Need Identification and Problem Statement

Brainstorming:

- A greenhouse that can survive the winter (-30/-40℃)
- Access to fresh and hearty vegetables throughout the year
- Self sustaining greenhouse (that does not require water/electricity to be transported to it)
- A greenhouse that is able to be animal (mainly mice, bugs) proofed.
- Need food for approx 50 people
- Need potable water for greenhouse
- Method for growing and protecting crops from the elements and wildlife
- Inexpensive solution
- Reparable structure (basic materials)
- Monique Manatch
- Fits their culture
- A temperature regulation system

Needs relating to the structure:

- Materials that will keep out mice, bugs, and other animal
- The material used to construct the greenhouse must be insulating.
- Temperature inside the structure cannot
- Temperature inside the structure must be restricted within a certain domain to ensure proper growth of vegetation.
- Must be self-sustaining (electricity)
- Materials that can withstand the extreme temperatures without being damaged
- Able to be easily taken apart, transported, then reconstructed.
- Pieces of the structure do not exceed 2x8

Needs relating to the vegetation:

- Ability to grow enough food to support up to 50 community members
- Vegetation that is easily sustainable throughout the year.
- Takes into consideration cultural needs (for example, able to grow tobacco)

Needs relating to upkeep of the system:

- Some way of removing snow or minimizing snow buildup
- Some way of providing water from a near-by (on-site) source
- Some way of providing the electricity necessary to run the system
- A long lasting structure that will require minimal repairs that the community members would be capable of doing themselves

Overall needs:

- Inexpensive
- Easily used
- Will fit in with the culture of the community and take into consideration their specific cultural needs.

Problem Statement:

The Algonquin community at Barriere Lake is in need of an inexpensive, self-sustaining greenhouse capable of growing appropriate vegetation to feed as many of their 50 community members as possible. This structure will need to be transported, must be able to withstand the extreme winter temperatures, and keep out all wildlife.The students from lab section B04 of class GNG1103 at the University of Ottawa will design and construct a greenhouse to be delivered to the Algonquins of Barriere Lake that meets all of the previously stated requirements.