ever modernizing and globalizing world. Presently, these questions are largely unanswerable, and will become lifelong threads of personal inquiry.

Designing a static building for a place going through immense cultural and socioeconomic change, the future of which is quite uncertain, raising further questions about the relevance of traditional economic programs in the capital city. Cultural production has always been an important aspect of Inuit culture, and with 30% of Nunavut's population engaged in traditional pursuits, I can imagine cultural production will continue to play an important role in the economic and social wellbeing of the north. However, the outputs of cultural production could (and should) be encouraged to evolve. The proposal, while facilitating older traditions of carving, sewing and hunting, speculates how these traditions are progressing using new technologies, expanding product lines and reaching broader markets. In this sense, thinking of the building as a place where cultural production is hybrid, this program's relevancy in an urbanizing setting is valid.

Development in Iqaluit is imminent, but retaining the uniquely northern way of life should be carefully considered moving forward. Interestingly, while Iqaluit is rapidly urbanizing, there remains an infrastructure shortage. Services are vastly underdeveloped, and it seems that any type of construction is welcomed. Unfortunately this results in a communal acceptance of poor and shortsighted design. Much like each building sitting isolated on a site, every problem is considered one at a time and the city grows incrementally as funding trickles in. It seems that oftentimes the goals of the community are lost in the urgent demand for services, and if this continues, it threatens mask any semblance of the community values that make this place unique. The proposal emerges from the idea that the anticipated development of Iqaluit holds the opportunity to develop those communal values into the city fabric. How might northern livelihoods be represented in new infrastructure? How can the city enhance those places, like the waterfront, which make it a unique capital city? How can values such as access to nuna be instilled in future development? The proposal aims to lay an alternative route for development which aligns with these communal ambitions. It demands that Iqalungmiut consider the potential of approaching development, both within the boundary of the city and regionally, to represent and serve them more effectively.

What this process has ultimately exposed me to is how to undertake design for an unfamiliar place. While researching, I was careful to use references which were supplied by the Government of Nunavut and Nunavummiut about their visions for the future. Although I had previously lived in the Northwest Territories and spent time in Yukon, Nunavut was an entirely different animal. Only through immersion into this place, its people, land, and customs could I have come remotely close to the knowledge I have presented in this document. That being said, what is presented here only scratches the surface. A friend in the north told me he had lived there for 40 years and is surprised every day.

Architecturally, perhaps the greatest lesson learned is that there is a way to bridge such vast scales of design and social structure. The appropriation of a qamutik can promote the empowerment and understanding of Inuit economy, the sheltering of an outdoor workspace starts to undo generations of unbalanced political power, the placement of a wall can simultaneously passively control a space while demonstrating a connectedness to landscape once central to Arctic life. The architect, as the filter between vision and reality, seeks resolution at the scale of a detail and finds the opportunity to influence social structure at the scale of a region.

* * *

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