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## A Melting Greenland Weighs Perils Against Potential

全球变暖对格陵兰是福是祸

By ELISABETH ROSENTHAL October 08, 2012

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NARSAQ, Greenland —

As icebergs in the KayakHarbor pop and hiss while melting away, this remote Arctic town and its culture are also disappearing in a changing climate.

格陵兰岛纳萨克——随着皮艇港(Kayak Harbor)的冰山在融化过程中发出嘶嘶的响声 这座偏远的北极小镇和它的文化 也正在随着气候变化而消失

Narsaq's largest employer, a shrimp factory, closed a few years ago after the crustaceans fled north to cooler water. Where once there were eight commercial fishing vessels, there is now none.

纳萨克最大的用工企业 一家虾厂 几年前倒闭了

原因是虾蟹都逃往了北方更寒冷的水域 这里曾一度有八艘商业捕鱼船 现在只剩一艘了

As a result, the population here, one of southern Greenland's major towns, has been halved to 1,500 in just a decade. Suicides are up.

因此 作为格陵兰岛南部主要城镇之一 纳萨克的人口在短短十年中降至1500 减少了一半 自杀率也出现上升

Andrew Testa for The New York Times

格陵兰岛的一个渔民驾船驶过正在融化的冰山

"Fishing is the heart of this town," said Hans Kaspersen, 63, a fisherman.

"Lots of people have lost their livelihoods."

"捕鱼是这个小镇的核心 "今年63岁 的卡斯佩森(Hans Kaspersen)说 "很多人失去了生计 "

But even as warming temperatures are upending traditional Greenlandic life, they are also offering up intriguing new opportunities for this state of 57,000 — perhaps nowhere more so than here in Narsaq.

尽管逐渐升高的气温正在颠覆着格陵兰人传统的生活方式 但是气温升高也为这个只有5.7

这种机遇在纳萨克可能最为明显

Vast new deposits of minerals and gems are being discovered as Greenland's massive ice cap recedes, forming the basis of a potentially lucrative mining industry.

随着格陵兰岛广袤的冰盖逐渐消融 人们发现了储量丰富的新矿产和宝石 这为潜在利润巨大的采矿业奠定了基础

One of the world's largest deposits of rare earth metals —

essential for manufacturing cellphones, wind turbines and electric cars —

sits just outside Narsaq.

全球最大的稀土金属矿藏就坐落在纳萨克城外不远处 稀土金属在生产手机 风力涡轮机和电动汽车时必不可少

This could be momentous for Greenland, which has long relied on half a billion dollars a year in welfare payments from Denmark, its parent state. Mining profits could help Greenland become economically self sufficient and render it the first sovereign nation created by global warming.

对格陵兰岛而言 这可能具有重大意义 很长时间以来 格陵兰岛一直依赖其母国丹麦每年拨付的5 采矿利润可能会帮助格陵兰岛实现经济上的自给自足 成为第一个因全球变暖而成立的主权国家

"One of our goals is to obtain independence," said Vittus Qujaukitsoq, a prominent labor union leader.

知名工会领袖维图斯·奎奥基茨克(Vittus Qujaukitsoq)说 "我们的目标之一是取得独立 " But the rapid transition from a society of individual fishermen and hunters to an economy supported by corporate mining raises difficult questions. How would Greenland's insular settlements tolerate an influx of thousands of Polish or Chinese construction workers, as has been proposed? Will mining despoil a natural environment essential to Greenland's national identity — the whales and seals, the silent icy fjords, and mythic polar bears? Can fishermen reinvent themselves as miners?

然而 把一个由个体渔民和猎人组成的社会 迅速转变为由企业采矿支撑的经济体 也引发了一些难题 比如 格陵兰岛上与世隔绝的定居点 如何承受计划招徕的数千名波兰或中国建筑工人 采矿是否会破坏格陵兰岛的国家形象 鲸 海豹 寂静的冰川海湾 以及神秘的北极熊 所不可或缺的自然环境 渔民们能够把自身重塑成矿工吗

"I think mining will be the future, but this is a difficult phase," said Jens B. Frederiksen, Greenland's housing and infrastructure minister and a deputy premier.

"It's a plan that not everyone wants. It's about traditions, the freedom of a boat, family professions."

"我认为采矿就是我们的未来 但现在是一个艰难的阶段 "格陵兰住房与基础设施部长 副总理延斯·弗雷德利克森(Jens B. Frederiksen)说 "这并不是一个所有人都赞成的计划 它会涉及传统 驾船的自由 以及代代相传的职业 "

The Arctic is warming even faster than other parts of the planet, and the rapidly melting ice is causing alarm among scientists about sea-level rise. In northeastern Greenland, average yearly temperature have risen 4.5 degrees in the past 15 years, and scientists predict the area could warm b

y 14 to 21 degrees by the end of the century.

北极变暖的速度比地球上其他任何地方都快 而迅速融化的冰川引起了科学家对海平面上升的警觉 过去15 格陵兰岛东北部的年均气温上升了4.5 而科学家预测 到本世纪末 该地区气温会升高14 21

Already, winter pack ice that covers the fjords is no longer stable enough for dog sledding and snowmobile traffic in many areas. Winter fishing, essential to feeding families, is becoming hazardous or impossible.

在很多地区 冬季覆盖在峡湾里的浮冰已经不够稳固 狗拉雪橇和摩托雪橇都无法通行 冬季捕鱼是为很多家庭提供食物的重要手段 但现在却变得很危险 甚至不可能了

It has long been known that Greenland sat upon vast mineral lodes, and the Danish government has mapped them intermittently for decades. Niels Bohr, Denmark's Nobel Prize-

winning nuclear physicist and a member of the Manhattan Project, visited Nar saq in 1957 because of its uranium deposits.

格陵兰岛地下蕴藏着巨大的矿藏这一点久为人知 几十年来 丹麦政府已经断断续续地绘制了这些矿藏的分布图 参与过曼哈顿计划(Manhattan Project)的丹麦核物理学家 诺贝尔奖得主尼尔斯·玻尔(Niels Bohr)曾在1957 原因是这里有铀矿藏

But previous attempts at mining mostly failed, proving too expensive in the inclement conditions. Now, warming has altered the equation.

然而 之前的开采尝试几乎都失败了 事实证明在严酷的环境下采矿 成本过于高昂 如今气候变暖让这个等式发生了变化

Greenland's Bureau of Minerals and Petroleum, charged with managing the boom, currently has 150 active licenses for mineral exploration, up from 20 a decade ago. Altogether, companies spent \$100 million exploring Greenland's deposits last year, and several are applying for licenses to begin construction on new mines, bearing gold, iron and zinc and rare earths. There are also foreign companies exploring for offshore oil.

负责对开发热潮进行管理的格陵兰矿产与石油管理局(Bureau of Minerals and Petroleum)目前发放的有效的矿产勘探许可证有150 而十年前仅为20 去年 各企业总计投入了1 有几家公司正在申请在新矿藏进行建设的许可证 这

些新矿蕴藏着金 铁 锌和稀土 也有一些外国公司在勘探近海石油

"For me, I wouldn't mind if the whole ice cap disappears," said Ole Christiansen, the chief executive of Nunam Minerals, Greenland's largest homegrown mining company, as he picked his way along a proposed gold mining site up the fjord from Nuuk, Greenland's capital.

"As it melts, we're seeing new places with very attractive geology."

“就我而言 我不介意整个冰盖都消失”格陵兰岛最大的本土矿业公司NunamMinerals首席执行官奥勒·克里斯蒂安森(Ole Christiansen)说 他正从格陵兰岛首都努克沿着峡湾前往一处提议的金矿开采地 “随着冰盖的融化 我们看到了地貌特征更引人入胜的新地方”

The Black Angel lead and zinc mine, which closed in 1990, is applying to reopen this year, said Jorgen T. Hammeken-

Holm, who oversees licensing at the country's mining bureau,

“because the ice is in retreat and you're getting much more to explore.”

在格陵兰矿务局负责许可证发放的官员约尔延·T·哈梅肯-霍尔姆(Jorgen T. Hammeken-

Holm)表示 1990 (Black Angel)铅锌矿 正在申请今年重新开矿 她

说 “因为冰川正在消退 可供勘探的地方越来越多了”

The Greenlandic government hopes that mining will provide new revenue. In granting Greenland home rule in 2009, Denmark froze its annual subsidy, which is scheduled to be decreased further in the coming years.

格陵兰政府希望采矿能带来新的收入 2009 丹麦允许格陵兰实行地方自治 并将冻结给格陵兰岛拨付的年度补贴 根据安排 补贴金额会在接下来的几年里进一步减少

Here in Narsaq, a collection of brightly painted homes bordered by spectacular fjords, two foreign companies are applying to the government for permission to mine.

在纳萨克当地 一片房屋涂着明亮的颜色 不远处就是壮观的峡湾 两家外国公司正在向政府申请采矿许可

“This is huge; we could be mining this for the next 100 years,” said Eric Sondergaard, a geologist with the Australian-

owned company Greenland Minerals and Energy, who was on the outskirts of Narsaq one day recently, picking at rocks on a moon-

like plateau rich with an estimated 10.5 million tons of rare earth ore.

澳大利亚所有的格陵兰矿产和能源公司(Greenland Minerals and Energy)的地质学家埃里克·森诺高(Eric Sondergaard)前不久说 “这儿储藏丰富 我们可能未来100

“当时 他正在纳萨克郊外一个月亮型的高原上反复检查岩石 据估计 这个高原蕴藏着1050

That proximity promises employment, and the company is already schooling some young men in drilling and in English, the international language of mine operations. It plans to build a processing plant, a new port and more roads.

(Greenland currently has none outside of settled areas.) Narsaq's tiny airport, previously threatened with closure from lack of traffic, could be expanded. A local landlord is contemplating converting an abandoned apartment block into a hotel.

由于临近矿藏 采矿业在这里提供了就业机会 这家公司已经开始教一些年轻人钻孔和英语了 英语是采矿作业使用的国际语言 公司计划修建一座加工厂和一座新港口 还打算多修些公路 目前 在格陵兰岛上的定居点以外还没有公路 纳萨克那个小机场过去因为旅客太少 差一点被关闭 但现在可能还会扩建 当地的一名房东正盘算着把一处闲置的公寓楼改造成旅馆

“There will be a lot of people coming from outside and that will be a big challenge since Greenlandic culture has been isolated,” said Jasper Schroder, a student home in Narsaq from university in Denmark.

在丹麦一所大学就读的大学生雅斯佩尔·施罗德(Jasper Schroder)家在纳萨克 他说 “会有很多外国人来 因为格陵兰岛的文化一直都很孤立 这会是一个很大的挑战 ”

Still, he supports the mine and hopes it will provide jobs and stem the rash of suicides, particularly among his peers; Greenland has one of the highest suicide rates in the world.

“People in this culture don’t want to be a burden to their families if they can’t contribute,” he said.

但他还是支持采矿 并且希望采矿业能提供工作机会 遏止草率的自杀事件 尤其是他的同龄人的自杀 格陵兰是全世界自杀率最高的地方之一 他说 “生活在这种文化中的人 如果不能为家庭做出贡献 就不想成为家人的负担 ”

But not all are convinced of the benefits of mining.

“Of course the mine will help the local economy and will help Greenland, but I’m not so sure if it will be good for us,” said Dorothea Rodgaard, who runs a local guesthouse. “We are worried about the loss of nature.”

然而

不是所有人都相信采矿会带来好处 在本地经营着一家家家庭旅馆的多罗特娅·罗德高(Dorothea Rodgaard)说 “当然 采矿会有助于本地的经济 也有助于格陵兰 但它是否对我们有利 我就不是那么确定了 我们担心自然环境的损失 ”