

SHQ COLLOQUIUM

INNOVATION IN CONSTRUCTION AND PLANNING IN INDIGENOUS COMMUNITIES

June 1st 2017, 8:30 AM to 3:00 PM

Objectives:

To share the expertise of indigenous and non-indigenous professionals and builders on a variety of themes related to housing design and the development of culturally appropriate communities;

To prompt a wide range of reflections to be directly included in the partnership's framework and activities for the next three years.



Mona Belleau

SPEAKERS

00. Pressing issues in the communities: planning, construction, development

Gaëlle André-Lescop [Mamuitun] & Nakoma Jourdain [Innu TakuaiKAN Uashat mak Mani-Utenam] (absent)
The case of Uashat mak Mani-Utenam

Pauloosie Kasudluak [Mayor – Inukjuak]
Inukjuak Masterplan

01. Housing: Respecting Cultures and Territories, animated by Pierre Côté

- A. Mary Thomassie & Caroline Hervé [Saturviit – Inuit Women's Association of Nunavik]
- B. Carmen Rock [Innu TakuaiKAN Uashat mak Mani-Utenam]
- C. Marc Blouin [Marc Blouin Architecte]
- D. Guy Latouche [Gaston St-Pierre et associés]

02. Governance and Mobilization, animated by Bryan Decontie

- A. Hélène Arsenault [Société d'habitation du Québec]
- B. Maxime Héroux [Katsuaq]
- C. Guy Berthe [Sept-Îles Cégep]
- D. Marie-Christine Vanier & Watson A. Fournier [Office municipal d'habitation Kativik]

03. Innovation and Construction, animated by Alain Fournier

- A. Thérèse Ambroise Rock [Conseil tribal Mamit Innuat]
- B. Marc Blouin [Marc Blouin Architecte]
- C. Andréanne Ferland [First Nations of Quebec and Labrador Sustainable Development Institute]
- D. Hélène Arsenault [Société d'habitation du Québec] & Pierre Lepage [Société d'habitation du Québec] (absent)
- E. Vadim Siegel [ABCP]
- F. Daniel Spooner [Polytechnique, Montreal]

00. PRESSING ISSUES IN THE COMMUNITIES: PLANNING, CONSTRUCTION, DEVELOPMENT

THE CASE OF UASHAT MAK MANI-UTENAM

Gaëlle André-Lescop + Nakoma Jourdain (absent)

The Mani-Utenam masterplan is produced by the Band Council and promotes construction by local Innu labor. The urgent need for development is caused by a housing shortage and the resulting overcrowding of existing homes. Safety when crossing main roads and the need to rationalize infrastructure are two of the main constraints for development. The complexity of the water infrastructure in particular derives from the very flat terrain – which in turn restrains views towards the scenery. Such views deserve and will require more attention in future developments. The *live and let live* Innu values are in conflict with the rigidity of the non-native planning tools in place.

INUKJUAK MASTERPLAN

Mayor Pauloosie Kasudluak

The Inukjuak masterplan addresses the housing shortage, which is affecting all of Nunavik. It incorporates the outcome of three consultations, has been developed with KRG, and is yet to be finalized, since it is difficult to definitively determine the ideal location to build houses. In this sense, the ground stability map by the Centre for Northern Studies (Laval University), which identifies stable and unstable permafrost at thaw, has become an indispensable tool. It illustrates the precariousness of the areas where the village is currently built, and confirms the stability of potential development areas. The other side of the river would be ideal in that order, but developing there implies the construction of a bridge. Houses will be built in Inukjuak this summer, between the village and the airport, but not enough to accommodate the 60 households on the waiting list.

DISCUSSION

The maintenance of the housing stock in Nunavik is ensured by the SHQ or Makivik. Some households end up staying in faulty houses for a few years before a contractor can intervene. Some defects can be assessed by adjusting the trestles, but this is only a temporary solution given the instability of the permafrost.

01. HOUSING: RESPECTING CULTURES AND TERRITORIES

Pierre Côté + Caroline Hervé + Mary Thomassie + Marc Blouin + Guy Latouche + Carmen Rock

Introduction by Pierre Côté:

The transformations of the Inuit dwelling - from the igloo, to the matchbox, to the minimalist bungalow - took place in such a short time that a single Inuk, such as Taamusi Qumaq¹, could witness and participate to it all, whereas non-Natives experienced a slow evolution over millennia. Such speed is perhaps the very reason why the quest for a genuine, respectful Inuit home is so troublesome today.

¹ « Je veux que les Inuit soient libres de nouveau », Collection Jardin de givre, Presses de l'Université du Québec, 2010, 154 pages

PRESENTATIONS

A. Mary Thomassie & Caroline Hervé (Saturviit):

In Nunavik, housing shortages and defects directly and indirectly affect health and may cause difficult, sometimes dangerous conjugal situations, which particularly impacts women, children and elders. The dynamics of social housing, and more precisely its mode of attribution, complicate these conditions, which create a great need for women's shelters. For Saturviit, women are the heart of the household and should also be at the heart of the considerations, conversations and exchanges regarding housing, notably those which will allow to rethink the criteria for allocation and the overall design of houses.

B. Carmen Rock (ITUM):

Today, the Innu house is imposed and has no connection with culture. Some of the qualities sought in terms of housing were illustrated during an architecture workshop with Université Laval in 2003, notably through the use of wood, the openness of large collective and living spaces to allow socialization, and the suitability of interior and exterior spaces for traditional activities. Despite the capacity of such workshops to facilitate dialogue with the communities, this type of project quickly reaches its limits, as the inability to build prototypes due to a lack of funding prevents evaluation and improvement of proposals.

C. Marc Blouin (Marc Blouin Architecte):

A design charrette, organized by the OMHK and the SHQ in 2012 to reflect upon the Inuit habitat, aimed to rethink the exterior spaces of the house, in connection with its interior spaces. Those reflections, which first focused on site occupation and the consequences of the pads, led to imagine a "bridge-house" that would link the life in the village, on the street side, to the life out on the Land, on the court side. Through respectful design, a sedentary lifestyle can be adopted while still maintaining a strong link with the territory.

D. Guy Latouche (Gaston St-Pierre et associés):

Sedentarization and the arrival of non-Natives unavoidably imply a loss of identity for the indigenous communities. These are in a constant catching-up state, and must deal with minimal and faulty housing, which in itself does not resemble nor suit them. The substantial population growth, the youthfulness of the population and the current shortage are creating a significant demand for housing, now and for years to come. Funding difficulties and the overall financial situation call for a certain economic independence of the communities, which could lead to their emancipation from housing organizations.

DISCUSSION

Lack of funding limits innovation in terms of housing, since it is less expensive to repeat known models. Housing should be promoted up on the political agenda. Part of the mobilization must come from a societal shift, a collective will to make the house a place of "love and children".

02. GOVERNANCE AND MOBILIZATION

Hélène Arsenault + Maxime Héroux + Guy Berthe + Marie-Christine Vanier + Watson A. Fournier

Introduction by Bryan Decontie (DNH Consultants):

Governance is a set of measures and strategies put in place to change or influence decision-making, in order to achieve a desired goal by a community. It has a greater power of mobilization if it emerges from the local identity. Governance is more than a procedure: it is a way for a people to express itself through its institutions.

PRESENTATIONS

A. Hélène Arsenault (SHQ):

A housing prototype in Quaqtaq applies several innovations aimed at improving the habitability and the mechanical performance of northern houses. Their repercussions are documented through a post-occupancy follow-up: interviews with occupants reveal their satisfaction, and monitoring probes will allow for a quantitative evaluation of the systems' performance. Comparisons with typical houses will be possible, to reduce greenhouse gas emissions and fuel consumption.

B. Maxime Héroux (Katsuaq):

Katsuaq is an NPO which promotes participation of Inuit labor on Nunavik construction sites. These sites' organization can be understood according to two scenarios. The first, most common one, is restricted by the shipping boats. Construction lasts from August to November, which imposes a very intense work pace and makes the family life of local Inuit workers difficult. The second one relies on the anticipated shipping of materials, which implies sending them in the fall preceding the year of construction. This allows for a less intense pace, from May to November. A third scenario can be imagined: following anticipated shipping, Inuit workers could prefabricate construction elements during the winter locally, which would confer a flexible schedule and let them participate in family and traditional activities. This scenario could lead to a 90% Inuit presence in the workforce, but requires new infrastructure.

C. Guy Berthe (Sept-Îles Cégep):

There are two types of college programs offered to the communities: a regular program, which has a standardized academic progress, and continuing education, which is personalized. The latter, of which the majority of students are Aboriginal, often involves a return to school and can lead to a college certificate (*Attestation d'études collégiales*, or AEC). Education in general needs to be provided closer to the communities, but the current educational infrastructure is such that it is sometimes impossible to find the expertise to train students locally. Some courses are canceled for lack of candidates, which penalizes those who had enrolled. The addition of a digital component in several trades helps stimulate interest in education.

D. Marie-Christine Vanier & Watson A. Fournier (OMHK):

The process of adding a unit to the Nunavik housing stock results from the James Bay and Northern Quebec Agreement, and requires periodic agreements between the KRG, the federal government, Makivik Corporation and the SHQ. The government finances the construction, Makivik executes it non-profit, and the SHQ pays for the maintenance costs and operates the houses, whose tenants are determined by the OMHK. These agreements are valid for one year, which limits long-term planning. They also determine the number of dwellings, their typology, and the villages which will receive them. Given the widespread deficit in Nunavik and the complexity of the work, only six villages receive houses per year.

DISCUSSION

Aboriginal peoples have the necessary knowledge and expertise to conceive and build houses that better reflect their identity. Their self-management, along with widespread mobilization and a better sense of sharing, would allow them to be more responsive to the variety of their needs, rather than relying on 'one-size-fits-all' dwelling models conceived outside of their communities, which don't reflect their values.

A "bottom-up", as opposed to a "top-down", dynamic would allow the citizens who are less familiar with governance to express their needs and aspirations. Co-design activities and the eventual construction of prototypes could promote the inclusion of such knowledge, from all, including that of the Aboriginal peoples.

Education programs within the communities should not be limited to the teaching of trades. Courses on the humanities should teach on how to live in one's cultural and political context. Women, the heart of the home and strong agents of change, would particularly benefit from such teachings and could easily pass on their knowledge to their community.

03. INNOVATION AND CONSTRUCTION

Thérèse Ambroise-Rock + Marc Blouin + Andréanne Ferland + Hélène Arsenault + Pierre Lepage + Vadim Siegel + Daniel Spooner

Introduction by Alain Fournier (EVOQ):

Innovation is about more than the technical side of things: it is at the service of the well-being of people.

PRESENTATIONS

A. Thérèse Ambroise Rock (Mamit Innuat):

A project with the Ekuanitshit community is testing a rainwater harvesting system, the main objective of which is to reduce drinking water consumption and the overall demand on the water treatment systems. Precipitations in the Côte-Nord region could allow for a harvest of 70,000 liters of water per year, per residence. Such a system requires special, including a 9,000-liter tank built to withstand harsh winters, a filter which requires particular but simple maintenance, and a pump. The harvested water harvested cannot be used for consumption purposes, but is used for other appliances or household tasks. Innovative projects such as this one, which is still under development, need to be supported by policies.

B. Marc Blouin (Marc Blouin Architecte):

Community buildings, essential in the definition of a *habitat* as they support social and cultural functions, face the same constructive and financial constraints as housing. Several buildings built without architects, such as warehouses and other simple technical buildings, reveal the effectiveness of prefabricated elements in the construction of economic structures. Other, more specialized buildings designed by architects therefore use the same method: prefabricated industrial elements can confer simple structures and produce quality community amenities, such as the Puvirnituk Sports Centre and the new Katittavik multidisciplinary building in Kuujuaapik.

C. *Andréanne Ferland (First Nations of Quebec and Labrador Sustainable Development Institute):*

The atlas *Impacts of climate change on the First Nations of Quebec*² compiles data from interviews and scientific research. It reveals several impacts of climate change on the territories, practices, knowledge, health, economy, and infrastructure of First Nations communities. Physical changes forced onto the environment affect winter duration, game migration, bank erosion and extreme weather events; they also have consequences on mental health. We need to plan our adaptation, using climate change as a catalyst for innovation. Some of the solutions include creating risk zone maps, adapting building codes, which currently lack in flexibility, and raising awareness within the populations.

D. *Hélène Arsenault, for Pierre Lepage (SHQ):*

The performance of the building envelope in Nunavik houses is a primary concern, since it is acutely vulnerable to air and water movement. Blizzards are problematic in this sense. Particular attention must be paid to cladding and construction details in order to protect the envelope, the exposure of which could cause exponential problems.

E. *Vadim Siegel (ABCP):*

The Quebec City architecture offices ABCP Architecture, BGLA and BMD architectes³ are involved in the renovation of a little over one hundred housing units per year in Nunavik. The construction itself is peculiar to the North, but its execution is typical and relatively simple. The challenges mostly concern logistics in regard to the site organization, schedules, and surveys, which are required for an accurate prefabrication. In order to ensure consistency of execution, a book of typical procedures has been developed to guide the implementation of construction details. Other issues may be addressed through construction schedule innovations and the inclusion of local Inuit labor, which would also tackle the difficulties of recruiting 'fly-in-fly-out' professionals.

F. *Daniel Spooner (Polytechnique, Montréal):*

Two teams of engineering, business and industrial design students proposed innovations related to alternative energy sources and prefabrication for northern housing. Solar energy is a promising solution but is insufficient a few months a year, during which waste-to-energy processes could compensate. The optimization of prefabricated construction elements with modularity principles could facilitate their delivery to the villages, particularly by adapting them to the size of the shipping containers. Other subtle innovations for everyday objects and furniture could adapt them for traditional Inuit activities.

DISCUSSION

The dynamics of social housing imply that tenants have little to no say in renovations of their home, and the legal framework prevents them from actively participating. Such participation would be a good way to improve their sense of belonging.

The addition of new technologies in northern housing is limited by funding. Several solutions are interesting, but remain 'exogenous' and do not necessarily promote local labor and resources.

Community conditions are changing rapidly, requiring great flexibility on the part of designers and decision-makers. Several collective aspects of housing, including sustainable density or consolidation, deserve more attention.

² Complete version online: http://iddpnql.ca/wp-content/uploads/2017/03/Atlas_10janvier2014.pdf

³ Online: <http://www.abcarchitecture.com/>; <http://www.bgla.ca/>; <http://www.bmdarchitectes.ca/>