

A worker in a dark industrial setting, wearing a hard hat and safety glasses, is visible in the background. The worker is wearing a blue long-sleeved shirt and dark pants. The background is dark and appears to be an industrial or construction site.

Short and long term labor market implications of large scale projects in the North

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Conclusions

- **In order to make proper use of regional planning in Greenland you need to realize that:**
 - **”One size does not fit all!”**
 - **It is necessary to plan for the non planable!**
 - **Beware of Women as a decisive factor in the future development**



Structure of presentation

- Useful concepts in relation to models of regional organization of large scale projects
- **Positive, negative and unexpected consequences of planning – examples from the Circumpolar North**
- **General characteristics regarding labor market development**
- **Useful models in understanding community and labor market response to changes**
- **Planning the unplanned?**
- **Greenland perspectives**

Regional organization of large scale projects

- **Community based relations**
- **Community Adjacent relations**
- **Enclave characteristics**



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The “Black Angel”



- In 1950-51 profitable lead and zinc ore were found close to Maarmorilik
- In 1964 the company Greenex was established, and together with Cominco from Canada establishing of production facilities started in 1971

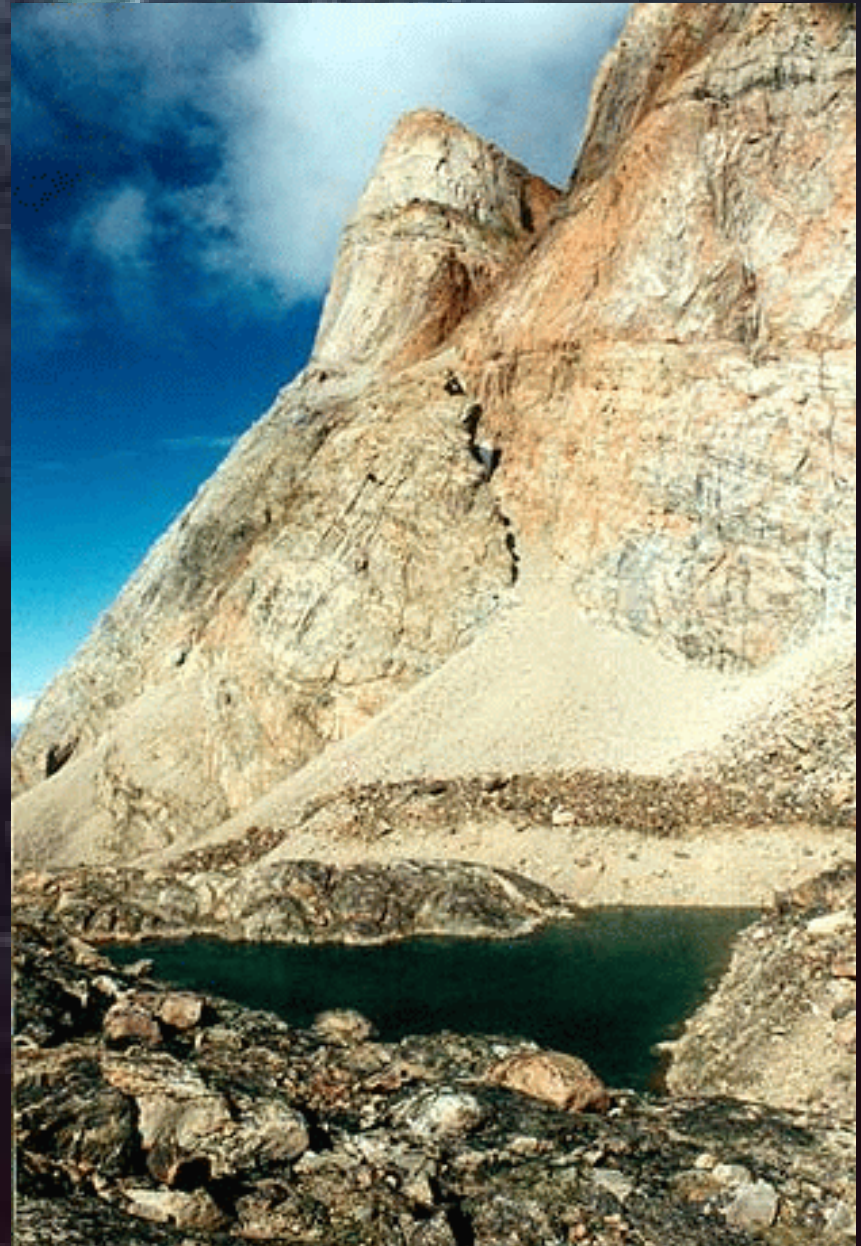
The “Black Angel”



- **Production started in 1973 after two years of constructing the infrastructure and production equipment.**
- **The processing equipment were transferred from USA**

The “Black Angel”

- The constructions and maintenance was taken care of by “Danish Arctic Contractors”
- In the construction phase around 400 DAC workers were involved.



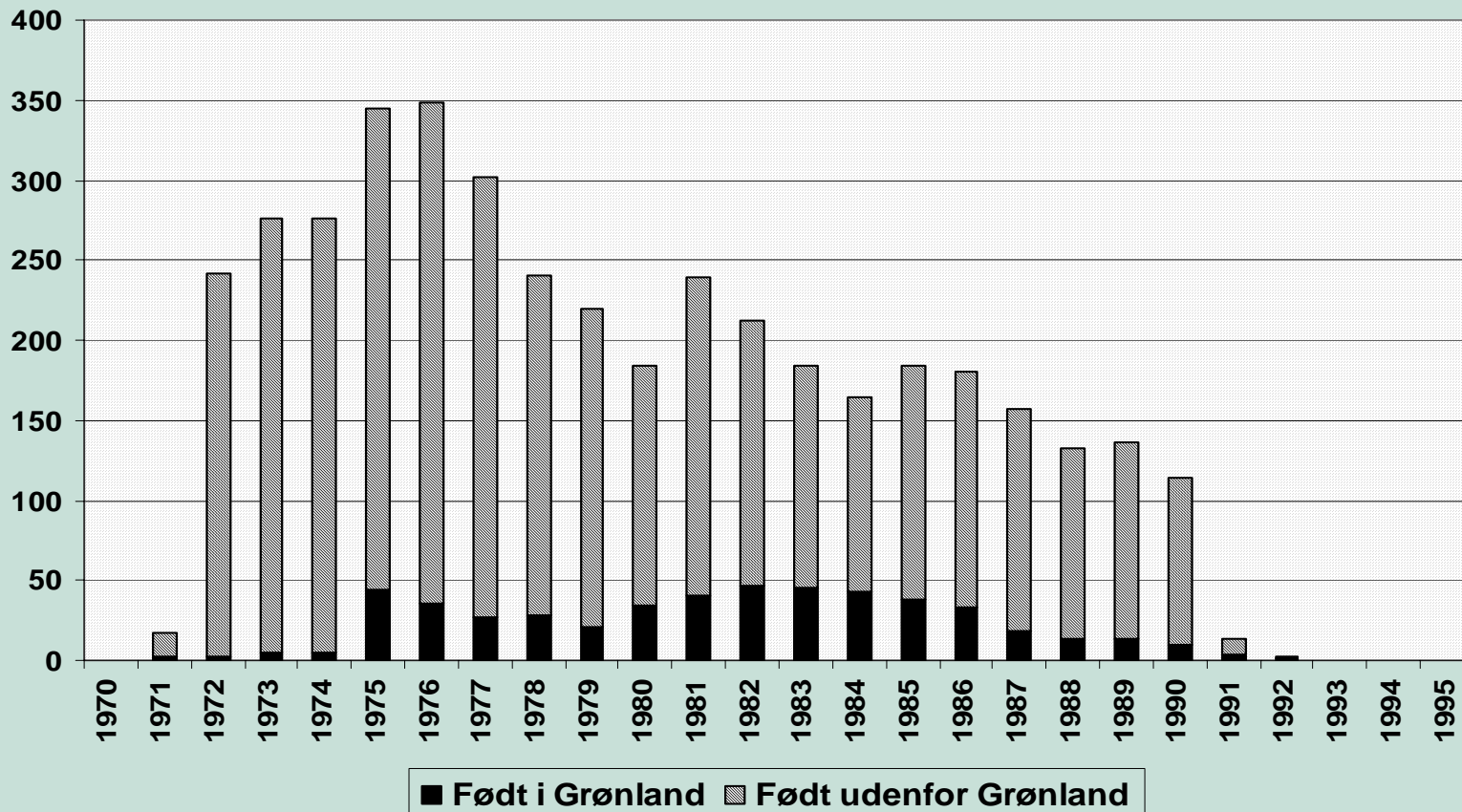
The “Black Angel”

- **The starting up required skilled workforce from Canada**
- **Additional workforce mainly from Denmark, Sweden, Norway**
- **Only few persons from Greenland were involved**




Employment during production

Personer bosat i Maarmorilik



The “Black Angel”

- **Production stopped on July 25, 1990**
 - changes in world market prices
 - limited size of resource
 - **The closing had some - but not fatal - consequences for the community**
 - **Only 1 of the former foreign workers has settled in Greenland**
- 
- A photograph of a miner in a dark tunnel. The miner is wearing a yellow hard hat with a headlamp, a blue long-sleeved shirt, and a respirator mask covering their nose and mouth. They are standing in a narrow, dimly lit passage with rough rock walls. The lighting is focused on the miner, creating a dramatic effect against the dark background.

Workforce mobility

	Origin, %	Destination, %	Change
Nanortalik	2	-	(2)
Qaqortoq	3	2	(2)
Narsaq	3	1	(2)
Paamiut	9	2	(7) ←
Nuuk	6	15	8 ←
Maniitsoq	3	4	0
Sisimiut	3	3	0
Aasiaat	12	7	(5) ←
Qeqertarsuaq	3	4	0
Qasigiannguit	1	-	(1)
Ilulissat	7	5	(2)
Uummannaq	41	46	5 ←
Avanersuaq	1	-	(1)
Tasiilaq	2	1	(1)
Ittoqqortoormiit	1	-	(1)
Unknown	5	13	8 ←

Local consequences

- **Net in-migration**
- **Funding for development of fisheries**



The Qullissat coal mine



- **Production started in 1924**
- **From 1924 to 1939 a total of 64.000 tons of coal was produced**
- **In the start around 20 persons were involved**

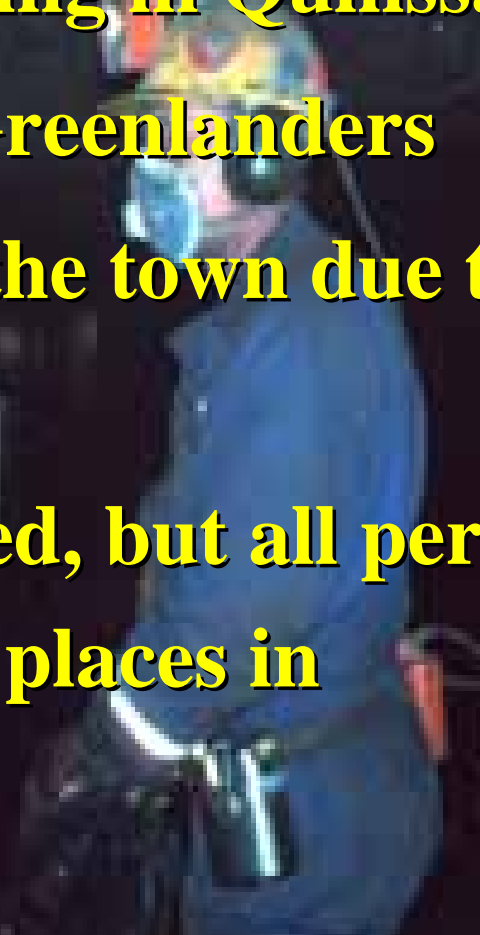
The Qullissat coal mine



- In 1939 around 566 persons were living in Qullissat
- A very distinct culture developed, with its own music and other cultural characteristics

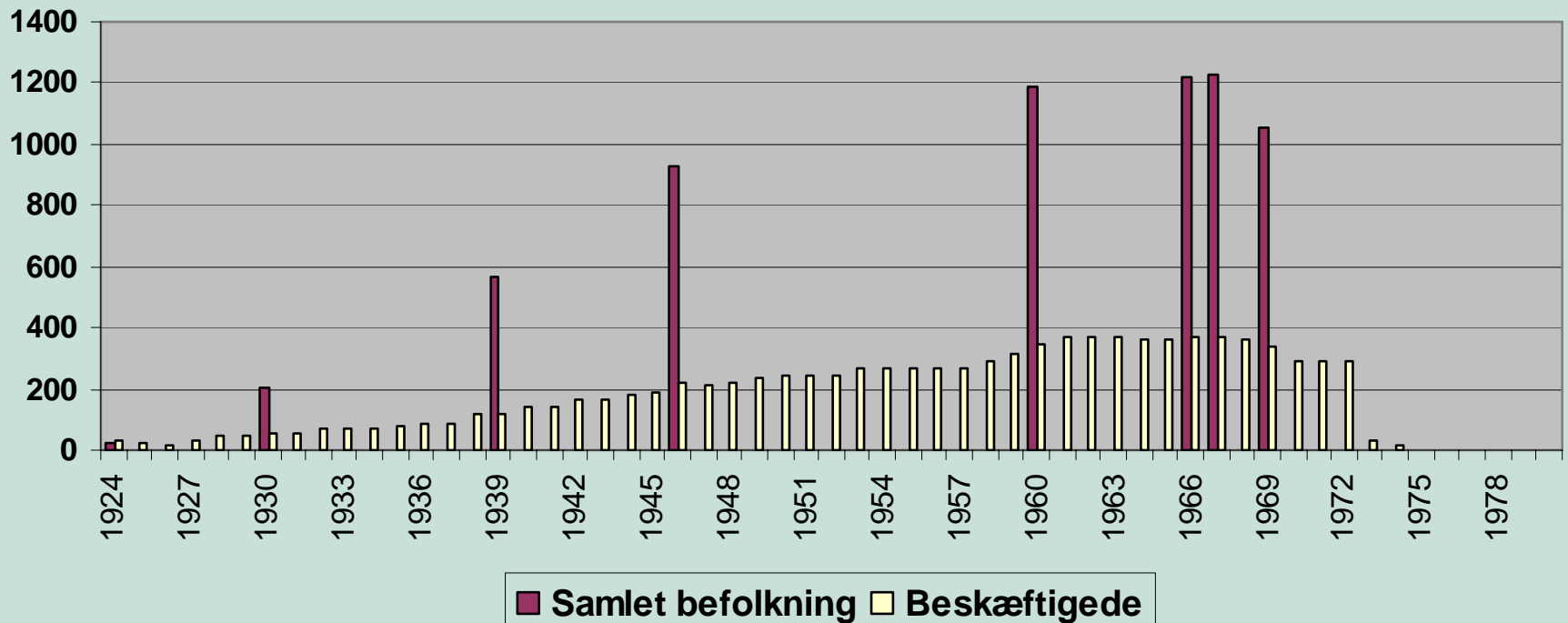
The Qullissat coal mine

- When the mine was closed in 1972 a total of 1.400 people were living in Qullissat
- More than 90% were Greenlanders
- It was decided to close the town due to limited profitability
- The population protested, but all persons were relocated to other places in Greenland!



The Qullissat coal mine

Qullissat - befolkning og beskæftigede i minen



Displacements after mine closure

Tabel 2 : Familieflytninger i forbindelse med nedlæggelsen af Qullissat. Efter Haagen (1977).

Nuværende navn	Dansk navn	Antal familier
Nuuk	Godthåb	39
Paamiut	Frederikshåb	33
Sisimiut	Holsteinsborg	33
Ilulissat	Jakobshavn	31
Qeqertarsuaq	Godhavn	13
Qasianguit	Christianshåb	12
Narsaq	Narssaq	10
Aasiaat	Egedesminde	9
Maniitsoq	Sukkertoppen	7
Ukusissaq	Uvkugsigssat	2
Upernavik	Upernavik	1
Ikerasak		1

Fermont, Northern Quebec

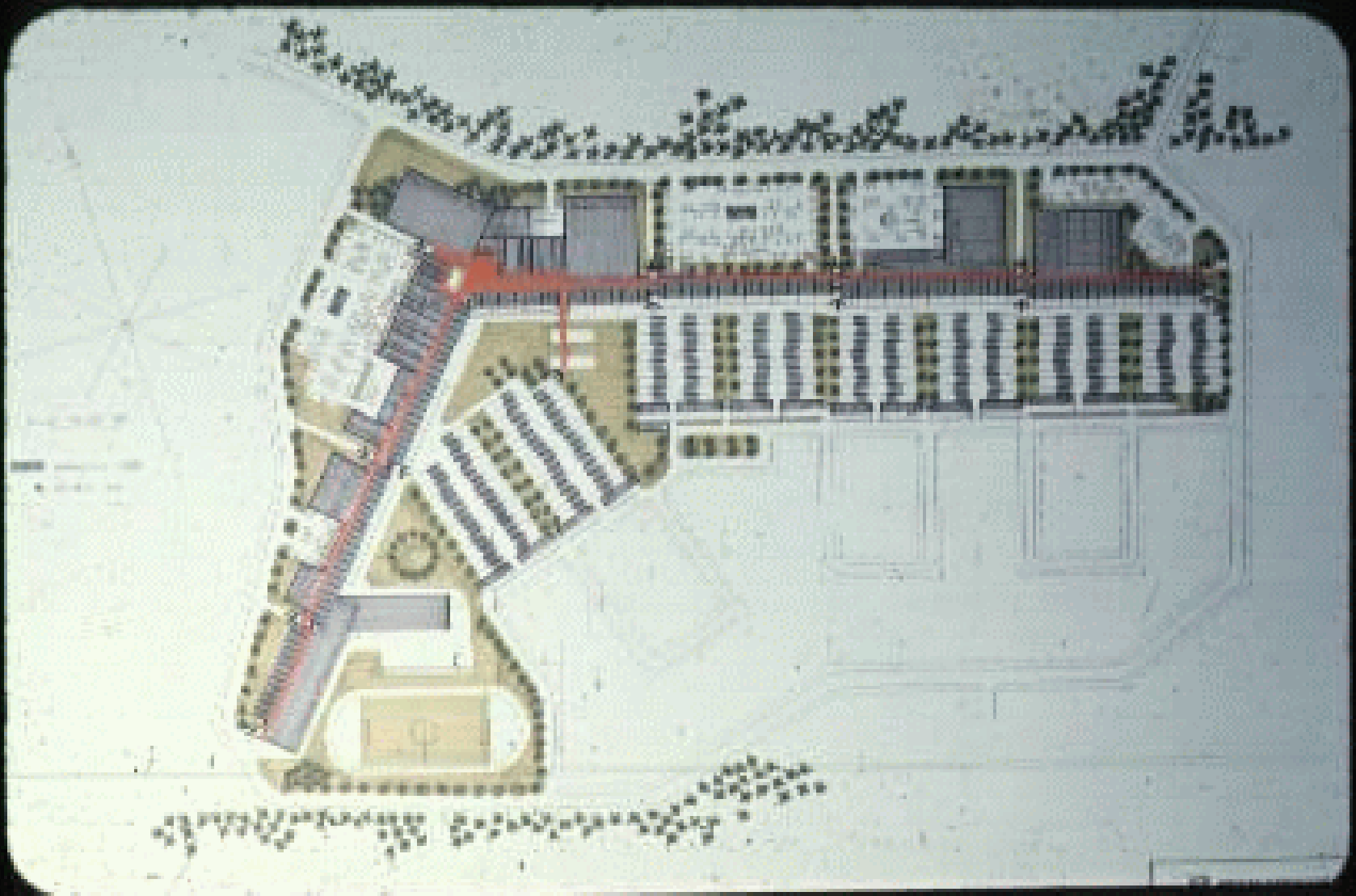


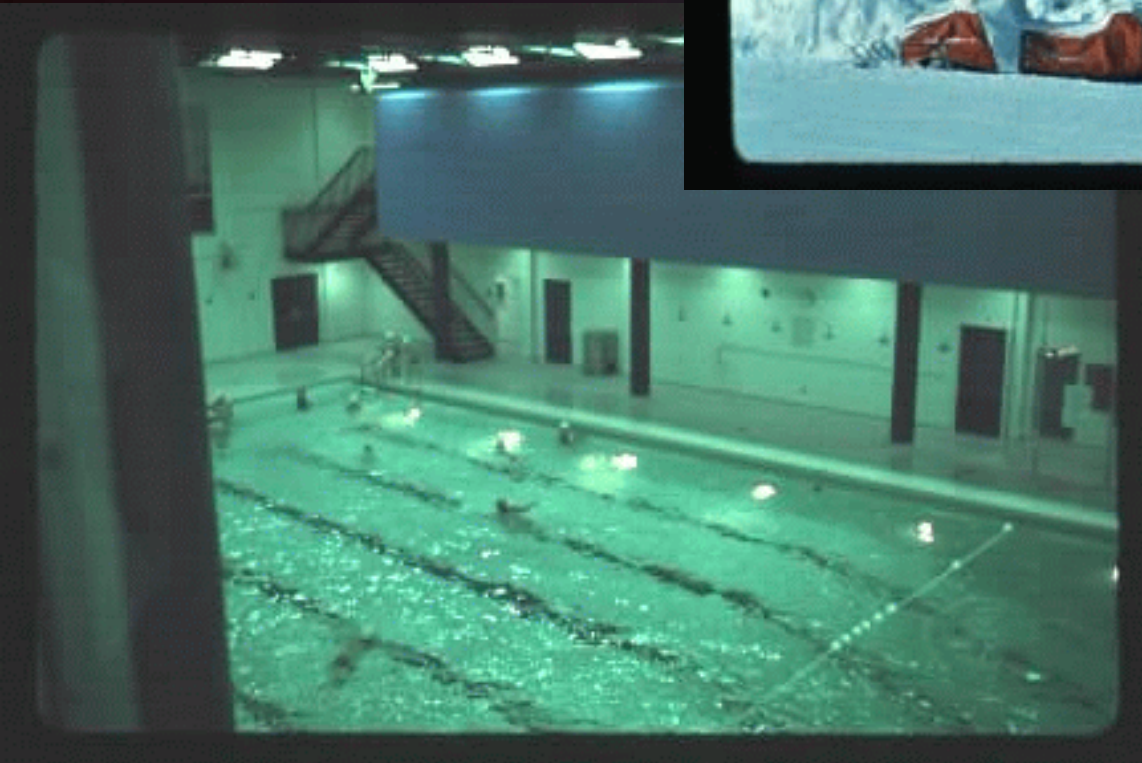
- **Iron ore mining**
- **Production started in 1974**
- **Was supposed to finish by 2000**
- **Total direct employment at peak - 860 persons**

Fermont, Northern Quebec



- **“The Wall”** was created as center for the staff
- **Within the shelter of this building everything should be possible for the 3.500 inhabitants**





The wall!




- **When production ended the place was supposed to be abandoned...**
- **But the population have refused to leave!**
- **So the Quebec government has got a problem!!**

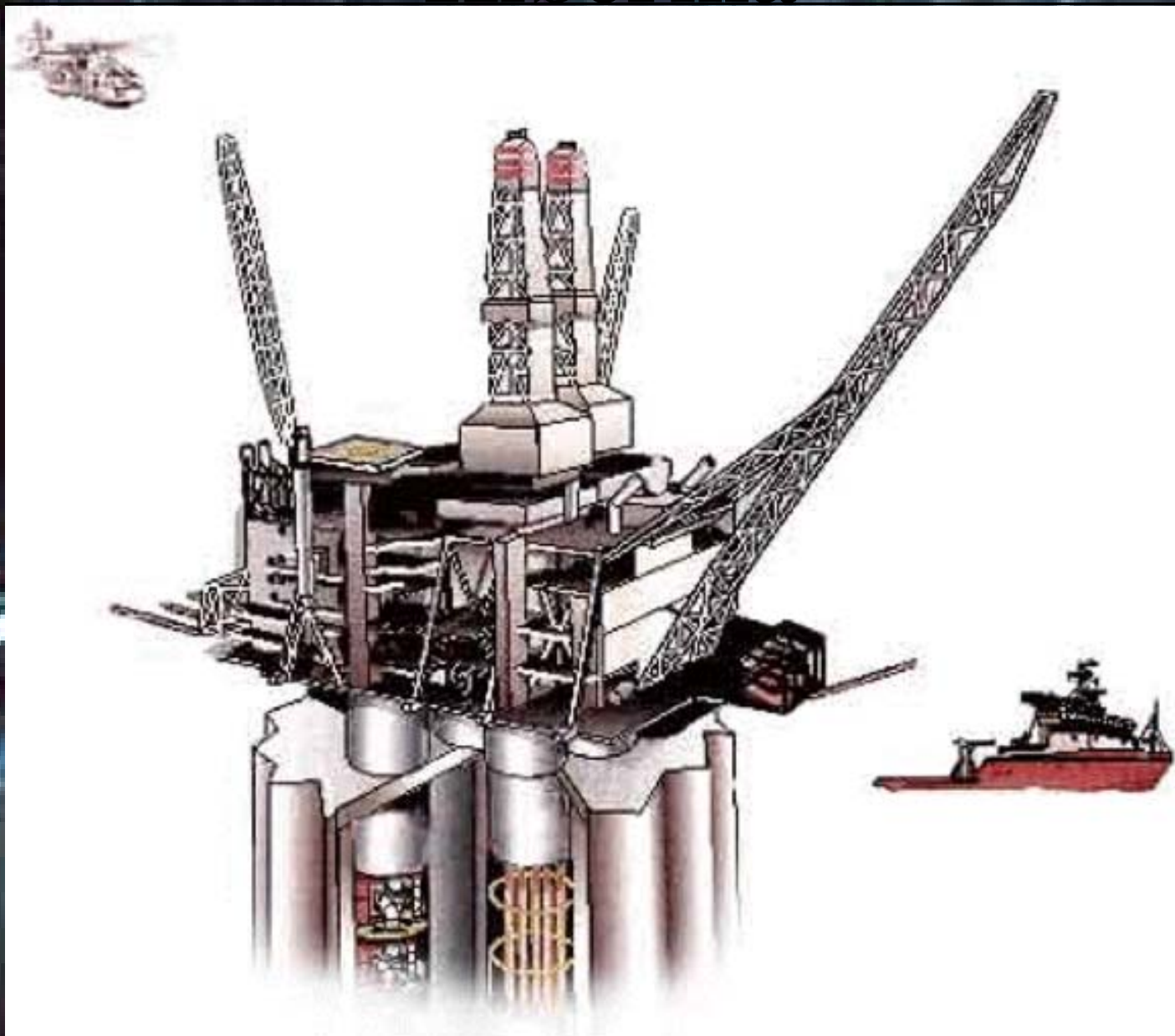
Hibernia, Terra Nova, Sable Island



Hibernia

- **Development started in the 1980s**
 - **Maximum number of jobs: 6.500 (in 1995)**
 - **A total of 26.000 person years**
 - **59% of workers from Newfoundland**
 - **15% from other parts of Canada**
 - **Bull Arm - a total of 4.000 jobs for 2 years**
 - **Permanent jobs: 900-1000**
- 
- A worker in a blue uniform and yellow hard hat is operating machinery in a dark industrial setting. The worker is wearing a yellow hard hat with a headlamp and a blue uniform. The background is dark and industrial, with various pipes and structures visible.

Hibernia



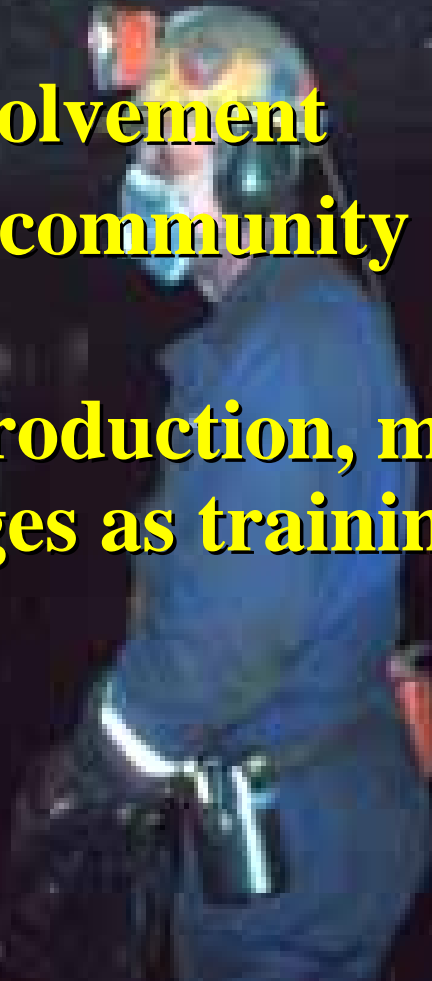
Terra Nova

- **First exploration 1984**
- **Development during the late 1990's and 2000's**
- **3.500-5.000 jobs per year during development**
- **Permanent employment around 900-1.500 persons**
- **Using the facilities at Bull Arm, but vessel constructed in Korea**



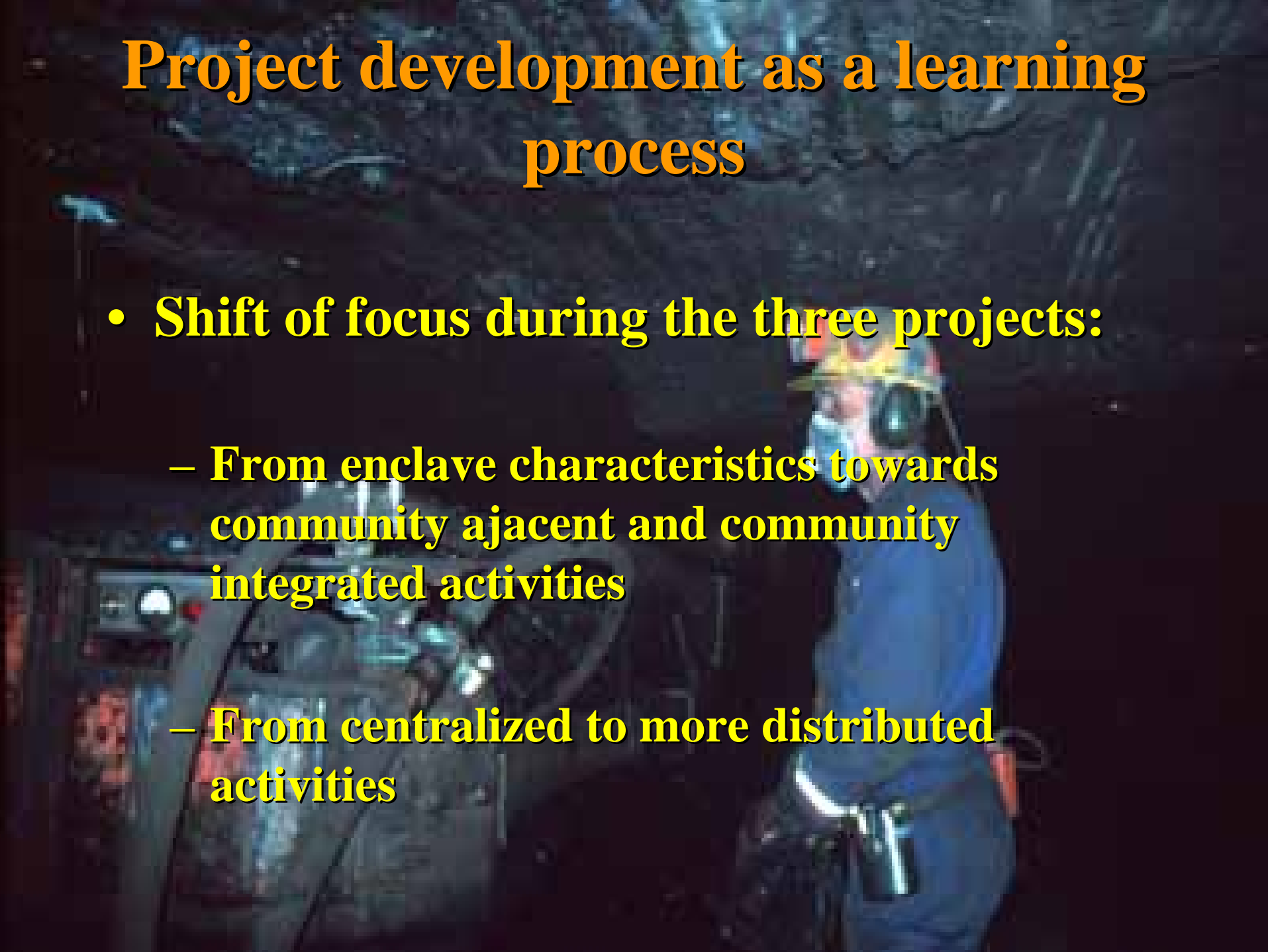
Sable Island

- **Nova Scotia made use of the experiences from Newfoundland**
- **High degree of local involvement**
- **Extensive hearings and community consultancy**
- **Distributed system of production, making use of community colleges as training facilities**



Project development as a learning process

- **Shift of focus during the three projects:**
 - **From enclave characteristics towards community adjacent and community integrated activities**
 - **From centralized to more distributed activities**



“Red Dog”, Kotzebue, Alaska



The Red Dog mine in Alaska



Red Dog, Alaska

- ! **Zinc-Lead production**
- ! **Northwest Alaska, about 145 kilometres north of Kotzebue.**
- ! **Owned by the NANA Regional Corporation**
- ! **Leased to Cominco Alaska Incorporated.**



ANCSA

Thirteen Regional Corporations created under ANCSA

Twelve regions
in the state
of Alaska



Red Dog, Alaska

- ! **NANA is a corporation organized under the provisions of the Alaska Native Claims Settlement Act.**
- ! **Under the lease agreement, Cominco Alaska owns and operates the facilities and NANA receives an annual royalty payment.**

Red Dog, Alaska

A photograph of a miner in a dark tunnel. The miner is wearing a yellow hard hat with a headlamp, a blue long-sleeved shirt, and dark pants. They are looking down and to the left. The background is dark and rocky, with some equipment visible.

- ! **Employing approximately 300 persons**
- ! **Mainly employing indigenous peoples from NW Alaska**
- ! **Supposed to contribute to local economies**
- ! **Labor force moves to Anchorage!**

Prudhoe Bay





Prudhoe Bay

- **Discovery in 1968 of the Prudhoe Bay oil field, the largest in North America, with original reserves of 9.6 billion barrels.**
- **Production, however, was delayed until concerns regarding Native land claims and the potential environmental impacts of the proposed Trans-Alaska Pipeline could be resolved**

Prudhoe Bay

- In 1992 there were approximately 8.000 working at Prudhoe Bay and Kuparuk
- In 1998 this number was reduced to 3.982
- More than 60% are living outside Alaska
- Less than 1% from the local labor market
- Out of this number only 51 were natives from North Slope Borough...
- There are more employed coming from Florida!

The Trans-Alaskan Pipeline

- **Constructed 1974 to 1977**
- **At one point of time the total number of persons employed were 17.000**
- **Almost everyone were from outside Alaska**



Sharing of revenues



50% of interests are re-invested

- **50% of interests are re-invested**
- **50% distributed to population**
 - **Royalty to State of Alaska makes the state tax-free**
 - **Major part to the Regional Development Corporations**
 - **A yearly revenue (pt. Approximately 2.000\$) paid to every citizen in Alaska**

















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Community relations



- **Community based relations**
 - Qullissat, Terra Nova, Sable Islands, [Fermont], Apatity
- **Community Adjacent relations**
 - Black Angel, [Hibernia], Monchegorsk
- **Enclave characteristics**
 - [Fermont], [Hibernia], Red Dog, Prudhoe Bay, **Nikel**

Labor market connections

- **Disconnected**
 - Prudhoe Bay, [Fermont]
- **Connected**
 - Black Angel, Red Dog, Hibernia, (Nikel, Zapolyarnie)
- **Integrated**
 - Qullissat, Terra Nova, Sable Island, [Fermont], Monchegorsk, Apatity



Employment effects

- **Involvement**
 - Direct
 - Indirect
- **Effects**
 - Positive
 - Labor force multiplier effects
 - Human resource development
 - Negative
 - Parasite effects
 - Wage distortion (Dutch Disease)



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Local dynamics

A person wearing a blue uniform and a helmet is working in a dark, rocky tunnel. The person is holding a tool and appears to be engaged in some form of manual labor or maintenance. The background is filled with rough, dark rock formations, and the lighting is dim, highlighting the person and their immediate surroundings.

- **A self-sustaining dynamic is defined as a development process able to react to changes, whether they are due to natural fluctuations or human induced. It includes the necessary human resources and social capital to be innovative and adaptive.**

Local dynamics

A person wearing a blue uniform and a yellow hard hat is working in a dark, industrial environment. The person is positioned on the right side of the frame, looking towards the left. The background is filled with dark, metallic structures and equipment, suggesting a complex industrial or mining setting. The lighting is dim, with some highlights on the person's uniform and the surrounding machinery.

- **A dependent development dynamics is defined as a development process where the dynamics are defined outside the community itself, and therefore depending on outside decisions, initiatives, and actions.**

Local dynamics

A firefighter in a dark tunnel, wearing a blue uniform and a yellow helmet with a headlamp. The firefighter is looking towards the left. The background is dark and rocky, with some equipment visible.

- **A detached dynamic is defined as a development process where there is no clear connection between the development that takes place in the community and the surrounding society.**

Community response

- **Multiplicator effects totally dependend on the community response**
- **Necessity of involvement at a very early stage in order to respond to the challenges, and to become active in the process**
- **A learning process – need of looking at experiences from previous activities**

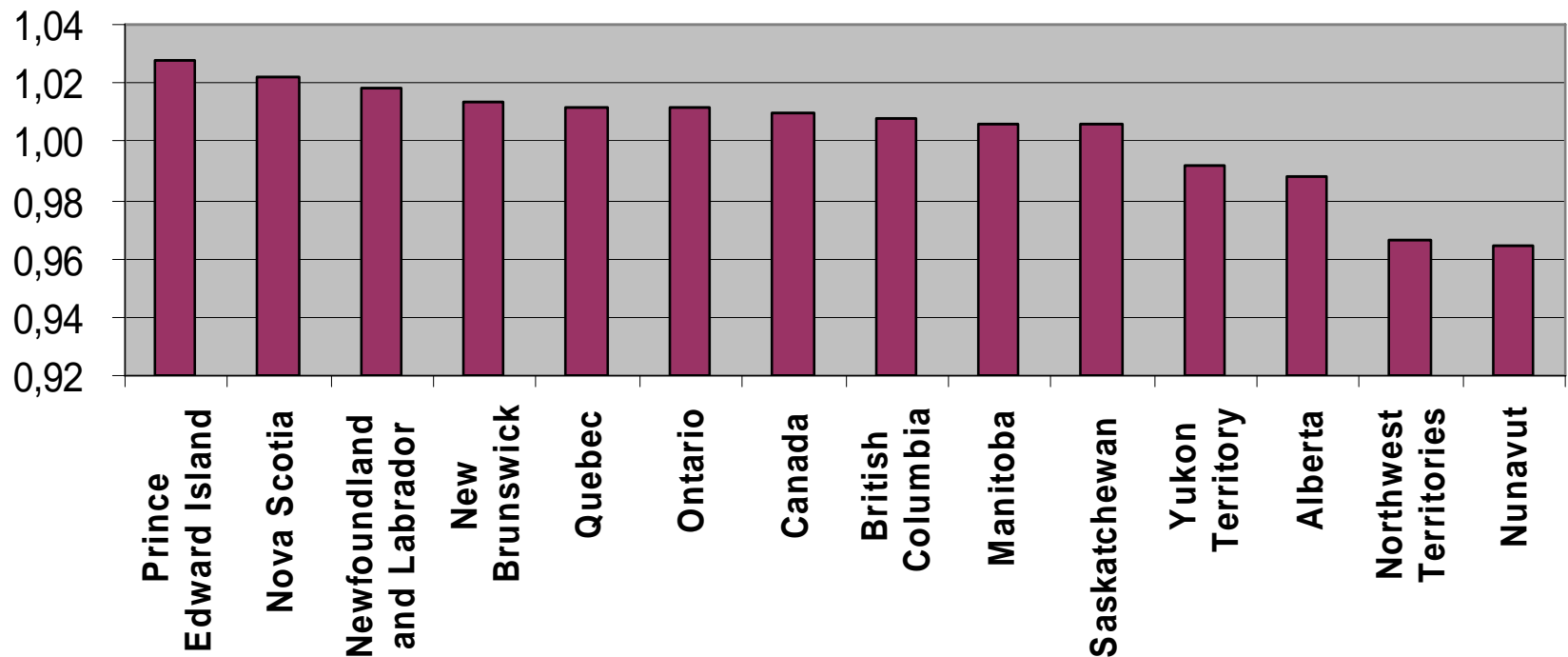
Structure of presentation

A person wearing a blue uniform, a yellow hard hat, and a respirator mask is working in a dark, industrial environment. The person is positioned on the right side of the frame, looking towards the left. The background is dark and filled with various pieces of equipment and machinery, suggesting a complex industrial or mining setting.

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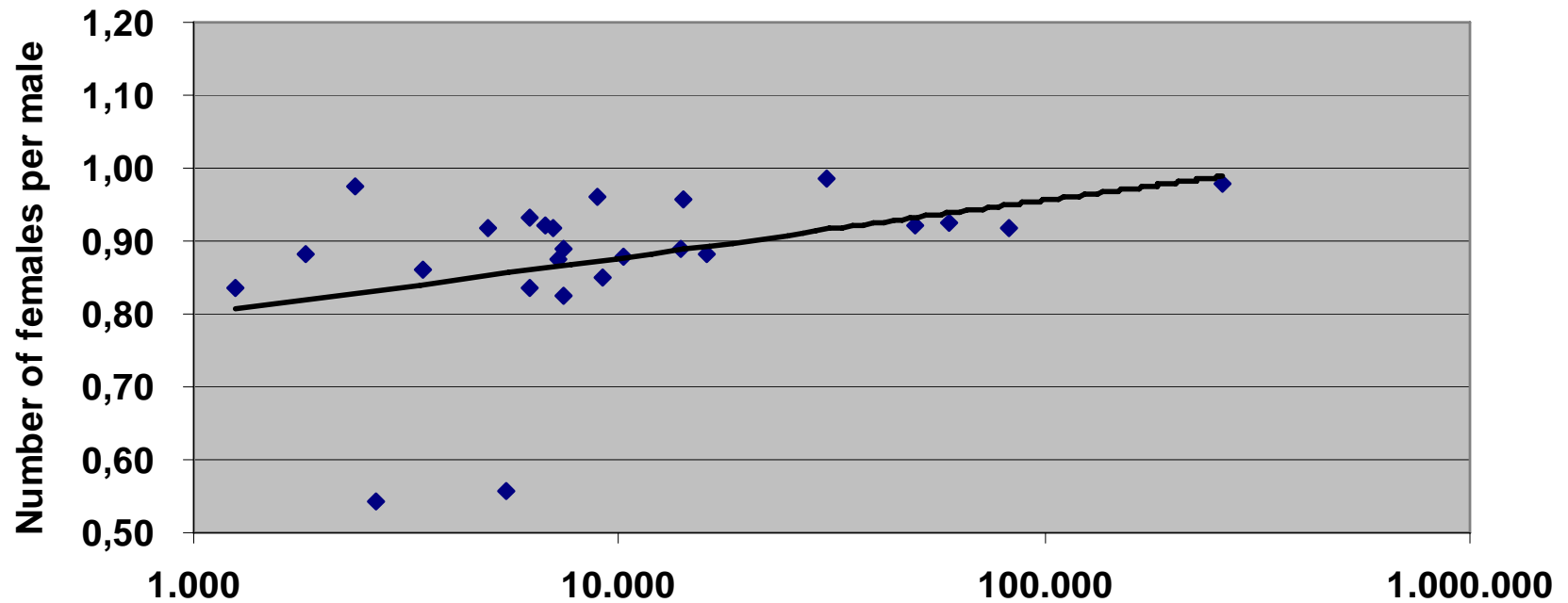
Female flight

Female/Male ratio
Canadian Provinces and Territories



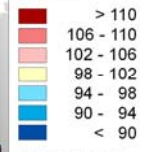
Female flight

Female/Male ratio
Alaska Boroughs and Census Arts Areas2000

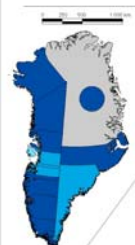


Female and Male 2007

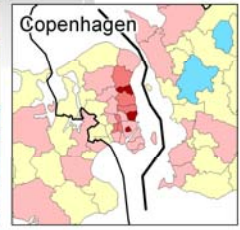
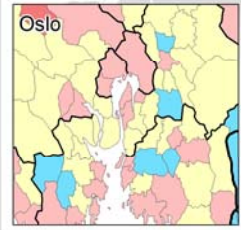
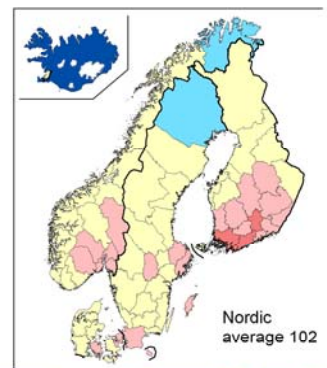
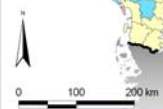
Total number of women per 100 men



Data source: NSI



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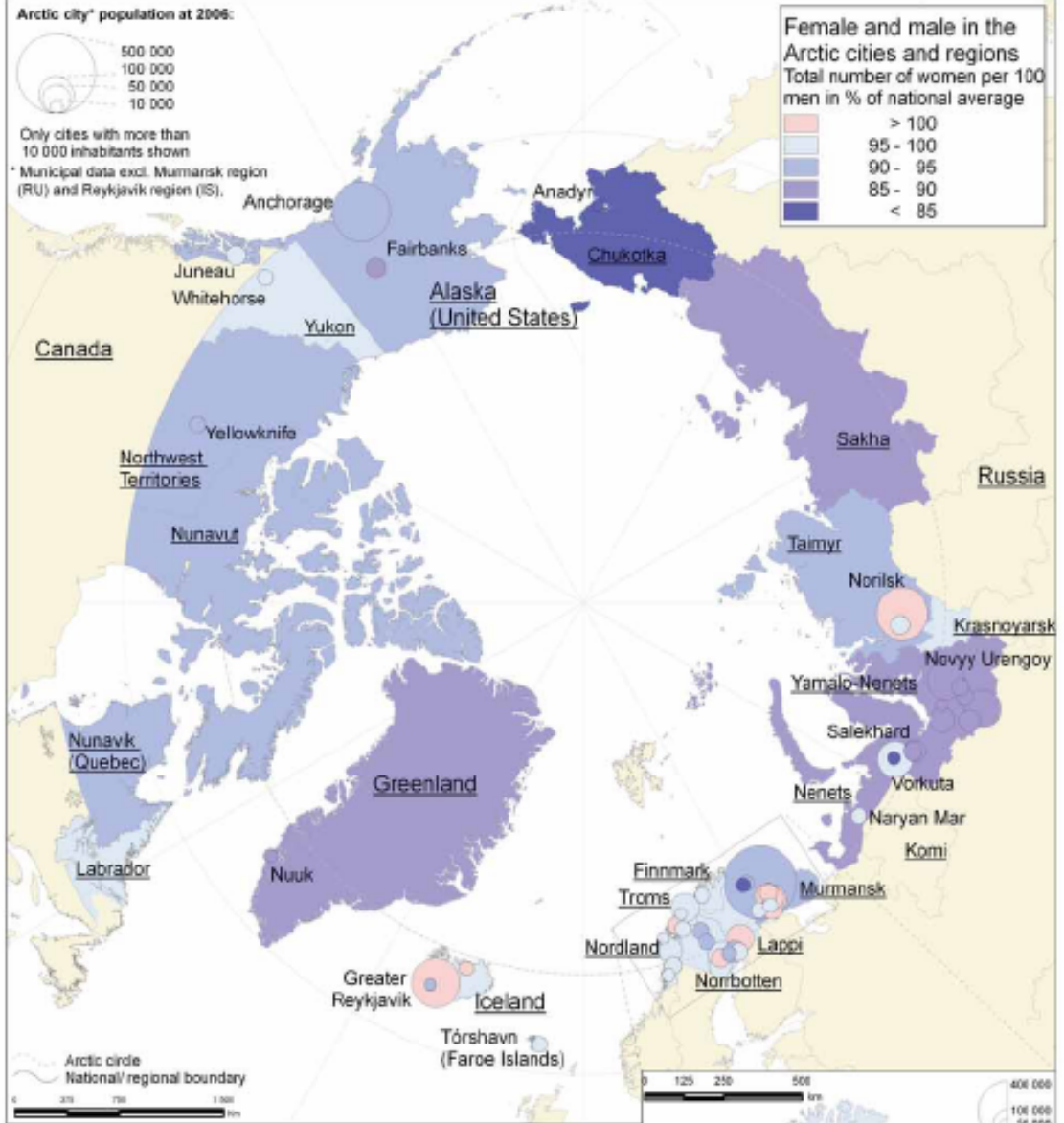
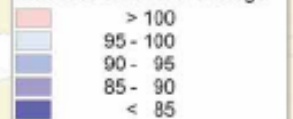
Arctic city* population at 2006:



Only cities with more than 10 000 inhabitants shown

* Municipal data excl. Murmansk region (RU) and Reykjavik region (IS).

Female and male in the Arctic cities and regions
Total number of women per 100 men in % of national average



Cities and Regions in the Arctic 2006

Arctic region defined as in Arctic Human Development Report:

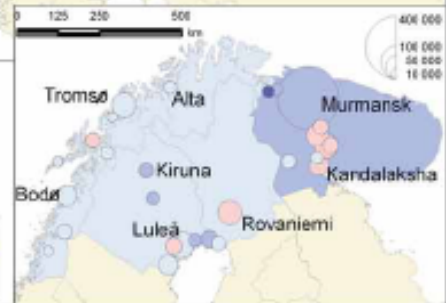
Alaska (US): CA - Yukon, Northwest Territories, Nunavut, Nunavik (Quebec), Labrador
 Greenland, Iceland, the Faroe Islands; NO - Nordland, Troms, Finnmark; SE - Norrbotten;
 FI - Lappi; RUS - Murmansk, Nenets, Vorkuta (Komi), Yamalo-Nenets, Norilsk & Igarka (Krasnoyarskiy Krai), Taimyr, Sakha (13 northernmost subregions), Chukotka

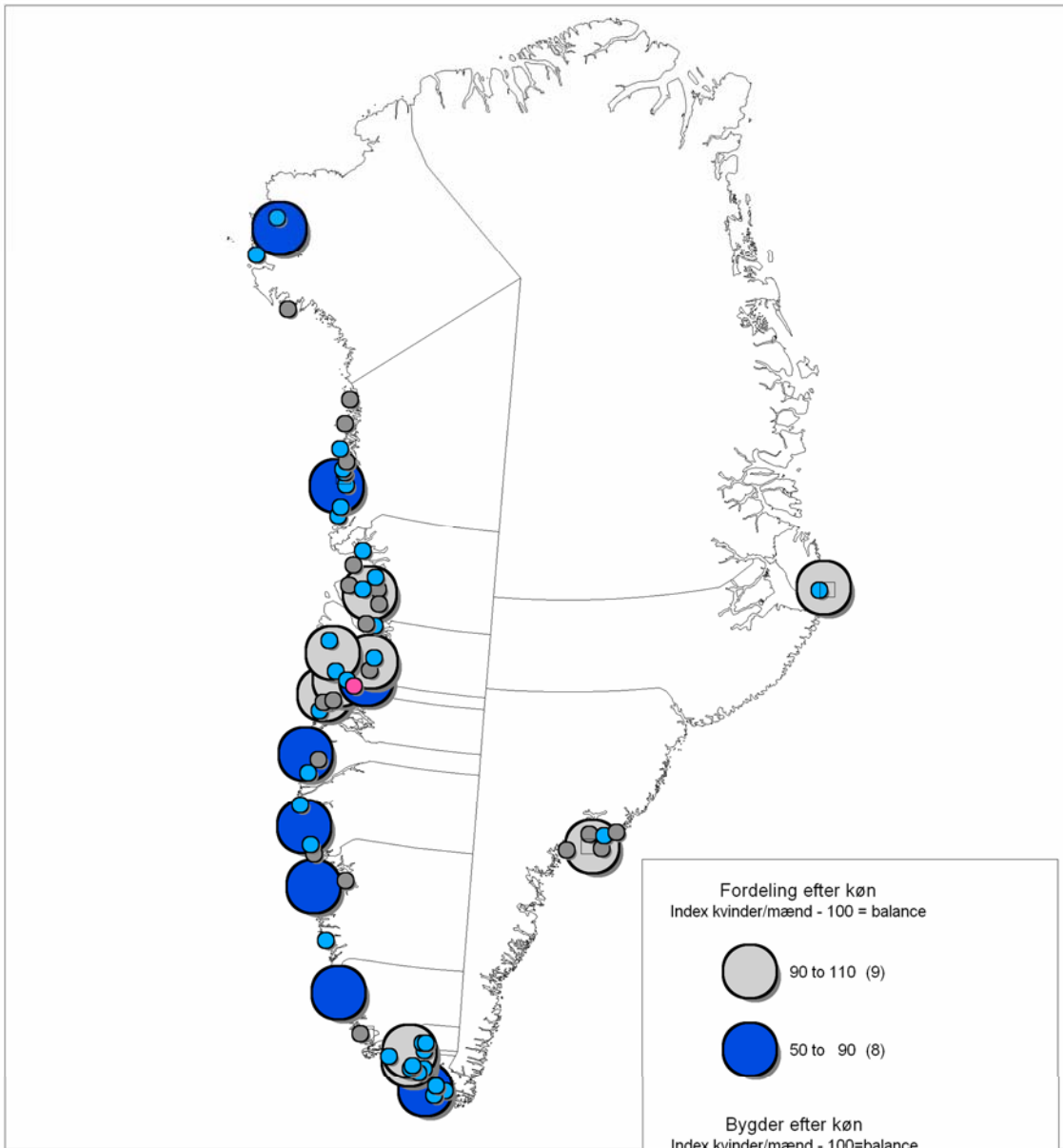
Data source: National statistical institutes

Gender data: 2006, RUS 2002 - For Chukotka, Krasnoyarskiy kray, Taimyr and Yamalo-Nenets only
 total number urban population in region available



NORDREGIO
 Nordic Centre for Spatial Development



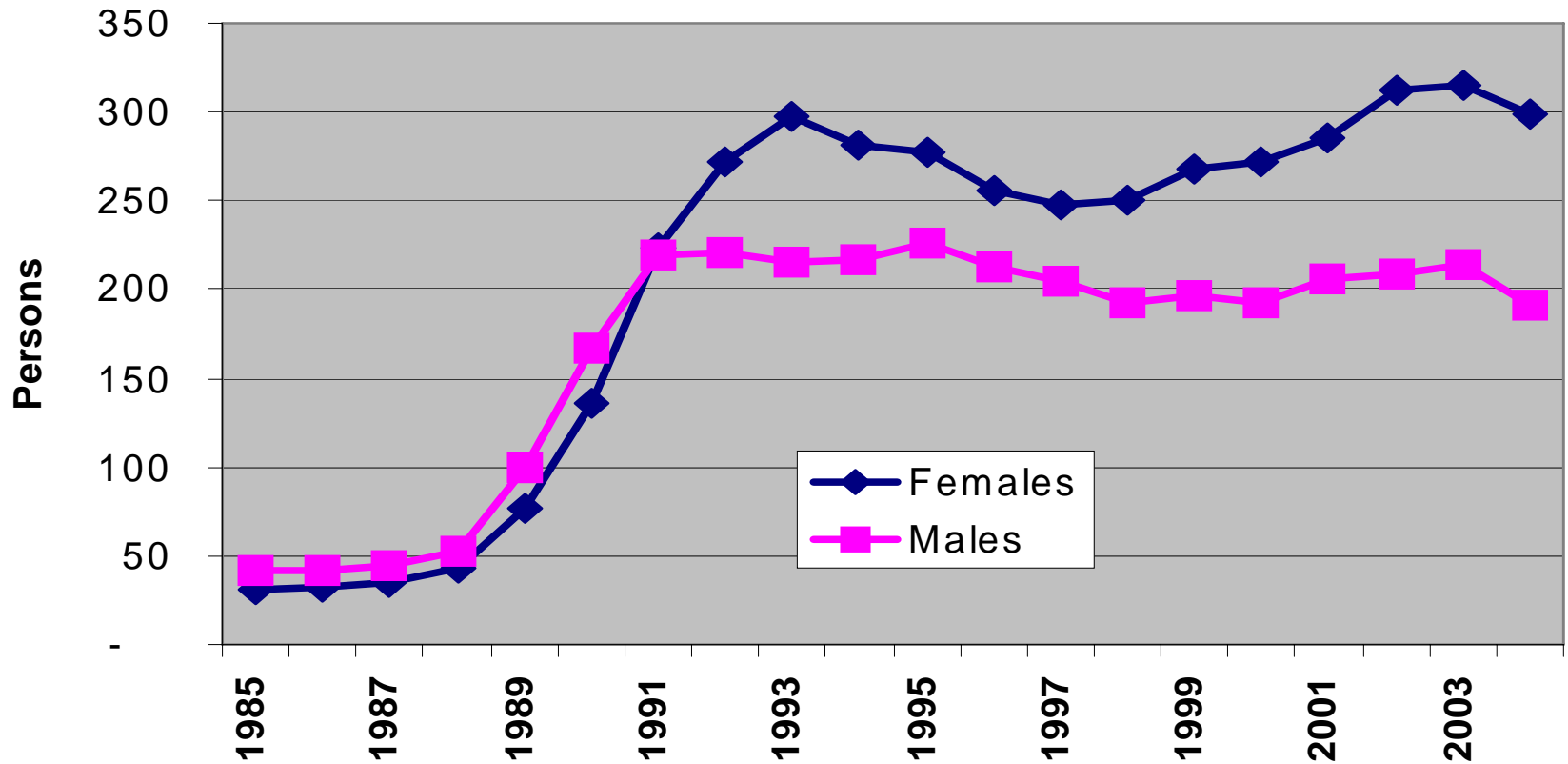


Migration

- **These patterns can be seen related to a number of gender related differences in aspirations and approaches to changes**
- **First of all in relation to the question of work and work related activities**
- **The perception of customary male activities related to renewable and non-renewable resource exploitation seems to be “sticky”**
- **Females tend to be much more open to changes**
- **Males are path-dependent, tend to have difficulties in accepting other paths**

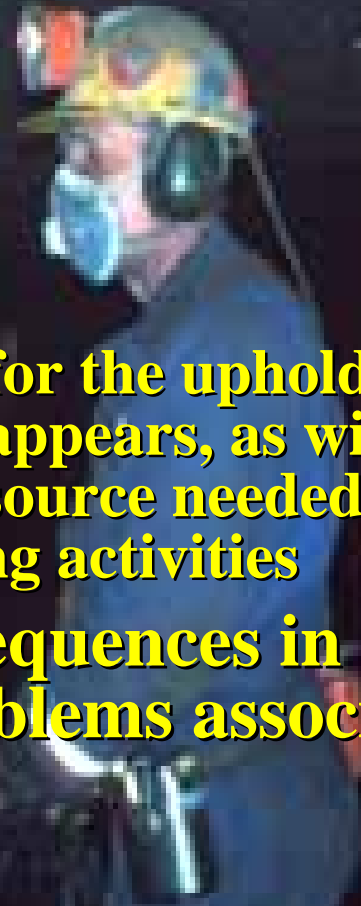
Education

Persons finished education



Consequences

- **The migration trends have a lot of implications for community life, influencing**
 - **The opportunities to marriages**
 - **Maintaining family life**
 - **Family structures**
 - **Cultural continuity**
 - **A key income sources necessary for the upholding of renewable resource activities disappears, as wives wage income often seems to be such a source needed for investments in hunting and fishing activities**
- **Has a number of indirect consequences in relation to village social and health problems associated with unmarried young men.**



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 - **”One size does not fit all!”**
 - **It is necessary to plan for the non planable!**
 - **Beware of Women as a decisive factor in the future development**

Thank you for your attention

