

Greenlandic Experiences with Mining Operations: Contrasting FIFO-strategies with Flexible Settlements

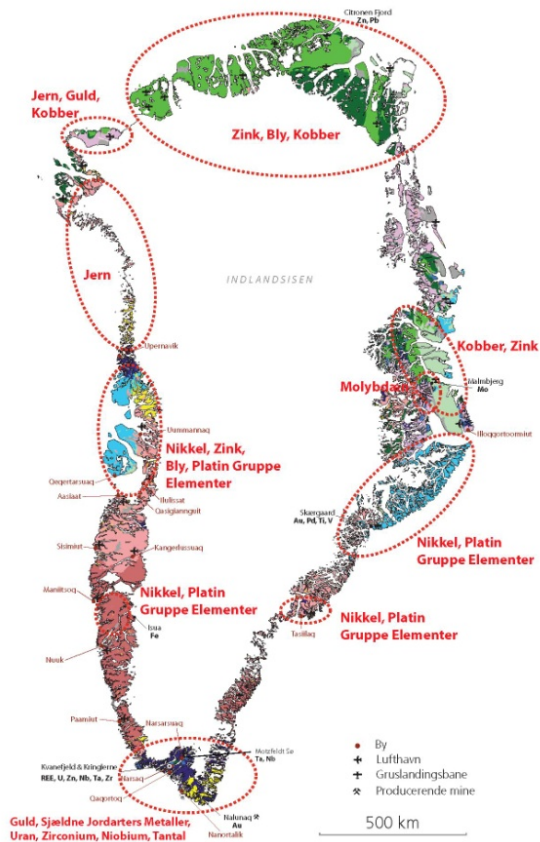
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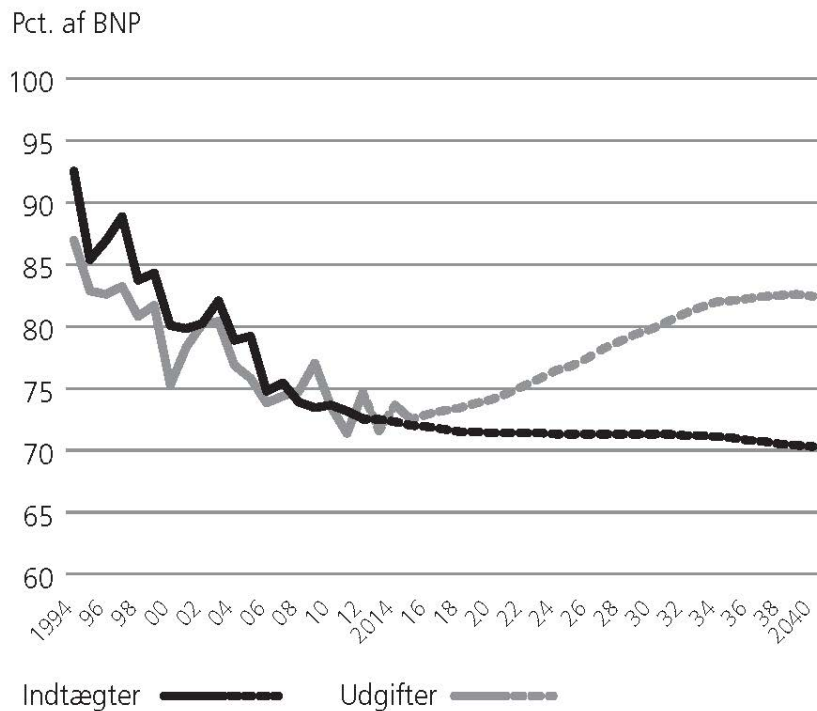
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Minerals in Greenland



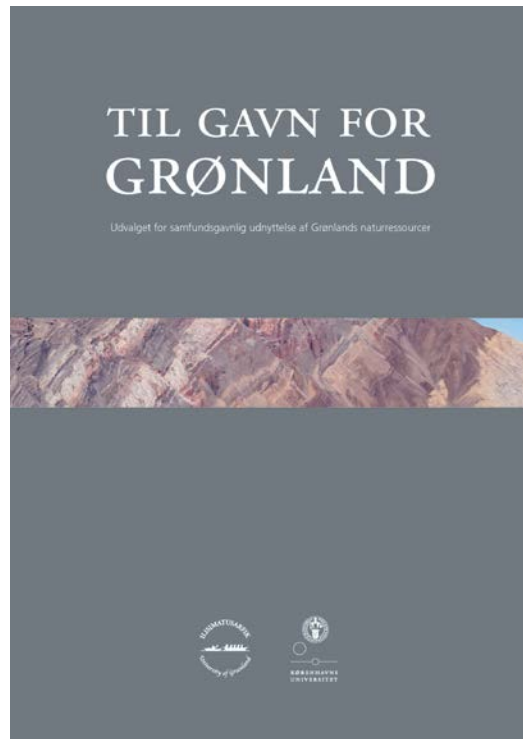
- despite the dominant role of fishery for exports and the importance of hunting for subsistence, focus has been on
- commercial exploitation of minerals, energy and oil
- recently resulting in abandoning the zero-tolerance policy on uranium

Greenland's deficit challenge



- government costs will continue to grow
- more than export incomes from fishery and tourism
- a result of the self-rule agreement and liberalisation of business and trade

'To the benefit of Greenland'



- five scenarios present the harsh reality of expecting large scale mining to solve the deficit
- how is mining industry, government and community represented / conceived of?
- 1/2 million Can \$ a year in state subsidies from Denmark
- 15-25 mining operations needed

Mining experiences in Greenland – I

- Ivittuk: a Danish enclave owned by the Øresund company producing cryolite
- at first, workers from Greenland not allowed
- ore crucial to the US WWII engagement in Greenland, but emptied in the 1960s



Mining experiences in Greenland – II

- example of local adaptation: coal mine in Qullissat – closed 1972
- second largest town
- origin of the workers movement and claim for independence
- integrated: hunting, fishing, mining



Mining experiences in Greenland – III

- Maarmorilik (Black Angel) zink and led in operation 1973 to 1990
- FIFO organized with attempted little interaction with local community
- local conflicts: ships breaking sea ice
- intensive work periods, migrating worker and barrack culture
- strike in 1977 led to removing miners (supported by police)
- huge pollution from deposits



Mining experiences in Greenland – IV

- Nanulaq gold mine, small, in operation 2004 to 2013
- engaged in training and employing Greenlanders
- huge problems with keeping trained workers for longer periods of time
- 10 hours a day for 3 weeks
- wage labor as temporary money source



Asymmetries and adaptive capacity

- basic asymmetry exist in the knowledge about mining practices, impacts, and regulation
- mining companies are global operators with limited interest in communicating their experiences
- Greenland government has limited capacity and is dependent on consultancy also used by the companies
- the adaptive capacity of the population is crucial, but limited – despite lasting debates, long term strategies have not been developed

The black-box: mining rationales

- stronger local and regulatory capacity needed to ask critical question to social impacts and frame cooperation
- SIA guidelines are weak and tend to focus on employment
- demands concerning the responsibility of mining companies when it comes to:
 - social inclusion,
 - working conditions, and
 - close down procedures
- the social license to operate must become real

Modes of mining operation

- FIFO, fly-in-fly-out is increasingly mining companies' preferred modes of operation
- gives access to a larger pool of workers and specialists, control over the facilities, intensive work periods eventually around the clock and control over the workforce
- limits social responsibility and family activities
- temporary and flexible (eventual long term) settlement strategies is a relevant alternative

Lessons from other places? - I

- Kiruna iron mine in northern Sweden
- state controlled and strong focus on local community
- long term engagement as part of Swedish resource strategy
- welfare state model?



Lessons from other places? - II

- Red Dog mine in Alaska
- exceptionally rich copper ore and strong land claims
- Nana corporation represent locals and fund education, innovation, entrepreneurship and investments
- quite some outmigration and commercial perspective!



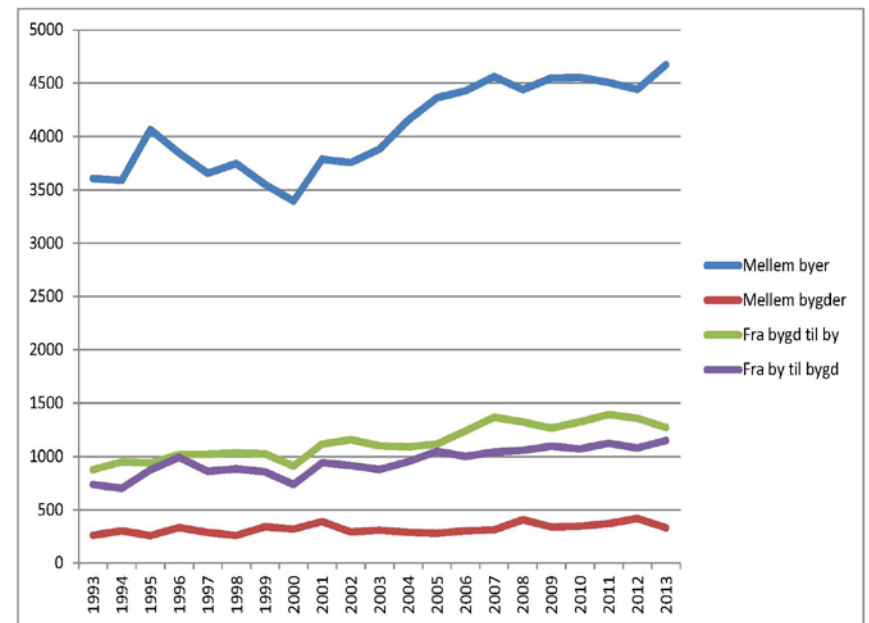
New Ruby mine as experiment

- the company developed 3 scenarios concerning the labour force policy in relation:
 - local settlement connection,
 - FIFO solution, or
 - a combination
- SIA focused on employment and local investment
- not work practices, education
- what would make mining feasible for both parties?



Competences and mobility

- quite high mobility in Greenland due to economic island operations
- 1 out of 10 each year
- expensive infrastructure
- lack of competences make vocationally trained workers valuable
- training responsibility?
- social priorities?



Influence, jurisdiction and community

- land use based on temporary permits, land cannot be owned
- government manages the underground and has the right to give permits
- huge difference from local communities as owner of infrastructures and institution or company owned based on licenses and legislation
- alternatives: barracks and FIFO or flexible settlements that support social structures and communities
- settlement mobility instead of personal mobility