



Modern house in Yellowknife NWT.

The Problem of Housing in the NWT

by Bruce Stebbing

Housing has always been a critical issue in the north. There is a need for adequate and affordable housing in most communities. In some cases, there are two families sharing one house while others are in substandard houses. The situation has not reached a crisis state because the difficulties and shortages are often temporary, but the housing problems of the north require immediate attention.

The problems of housing in the Northwest Territories (NWT) are related to the high costs of; land development, construction, transportation and building operation and maintenance. In addition, the limited supply of construction materials, equipment, skilled labour, housing design and poor community planning compound the situation.

Historical Perspective

Traditionally, the native people lived a nomadic life in harmony with their environment. They used the most practical and time proven means to construct their homes, but the housing was very primitive. Natural materials such as stone, bones, animal hides, sod, logs, snow, and ice were the only construction resources available. Today the traditional forms of shelter are no longer adequate for a modern lifestyle and portability is no longer the most important criteria in housing.

The new homes in the arctic are incorporating southern designs, materials, and equipment. The nomadic lifestyle of the native people is in transition and along with the adoption of many aspects of a new culture, they are adopting new housing forms.

Out of concern for the well being of the aboriginal people, the Federal Government in the early 1950s, started a housing assistance program for the Inuit called the Eskimo Housing Loan Program. This program created 350 shacks with a gross area of only 288 sq. ft. These houses are commonly referred to as "Matchboxes" because of their small size and cheap, flimsy construction.

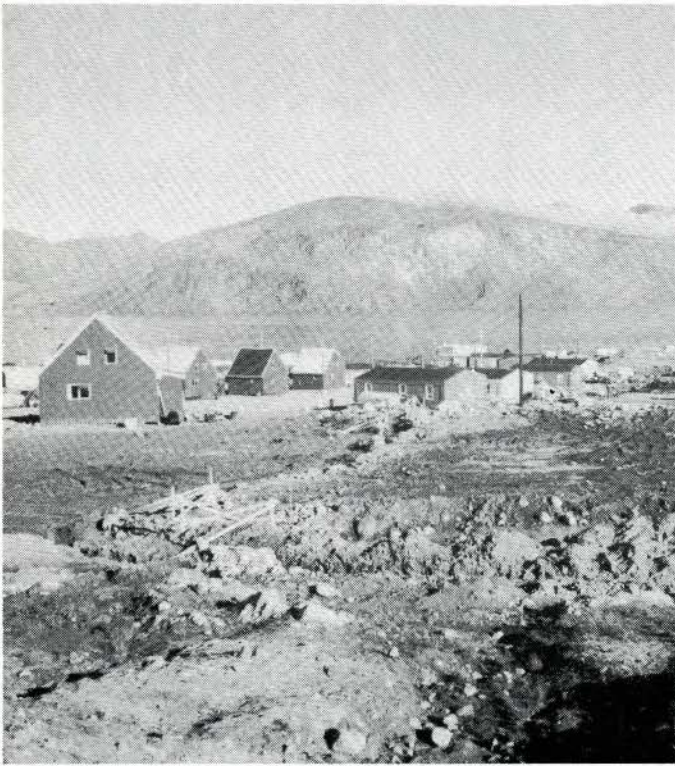
The Dene and Metis people living in the Mackenzie Valley and in areas below the treeline were left to fend for themselves as they had always done, constructing homes from logs. However, an increased awareness of the plight of native people led to several changes. The Federal Government realized the failure of its earlier programs to provide adequate housing and the differentiation in assistance among the Inuit, Dene, and Metis was stopped. In 1968, the Federal Government integrated all forms of northern public housing into one program called the "Northern Rental Housing Program."

NWT Housing Corporation

In 1974, the Northwest Territories Housing Corporation was formed. The mandate of the NWT Housing Corporation is to provide functional, cost effective, and energy efficient housing. Energy, housing, and transportation costs are high in the NWT and they account for most of the difference between the cost of living in the north vs the south. The operating costs of buildings, accounts for much of this price difference. Therefore, it is essential to minimize construction costs, as well as operation and maintenance costs.

In the past, these high costs, deterred home ownership in the small, less accessible settlements. Recently, better design and construction techniques have developed more energy efficient housing and improved transportation will reduce costs as well.

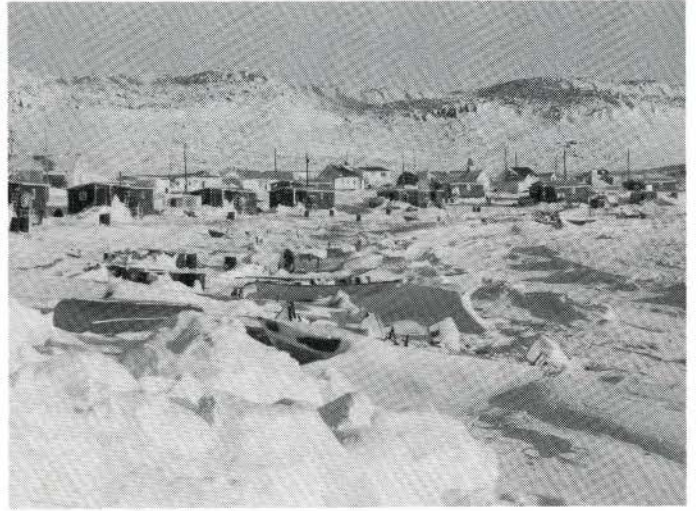
From the Housing Corporation's inception to 1986, its budget has grown to \$150 million. The programs include Public Housing, GNWT Staff Housing, Rural and Remote Housing, Rehabilitation and Retrofit Programs, and a Warehouse Program to aid local housing associations. In spite of all these programs, there is still a shortfall in the need to provide adequate housing. A policy review led to the realization that private homeownership is a more permanent and self-sustaining solution to the housing problems of the north.



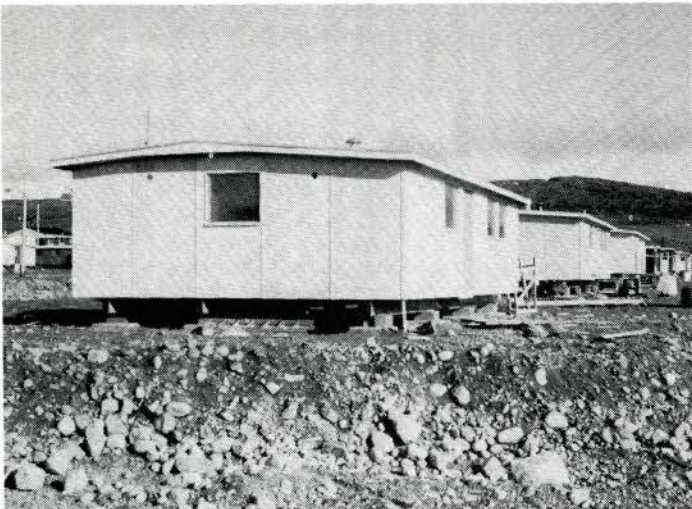
Pangnirtung situated on the Cumberland peninsula on Baffin Island, N.W.T.



Rowhousing in Iqaluit, N.W.T.



Holman, N.W.T. in winter.



Typical "Matchbox" house in Iqaluit, N.W.T.



Pond Inlet, N.W.T. - rows of houses.



Typical H.A.P. houses in Rainbow Valley NWT.

Increased requests for private ownership is leading to increased homeownership funding. Also, the Home Assistance Program (HAP) is helping homeowners build their own homes, as well as training them in house construction. Record levels of HAP grants have been disbursed. Public housing construction has also increased and a program has been developed to eliminate the legacy of the "Matchbox" houses, which were a costly mistake.

The Housing Corporation is responsible for social housing in the NWT in the form of single detached, semi-detached, and multiple dwelling units. The corporation monitors and assists 45 housing associations which manage 4,000 rental units in the various settlements and 10 senior citizens facilities across the NWT. There is a sense of optimism as better housing emerges in the north, but many improvements are still necessary.

Housing Development

Throughout history, in any part of the world, as communities develop, their early constructions are simple and pragmatic, in order to provide as many buildings as possible, in a very short time period. This situation is necessary just to satisfy utilitarian needs. In the North, the government and private developers as well, are trying to produce as many buildings as possible, with limited means to satisfy basic needs in remote communities. Once a society's basic needs are satisfied, and the community begins to develop, then more elaborate designs begin to appear.

For the moment, the housing forms are box-like, functional, practical, austere, and modest. There is no room for whimsical design and there is little evidence of post-modernism (the latest style) in northern housing design. The housing forms of the GNWT result from the demands of the climate, transportation, and the availability of materials and labour. Designs are based on environmental influences rather than stylistic concerns. In this sense, a generic house form is being created to respond to the particular influences of the north and its people. For example, new houses constructed above the treeline do not have eaves so as to avoid ice damming problems. An attic space is common in buildings below the treeline but in the high arctic the attic vents allow the attic

to fill with snow, no matter how ingenious the attic vent designs may be. In response to this concern, cathedral ceilings are constructed and the space between the joists is completely filled with insulation. In southern Canada, a 50 mm air space is required between the insulations and underside of the roof deck. However, in the arctic, with its high winds and large amounts of snow, for long periods of the year, the vented



Typical NWT Housing Corporation house design.



Rae NWT Monotonous row of box-like standard house designs.

air space is deleted to prevent snow infiltration. Otherwise, in the spring the snow would melt and saturate the joists and roof insulation. To avoid this problem the air space is eliminated and the interiors of the homes have a spacious ambience as a result of the cathedral ceilings.

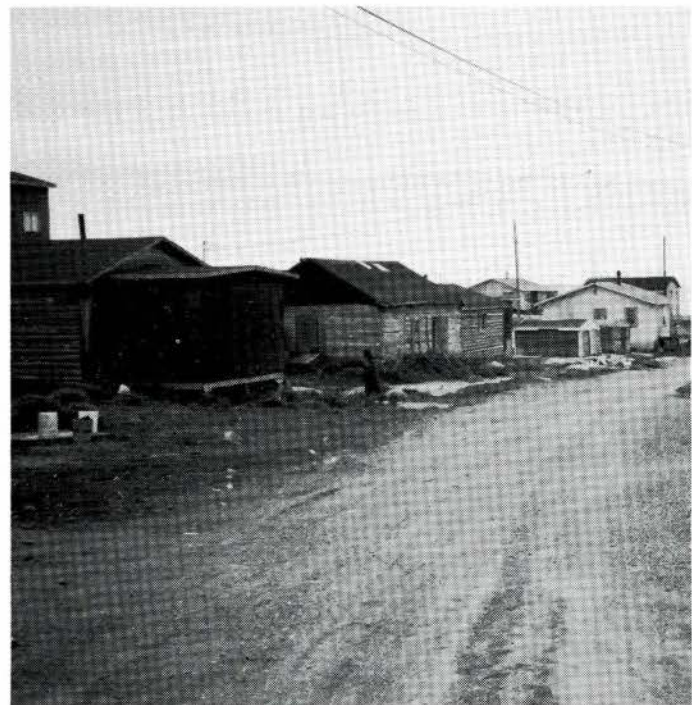
Below the treeline, house forms are similar to those in southern Canada. Attics are common and the exterior looks the same as the houses in the north. Standardized designs, developed by the Housing Corporation are being copied by other builders and the result is a uniformity in the design of houses in every community. Standardization has many advantages because it produces economies of scale. However, where is the "sense of place" when every place is standardized? The danger of standardization is that every settlement will resemble the monotonous uniformity of every other community, in terms of their built environment.

In the sub-arctic, the Government of the NWT is attempting to relate to the context of the small communities, by building new houses of logs available from the local forests. In support of this program, the labour force in these communities is experienced in log construction. New types of log construction are being implemented, such as "piece on piece" construction and in addition, many new construction techniques have improved log building skills. In the small remote settlements, it is important to compliment the existing generic log buildings, by following the tradition of log construction. In this regard and in many other ways, the GNWT is attempting to develop a vernacular architecture, with optimum forms, materials, equipment, and construction details, specifically suited to the various regions in the north. Space limitations do not permit a complete discussion of the development of a vernacular architecture for each of the different regions in the NWT.

Housing Design Problems

The successes and failures of building in the north are related to the ability of the designer to respond to the technical and cultural requirements of the north. There has been a lack of understanding by designers, to relate to user needs. In some instances, the houses did not meet the needs of the Inuit. For example, the Inuit need space in their homes for butchering game and repairing their equipment. Since space

for these functions was not provided, the kitchen floor has been used and, needless to say, the floors have not lasted long. In other cases, the people modified their houses because, they did not meet their needs.



Traditional log houses in Detah NWT.



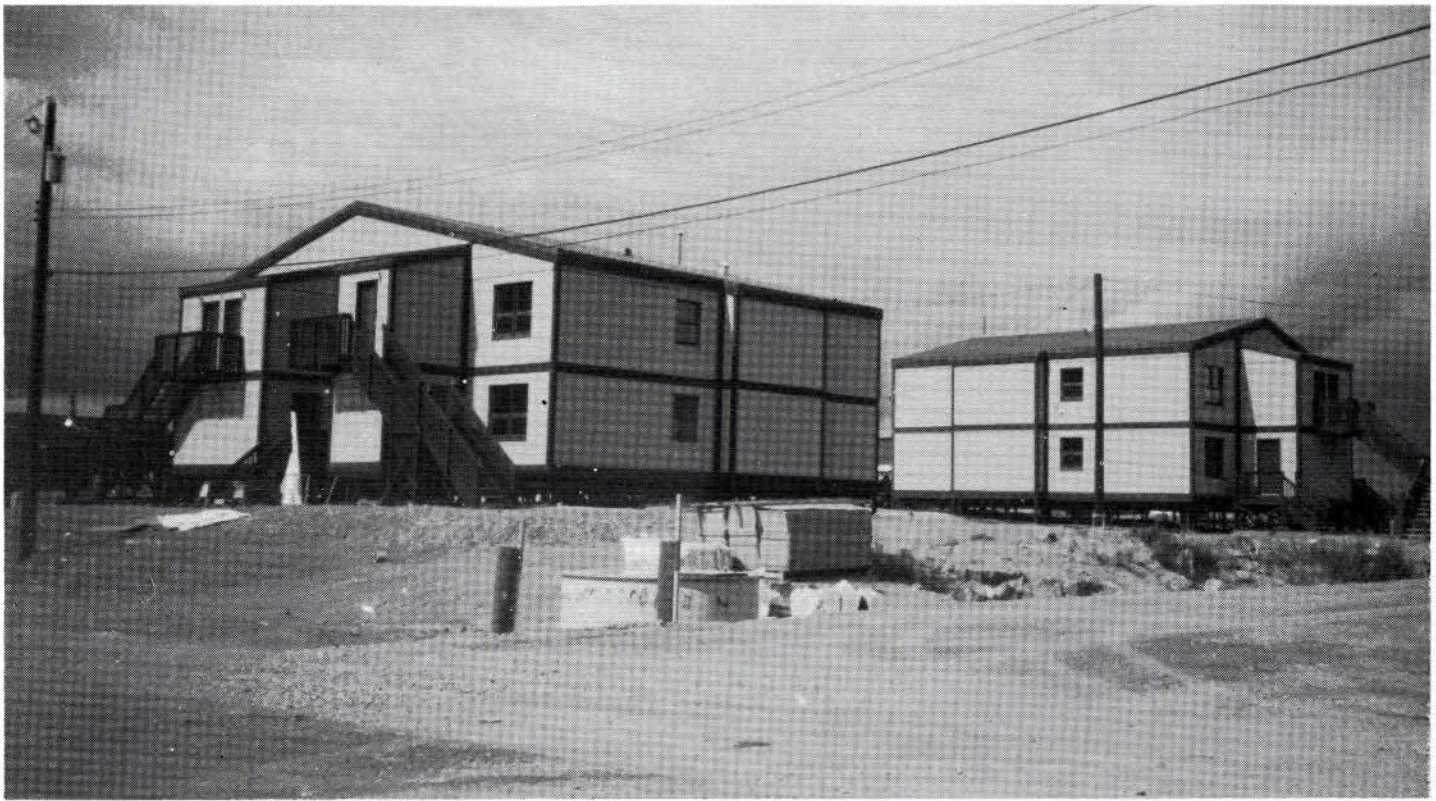
A typical new house design, built below the treeline in Ft. Providence, relates to the traditional context of the community.

Often a design problem is a value problem. Such is the case regarding single family housing versus multiple family housing. Traditionally, residents of this vast open territory were used to living in single family homes. The GNWT provides housing for its employees and low income families and its main priority is to provide the maximum amount of hous-

ing for the least cost. To cut costs some multiple family dwellings are being built but the individuals living in these units would prefer the identity, privacy, territoriality, and autonomy that single family homes provide. In this sense, the issue of whether or not to build single family units or multiple family units is the same as in other parts of Canada.



Typical older houses in Rainbow Valley.



Rae 4 Plex and 6 Plex.

In some communities, single individuals are overaccommodated in three bedroom houses by themselves, because there are not enough one bedroom units. Due to the shortage of housing in the isolated communities in the north, people are often forced to live in accommodation that is not suitable, simply because there is a lack of choice in housing types. Some of the problems of multiple dwelling units can be overcome through better planning and design but the real problem is the lack of choice in housing for all people, at different stages of their life.

Another problem is housing for senior citizens. The elderly do not like living in senior citizens' institutions because they prefer the traditional extended family support offered in their own homes. Although one example of a solution to this problem, is the award winning home for the elderly in Rae. The design was composed of cabin-like units, in an attempt to relate to the lifestyle of the elderly, but they still prefer the comfortable surroundings of their own homes. This attitude is common in southern Canada as well.

In the north, as in other parts of Canada, there are limited funds available to provide the amount of housing needed. This is often the excuse used to justify the plain box-like designs for housing. Commonly the justification given is; "This is all that can be done with the lack of human and economic resources available." However, the measure of a truly excellent designer is his ability to create a stimulating, functional and aesthetically pleasing design with limited means. Anyone can create a monumental structure with unlimited resources, but it requires a very creative approach to solve housing needs with limited labour, money, and materials while still producing exciting designs. A lot can be done by using the aesthetic composition of forms, materials, fenestration, textures and colours to create well designed houses and an interesting built environment. Not many designers have used the elements of a building to diminish the boring box-like forms and create visual relief. As the demand for more complex and interesting forms increases, and good design is implemented by innovative government and developers, then the goal of good architecture will be realized.



Seniors Home in Rae NWT. The design is composed of cabin-like units to relate to the traditional lifestyle of the elders in the community.



Drab streetscape of trailers in Yellowknife, N.W.T.



Borealis Housing Cooperative in Yellowknife NWT.



Trailer Court streetscape in Yellowknife.

Stylistic Concerns

Some of the modern homes, in communities such as Yellowknife, rival those in any suburb in southern Canada. Typically, many designs are imported from the south and they do not respond to the requirements of the northern environment. Certain styles are not appropriate to the north. Obviously, a style suitable for California does not apply to northern Canada. Nevertheless, there are many buildings designed with vast expanses of glass, which overheat in the summer and lose heat in the long cold winters. Just as styles have been imported from Europe and the United States by designers practicing in southern Canada, these designs have been displaced in the north and the process is still occurring today. In typical Canadian fashion, we prefer to borrow stylistic images from elsewhere, or the latest design magazines, instead of generating them ourselves. Hopefully, this will change as northern design firms become more confident in their own ideas and stylistic concerns that relate to the north.

Community Planning

In addition to improving the design of houses, designers and community planners must implement a cooperative approach to create better residential areas. There is a need to alleviate the monotonous rows of houses, with the same spacing, setbacks, and orientation on their sites. Greater variety must be encouraged to enhance the built environment, but the belief is houses must be standardized, austere boxes to reduce costs so the maximum number of units can be produced. If this is an economic reality, then site planning and community design become critical design requirements. A lot of means are available to produce an aesthetic environment through the creative repetition of similar units. Complex, interesting clusters of houses could be created, particularly in the "barren lands," where the built environment is often the most significant feature of the landscape.

The design of streetscapes in this environment also becomes an essential issue for successful community planning. A comparison of the traditional layout of the communities to the sometimes sterile design of southern community planning, that has been transplanted in the north, will provide valuable insights into the creation of better communities. In Yellowknife, there are long drab streets lined with identical trailers

in mobile home subdivisions. In remote communities it is important to build on the existing traditional patterns.

Supply and Demand for Housing

As in other parts of Canada, the price of housing is related to supply and demand. In Yellowknife the supply is extremely limited and the demand is so high that mobile homes are selling for over \$100,000. Housing is so expensive that many Yellowknife residents live in a campground for the entire summer, because that is all they can afford or because they simply cannot find accommodation elsewhere. When the cold weather strikes, the housing shortage creates a desperate situation. Housing costs for all types of units in Yellowknife are among the highest in Canada.

However, in other communities the availability of housing is quite different. For example, in Ft. Smith, housing prices are similar to southern prices because there is an over supply of housing. Therefore, in Ft. Smith it is a buyer's market because the supply of housing exceeds the demand, but in most northern communities, particularly in Yellowknife, it is a seller's market, since the supply of housing is limited relative to the high demand for adequate and affordable housing.

Conclusion

Public housing rarely produces award winning designs in any part of Canada and the north is no exception. Hopefully, the stigma of the failure of the "Matchbox" houses will not be attributed to the latest forms of housing. A greater variety of housing will develop as people are encouraged to build their own homes, as they did traditionally in remote communities. Therefore, programs such as the Housing Assistance Program must be increased. New forms of financing need to be created and more housing cooperatives should be developed to provide more housing alternatives and better quality housing.

Appropriate housing styles, that are derived from northern conditions, instead of the latest fashion, will be created as local labour and community involvement develop. Presently, local involvement is good, but it is not as extensive as it could be. If more skills are developed at the local level and if community interests are included at the preliminary design stage, then the housing of the north will be a true reflection of the northern environment and its people. □