

Article

Benefit Sharing in the Arctic: A Systematic View

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Abstract: Benefit sharing is a key concept for sustainable development in communities affected by the extractive industry. In the Arctic, where extractive activities have been growing, a comprehensive and systematic understanding of benefit sharing frameworks is especially critical. The goal of this paper is to develop a synthesis and advance the theory of benefit sharing frameworks in the Arctic. Based on previously published research, a review of literature, a desktop analysis of national legislation, as well as by capitalizing on the original case studies, this paper analyzes benefit sharing arrangements and develops the typology of benefit sharing regimes in the Arctic. It also discusses the examples of various regimes in Russia, Alaska, and Canada. Each regime is described by a combination of principles, modes, mechanisms, and scales of benefit sharing. Although not exhaustive or entirely comprehensive, this systematization and proposed typologies appear to be useful for streamlining the analysis and improving understanding of benefit sharing in the extractive sector. The paper has not identified an ideal benefit sharing regime in the Arctic, but revealed the advantages and pitfalls of different existing arrangements. In the future, the best regimes –in respect to sustainable development would support the transition from benefit sharing to benefit co-management.

Keywords: benefit sharing; extractive industries; Arctic; corporate social responsibility; social license to operate

1. Introduction

Benefit sharing is formally defined as the distribution of monetary and non-monetary benefits generated through the resource extraction activity [1,2]. Globally, benefit sharing offers means to peaceful co-existence between indigenous/local communities and extractive industries. Ultimately, it aims to facilitate turning the resource “curse” into a developmental asset [3]. The concept of benefit sharing was formulated in the Convention on Biological Diversity (CBD) in 1992 and further developed in the 2010 Nagoya Protocol, a supplementary agreement to the CBD. The concept highlights the necessity of sharing the benefits that arise from the extraction of natural resources with local actors who live adjacent to resource extraction areas and provide companies access to the resources [4].

Central to benefit sharing are the issues of social justice and inequality between resource providers and those who commercialize these resources [5]. Benefit sharing represents one aspect of corporate social responsibility (CSR), and can play a major role in reducing the gap between local residents and global beneficiaries [6]. Ideally, benefit sharing fosters sustainability in local communities and facilitates the long-term economic development in remote Arctic regions [7]. Although companies often commit to benefit sharing in their corporate policies, the implementation varies significantly. The development in areas where companies and indigenous people co-exist typically falls into the

extractivist model, in which actors, external to the local/indigenous communities, make major decisions about using land and natural resources [8,9]. This leads to failure in delivering fair and equitable benefit sharing arrangements. This paper makes an effort to analyze existing benefit sharing frameworks in an attempt to find ways that would lead to sustainability of local indigenous communities.

1.1. Benefit Sharing and Social License to Operate

The concept of social license to operate (SLO) appeared in the 1990s, calling companies to act beyond legal compliance, addressing stakeholder concerns and representing a kind of “soft” regulation initiated by local communities [10] (p. 138). Today, SLO has become complementary to legal compliance and it is socially recognized that companies have to gain SLO in order to avoid risks and minimize conflicts [11]. Companies themselves acknowledge that SLO became part of their corporate social responsibility (CSR) policies, ensuring reputational benefits [12–14]. The extractive industry is given a social license to operate when its activities are performed in line with all requirements pertaining to resource extraction and are accepted by society. Society is understood broadly, assuming different kinds of stakeholders, including local/indigenous communities as well as other local residents, who are always key actors in granting SLO to the companies [14].

SLO represents an intangible agreement built on relationships between the company and local community about the project initiated by the extractive industry and involves intense negotiations between the interested parties. In the course of negotiations, the parties adapt to each other’s interests and values. In these negotiations, sustainability is a major concern for local communities as they make an effort to integrate social, environmental, and economic issues in the planning of a development project. SLO has direct linkages with both benefit sharing and Free Prior and Informed Consent (FPIC), which is part of the 2007 UN Declaration on the Rights of Indigenous peoples. However, if FPIC is granted prior to the start of the project, SLO does not end with project approval by the community; it can be lost, gained, and renegotiated over the course of the mineral extraction [11]. SLO is context bound and community specific depending on community needs, expectations, culture, and values [14] (p. 584). Local benefits and local community involvement in the decision-making processes represents part and parcel of SLO. Often local support for the extractive industry project is granted in case sufficient benefits are delivered to communities [3,15–17].

Therefore, benefit sharing is an important constituent of SLO [15,18]. While the social license to operate remains to be a broad, metaphorical term [19], the benefit sharing concept is more tangible as it encompasses the distribution of monetary and non-monetary benefits generated through a resource extraction activity [1]. Differences in benefit sharing arrangements or regimes depend on international expectations imposed on the companies by investors, existing legislation, prevalent practices, regional contexts, and the level of empowerment of indigenous and local communities.

1.2. Fair and Equitable Benefit Sharing

The term “fair and equitable benefit sharing” is rooted in international conventions on biodiversity, international human rights, maritime law, and the right to science [20,21] (p. 353). Today, it is a normative concept in the field of natural resources and benefit sharing agreements [22,23]. Fairness and equitability in benefit sharing are required by EO100TM (Equitable Origin’s EO100TM Standard for Responsible Energy Development), a private standard of voluntary certification. However, in the oil sector there are no companies that comply with the standard and are certified by Equitable Origin.

That being said, benefit sharing agreements, in order to be part of the SLO, must be fair, equitable (both regarding procedure and distribution), and just. These characteristics cannot be only achieved by providing damage compensations to the communities [20,21,24]. Benefit sharing is expected to contribute to the local communities’ welfare and enhance the residents’ control over their lives [25]. In some cases, the state can control the process of benefit sharing by means of sovereign wealth funds, land lease agreements, or obligatory social investments [12] (p. 10). Additionally, there are voluntary companies’ initiatives, which can be subdivided into philanthropic activities, such as supporting

cultural festivities, revitalization of languages or sports, and strategic investment in education and training. For example, investments in education in specialties important to the oil and gas industry; trainees then would become potential employees of the company.

In this paper we work to theoretically enrich the concept of benefit sharing, as it applies to the Arctic extractive industries, and describe regimes, highlight their principles, modes and mechanisms. Finally, drawing on our previous studies and the literature, we discuss examples of benefit sharing regimes in different parts of the Arctic: Russia, the United States, and Canada.

1.3. Towards a Conceptual Framework of Benefit Sharing in the Arctic

Benefit sharing arrangements vary across regions, industries and political jurisdictions. In the Arctic, extractive companies establish and implement a multitude of benefit sharing practices that often bring together global standards, national demands, regional traditions and local idiosyncrasies. It is inherently difficult to classify and systematize these diverse practices. However, a growing volume of studies of benefit sharing in Arctic communities provides an opportunity to reflect and synthesize our knowledge on these arrangements or benefit sharing regimes [8,20–22,26–28]. This paper describes these regimes in respect to principles, models, mechanisms, and scales/targets of benefit sharing in order to provide more systematic and focused, yet nuanced, insights about benefit sharing in the Arctic.

2. Materials and Methods

The goal of this paper is to accomplish synthesis and theory building of benefit sharing frameworks in the Arctic. It is based on previously published research, analysis of literature, a desktop analysis of national legislation and regulations, as well as on the authors' own case studies conducted in the Russian North and the North Slope of Alaska. In all original studies the same methodology was used involving a combination of semi-structured interviews, participant observation, and document analysis. Interviews were conducted with extractive companies' representatives, indigenous residents, state officials from different levels of government, and other stakeholders. For each category of informants, a separate interview guide was developed with questions related to benefit sharing. The interviews were transcribed, and coded to highlight relationships between companies and communities, attitudes toward development and benefit sharing arrangements. Among the case studies used in this paper, in Nenets Autonomous Okrug (NAO) field work has been done in Naryan-Mar, and small indigenous settlements: Nelmin-Nos, Horei Ver, Kolguev Island and Krasnoe during four expeditions between 2011 and 2017 (148 informants) [16,29]. In Khanty-Mansi Autonomous Okrug (KMAO) field work was done in Surgut, Khanty-Mansiysk, Beloyarsk and 29 indigenous family enterprises in the Numto Nature Park (51 informants) [30]. In Yamalo Nenets Autonomous Okrug data were collected in Summer 2017 at Salekhard, Jar-Sale and Seikha (39 informants). On Sakhalin Island research was done in 2013 and 2015 in Yuzhno-Sakhalinsk, Okha, Nogliki and small indigenous settlements, e.g., Nekrasovka, Val, Veni (63 informants) [3]. In Alaska research has been carried out during several research trips to the U.S. between 2015 and 2018. Three research expeditions (June 2016, August–September 2017 and July 2018) were organized to the three settlements on the North Slope of Alaska: regional center Utqiagvik, and villages of Nuiqsut and Kaktovik. Data collection also took place at indigenous peoples' gatherings in Fairbanks and Anchorage, as well as at the company headquarters of ConocoPhillips, ExxonMobil and Shell in Houston (January–February 2018, 107 informants). The case of Nunavik, used to illustrate the benefit sharing regime prevalent in the Canadian Arctic, was described based on the literature review.

3. Results: Systematic View and Theoretical Synthesis

3.1. Benefit Sharing Regimes

A benefit sharing regime can be defined as a system of relationships, principles, procedures and actions, formal and informal, that describe benefit sharing arrangements and processes in a given

region, community or specific extractive project. Each benefit sharing regime is complex and embedded in national and local practices, traditions, legacies, power relations, degrees of indigenous, and local people's empowerment, as well as in company management, ownership, level of internationalization, etc. We propose to consider benefit sharing regimes by examining their key components (Table 1), which together describe prevalent benefit sharing arrangements and processes.

Table 1. Components of a benefit sharing regime.

Principle	Foundational principle of benefit sharing that define the origin and nature of the benefits
Mode	Interactions in benefit sharing processes resulting in institutionalized benefit distribution arrangements and practices
Mechanism	Financial, legal, and procedural ways used to operationalize benefit sharing
Scale/Target	Extent and inclusiveness of targeted beneficiaries

3.2. Benefit Sharing Principles

Benefit sharing principles are the foundational principles of benefit sharing that define the nature of the benefits (Table 2). In other words, a principle formulates the logic under which the benefits exist. The principle of compensation implies that the benefits are distributed to compensate for a past or future damage or loss of value resulting from extractive activity. This could be a compensation for land, pollution, loss of access to resources, etc. In either case, the benefit is a compensation by an extractive company designed to “pay for” the negative consequences of their operation. This principle most often entails environmental and socio-economic assessment of impacts, which are then monetized. The targets and mechanisms of benefit sharing under this principle vary, but most typically once the assessment is completed, a compensation is a one-way process, where a company dispenses the payment and, to an extent, absolves itself from further responsibilities, while a community (or a household) is left to identify the best use of the received benefit to alleviate the damage.

Table 2. Benefit sharing implementation by benefit-sharing principle.

Benefit Sharing Principle	Examples of Benefits
Compensation	Individual payments Payments to indigenous family enterprises Community/administrative unit funds Budget subsidies and supplements
Investment	Direct employment Local subcontracting Grants to local organizations or family enterprises Loans to businesses Support for training and education Building community facilities (e.g., stadiums, swimming pools, houses of culture, schools and kindergartens)
Charity	Donations Sponsorships Financial assistance and aid Awards

In contrast, investment as a benefit sharing principle aims to support or stimulate current and future activities, capacities and opportunities in a community affected by extractive activities. It targets the priorities identified by the receiving party or negotiated with the company (and sometimes the government). It may include payments, but also investment in training and education, developing infrastructure, providing employment opportunities for the residents, contracting local businesses, etc. Metaphorically speaking, this principle of benefit sharing focuses on giving “a fishing rod instead of a

fish". This principle thus empowers local communities and possesses considerable procedural equity. However, it also can take paternalistic forms when a company substitutes the state by investing in infrastructure and local services.

Another principle of benefit sharing is charity. The charity principle is based on the assumption that an extractive company has no fundamental obligation to provide any benefits, but it chooses to share some profits as a matter of philanthropy and good will. This principle implies little procedural or distributional equity and may serve as a self-promotion mechanism for a developer to earn the SLO.

3.3. Modes of Benefit Sharing

Modes of benefit sharing characterize the types of interaction between an extractive industry and indigenous/local communities that result in institutionalized benefit distribution arrangements and practices. Each mode gives particular roles to certain actors (e.g., state, company, community) and employs various mechanisms to accomplish benefit sharing. Modes can be built on single or multiple benefit sharing principles. Modes are also mixed and can change over time. In practice, however, one mode typically dominates. Previous studies developed a classification of benefit sharing modes existing in the Arctic [5,31,32] and identified paternalistic, company centered social responsibility (CCSR) partnership, beneficiary, and shareholder modes.

Under the paternalistic mode the state takes the dominating role in defining and distributing the benefits. It dictates, monitors, and intervenes in companies' policies and practices towards communities. Frequently, an extractive company takes the role of the state or contributes significantly to some elements of state support to local communities and indigenous peoples. Paternalism, especially prevalent in the Russian Arctic, results partly from the failure of the state to provide sufficient services to remote communities and strong pressure on both private and public corporations to support local infrastructure and welfare. In these cases, the state identifies and negotiates with companies the community needs, and by doing so, closes the gaps in its own budget. In Russia, negotiations between governments and companies represent a long-standing practice, partly rooted in Soviet type of interactions [3,16,17,30]. In other contexts, e.g., in Alaska's North Slope, a municipal government takes a paternalistic stance fulfilling its role in welfare provision implemented in a top-down manner. Therefore, the paternalistic mode of benefit sharing eschews stakeholder engagement, disembowels both local communities, and indigenous peoples [29].

CCSR represents a mode where a company plays the central role in setting benefit sharing arrangements by adopting globally developed standards, standards of various international organizations, funding agencies or legislation. It is primarily designed to please the investors and shareholders and to earn the SLO. A company's contributions to local communities under this mode often take the form of compensation or targeted investments. However, the leading role in benefit sharing (and thus, the power) is retained by the company, and in many ways the interest of the company prevails over community needs and desires.

The partnership mode is often based on a tripartite partnership among the extractive companies, government, and indigenous communities. Partnership implies a mutually empowering process with relatively high procedural equity. The partnership mode is found in the Sakhalin Island, Russia [3,12,33] and in Alaska, among others; where state, companies, and local rights-holders (indigenous organizations/Native corporations) make joint decisions and coordinate activities on both the business (e.g., subcontracting to Native corporations) and community side (e.g., coordinate hunting, gathering, fishing). The partnership mode is well positioned to generate a targeted and concerted investment in local capacities, infrastructure and businesses and thus promote development and self-reliance in the indigenous/local communities.

The beneficiary mode of benefit sharing establishes community-oriented beneficiary organizations that act as non-profit corporations to run community services, businesses, and civic institutions. These corporations negotiate and receive benefits from extractive companies and then invest in local or extraterritorial businesses, ventures, and financial markets. Revenues are usually administered through

community funds, but distribution payments are possible on an equal basis to all beneficiaries. This mode is dominant in the Canadian Arctic.

The shareholder mode involves dividend funds and shares from for-profit regional and village indigenous corporations. Indigenous shareholders receive dividend payments. Native corporations contract with extractive companies and receive royalties from extraction on the indigenous-owned land or subsoil rights to resources and distribute them between indigenous shareholders. This mode is unique to Alaska; where, for example, the indigenous residents of the North Slope are almost always shareholders of the Arctic Slope Regional Corporation and usually hold shares in one of the village corporations, thus receiving shares (and dividends) from both.

3.4. Target Groups and Scales of Benefit Sharing

Benefits can be shared at different scales and directed towards particular groups. For example, negotiations with regional and local authorities may lead to benefits being shared at the regional level, i.e., with the entire region (province, territory, or republic, represented by the regional government. Same happens at the municipal level, when the entire municipality may be a target of benefit sharing. Alternatively, the benefits could be directed at indigenous communities, indigenous enterprises, households, and individuals. In respect to the primary target of benefit sharing, we can distinguish between benefits aimed for the entire community, selected groups and individuals.

Community benefits target the entire community, represented by a designated authority, and are shared by all community members as appropriate. Sometimes only a subset of members receives the benefit (children, elderly, poor, etc.), but eligibility is not limited, and primary recipients are defined by community needs. Examples include an investment in school buildings, roads, elderly homes, foodbanks, etc.

Sometimes benefits are selective of particular groups, where membership is limited and regulated. These benefits target a specific, selected, institutionalized group or organization, such as indigenous land claim organizations, tribes, indigenous enterprises, or other membership-based entities. Examples include trapping subsidy, support for a local indigenous organization, grant to a veteran association, etc.

Finally, individual benefits are directed at each beneficiary (or household) individually. They may entail direct compensation payments to households, dividends, wages, scholarships and travel subsidies, among other benefit types.

3.5. Benefit Sharing Mechanisms

Benefit sharing mechanisms have been defined as financial, legal, and procedural ways that are used to operationalize benefits sharing [5]. There are several key groups of such mechanisms employed in the Arctic:

Streamlined benefits are stipulated in the legislation, regulation, and tax code. Long-term contractual obligations, royalty payments, and production sharing agreements become streamlined when negotiations are over and agreements are reached. Benefit sharing is unambiguous; the implementation and distribution processes are identified and repercussions for noncompliance are prescribed.

Negotiated benefits is an eclectic group of negotiated arrangements between companies and regional, district, and municipal authorities or directly with communities or indigenous enterprises. These arrangements are often triggered by external actors, such as the state or a foreign investor. This form of benefits is most closely associated with community investment. A classic example of such benefit sharing arrangements is a direct benefit agreement, such as an Impact and Benefit Agreement.

Semi-formal benefits are a more informal “plea-and-take” system, where a company may choose to “share benefits” by responding to semi-formal requests from community actors, local authorities, or private citizens. All these benefits are informally or semi-formally negotiated, often without much transparency or public participation.

‘Trickle-down’ benefits include gains experienced by the community through general economic impacts, such as income growth, employment, increased consumer spending, new infrastructure development, etc.

Each benefit sharing mode is characterized by a combination of mechanisms, and each mechanism would entail certain implementation forms depending on what principle is utilized to construct the benefit sharing regime. Overall, it is evident, that benefit sharing regimes are complex and have multiple dimensions, variants, and overlapping characteristics.

4. Results: Case Studies of Benefit Sharing Regimes

In this part of the paper we discuss several case studies to illustrate how the systematic view of benefit sharing is manifested in different Arctic regions. As mentioned earlier, in each given case we usually observe a combination of principles, modes, mechanisms, and scales of benefit sharing. However, having a framework that can help navigate these complexities is a step forward in respect to better understanding and assessing benefit sharing arrangements. Therefore, the cases examined below do not constitute pure ideotypes of any one mode, mechanism, or principle, but illustrate benefit sharing regimes which involve elements of several modes, multiple co-existing mechanisms, principles, and scales.

4.1. Yamal-Nenets Autonomous Okrug (YNAO, Russia)

YNAO’s benefit sharing regime is based on the two principles: investment (at the regional level and through regional non-governmental organizations (NGOs) and compensatory (to reindeer herding state farms). The prevalent mode of benefit sharing is paternalistic, i.e., the state is the primary source of benefit distribution. All types of benefit sharing mechanisms are present. However, negotiated agreements concluded by the extractive companies exist only with the state and also exclude private reindeer herding enterprises.

Yamal is home to a large indigenous population and a place of intensive extraction by giant oil and gas companies, such as Gazprom, Gazprom Neft, Rosteft, and Novatek. All of these companies conduct socio-economic agreements with the regional state agencies and municipalities. Indigenous NGOs *Yamal* and *Yamal Potomkam* are active. Specifically, *Yamal Potomkam* (translated as “Yamal for the Future Generations”) is working closely with both municipalities and local indigenous villages to distribute money for different community initiatives as part of the socio-economic agreements. However, the regional government is the main decision maker on spending these funds. State-owned reindeer herding enterprises lease agricultural lands and these enterprises are receiving the bulk of compensation for land expropriation and damage (calculated using the federal methodology). There is also a regional legislation on the Traditional Territories of Nature Use (TTNU) (TTNU is a type of land use in Russia, established for the protection of the traditional way of life of indigenous peoples of Russia, Russian Federal Law on TTNU, 7 May 2001 (amended 26 June 2007. No 118-FZ)) that gives additional protections to the traditional economy. However, it is not widely practiced in Yamal: many relatively large private reindeer-herding indigenous enterprises are not designated as TTNUs. The state agencies are slow in helping reindeer herders to designate TTNUs to receive compensations. These private enterprises thus collect nothing from companies. Instead, the money from the socio-economic agreements are used for the construction of roads and village infrastructure under the municipal authority. The only exception is Novotech, as it received a loan from an international bank and is required to include local people in consultations and decision-making processes.

4.2. Nenets Autonomous Okrug (NAO, Russia)

NAO’s benefit sharing regime incorporates investment (at the regional level), compensatory (payments to reindeer herders) and charity principles. In contrast to the previous example, the benefit sharing mode has been transitioning from paternalism to CCSR. All benefit sharing mechanisms are present: streamlined, negotiated, semi-formal, and trickle-down. Because of the Khariaga Production

Sharing Agreement, more tax money stays in the area, but most extractive companies are registered outside of NAO. Agreements with the state are still broadly negotiated, but with the reindeer herders benefit sharing has become more formalized.

Several large Russian and international oil and gas companies are operating in NAO (Lukoil Komi, Rosneft, Total, and Rusvedpetro). Benefit sharing at the Okrug (regional) level is implemented through the negotiated socio-economic agreements with the governor's office. The money contributes to community investment, e.g., the building of new (or repairing existing) sports halls, kindergartens, schools, medical, recreation centers, etc. In addition to agreements at the gubernatorial level, oil companies provide support to the municipal administration. Many companies go beyond socio-economic agreements and employ the charity principle to voluntarily provide funds for cultural events, education, and other activities as part of broader social programs to earn the SLO [29].

By law, companies are required to compensate the herders for expropriated lands; these lands in NAO are designated for agriculture and leased by reindeer herders. The amount of compensation is decided through negotiations and a federally developed methodology for calculating the loss of income. The socio-economic agreements between companies and reindeer herding enterprises have always been direct and confidential. They are framed as "socio-economic partnerships," but have a compensatory nature. Oil companies are obliged to obtain consent from reindeer herders and compensate them for expropriated and damaged lands. In the early stages of resource development, the amount of compensation was mostly in-kind and only rarely monetary. In case money was given, reindeer herding enterprises were obliged to deliver reports on their spending according to the agreements. Since 2011–2012, CCSR has been slowly replacing paternalism: the relationship between the company and reindeer herders has become more direct and formalized and the compensation is calculated using a standard federal methodology with money being transferred straight to bank accounts. With these changes, the compensatory money increased and helped reindeer herding enterprises to build processing plants and slaughterhouses.

4.3. *Khanty-Mansi Autonomous Okrug—Yugra (KMAO, Russia)*

KMAO's benefit sharing regime also combines features of investment and compensatory principles. In areas with no TTNUs, the dominant benefit sharing mode is paternalistic, but in other places it is overtaken by CCSR. All mechanisms are present in Yugra, but there are some important distinctions. For example, tax money coming from Surgutneftegas stays in the region since the company is registered in KMAO, but other companies (e.g., Rosneft and Lukoil) have their tax home in Moscow. Agreements with the regional government are negotiated, but with the reindeer herders only standardized, one-size-fits-all agreements, are concluded.

Like in NAO, extractive companies negotiate annual socio-economic cooperation agreements with the governor and the municipalities. These are focused mostly on social and transportation infrastructure projects. In addition, companies construct a certain number of residential buildings with the consent of the regional authorities. The companies also provide direct charitable help for sports, educational, and medical institutions. Local residents often criticize the process of allocation of money [30].

In addition, the extractive companies in KMAO conclude standardized agreements with the reindeer herding enterprises. These agreements contain a standard set of goods which are supposed to compensate for a reduced use of land. The volume of compensation is not tied to the level of damage, so all enterprises receive the same compensation. Equal distribution of benefits to reindeer herding enterprises allows companies to cut their transaction costs. The main goal of these agreements is to comply with the legislation on TTNU, which requires compensation and consent. Under these agreements, the companies usually provide snowmobiles, outboard motors, chainsaws, fuel, and clothing. If there is no formally-designated TTNU, companies transfer funds to the budget of the district administration, who then distributes the benefits [30,34].

4.4. Partnership Mode: Sakhalin Island, Russia

The Sakhalin benefit sharing regime is largely based on the investment principle with the Russian companies focused on investments in infrastructure, while foreign co-owned oil companies engage in strategic investment in community empowerment and traditional indigenous activities. The latter is accomplished through a system of tripartite partnerships, which is the dominant mode of benefit sharing in the region. In respect to benefit sharing mechanisms, all of the groups are practiced, but the tax money stays in the region because of the production sharing agreements. Negotiated benefits are also well-established, primarily in the form of grants to indigenous communities and families.

Sakhalin Energy and Exxon Neftegaz Limited established tripartite partnerships with the indigenous peoples and the regional authorities in the mid- to late-2000s. Sakhalin Energy initiated the Sakhalin Indigenous Minorities Development Plan (SIMDP). The SIMDP supports two main foci: the Social Development Fund and the Traditional Economic Activities Support Program. The first finances healthcare, cultural, and educational projects. The second provides financial aid for specific households that allows them to buy equipment (motors, machines, boats, cars, etc.). Company representatives and public officials participate in the development and management of the SIMDP, and distribution of funds is the responsibility of the indigenous peoples. The SIMDP has been implemented in all territories populated by indigenous peoples, even in places where Sakhalin Energy does not operate. The tripartite partnership mode that Sakhalin Energy employs in benefit-sharing is considered one of the most successful in the world by the UN [35,36].

Exxon Neftegaz Limited conducted a similar type of tripartite partnership agreement with the state and indigenous peoples. However, Exxon's range of support for social programs is narrower than that of Sakhalin Energy. Both companies allow local residents to take part in the decision-making process related to distribution of funds allocated by the company. Empowerment and building capacity of indigenous communities is key in this benefit sharing arrangement [3,34,37].

4.5. Shareholder Mode: the North Slope of Alaska, USA

The Alaska North Slope benefit sharing regime is based on investment, compensation, and charity principles administered by different actors, such as: the North Slope Borough, Native villages and village corporations, oil companies, and state and federal governments. The unique mode of benefit sharing in Alaska is the shareholder mode, although it is mixed with others: the paternalistic, CCSR, and partnership modes. All types of mechanisms are also present.

In Alaska there are several layers of benefit sharing, the most essential and unique mechanism being the shareholder mode, which is twofold. On the one hand, through the Alaska Permanent Fund (Sovereign Wealth Fund), every citizen of Alaska receives a share of money from the oil income [38]. On the other hand, indigenous Alaskans are shareholders of regional and village corporations, which appeared in the framework of the Alaska Native Claims Settlement Act (ANCSA) [5]. Approximately 80,000 Alaskans are currently enrolled in Native corporations. In 1971, corporation membership was open to any resident who has at least "quarter blood" (had at least one Native grandparent), with an option to join one regional and one village corporation. Each shareholder who was born before 1971 received 100 shares. Those who were born after 1972 were supposed to inherit shares later or receive them as gifts. Further decision-making about sharing with "afterborns" differed from corporation to corporation and depended on shareholders' vote and/or board decisions. For instance, the Arctic Slope Regional Corporation (ASRC) made a positive decision on this issue, and the number of shareholders grew from 3700 at the time of establishment to 13,000 in 2018. Village corporations on the North Slope of Alaska decided not to provide shares to members born after 1972. This decision entailed intra-generational inequalities that emerged over time.

Under the stipulations of ANCSA, the Alaska regional corporations share income from resource revenues with each other. This is due to the fact that some corporations own the land rich with oil and minerals, while others do not. Seventy percent of a corporation's income coming from resource extraction on Native Alaskans' lands received via ANCSA are shared with other regional corporations

(ANCSA 7i provision). In the North Slope, the ASRC contracts with many oil companies and receives royalties from oil extraction on Native-owned land. Village corporations own the surface title to the land, receive royalties through surface-use agreements and contract oil field services from oil companies. This money is also partly distributed to shareholders. ASRC, along with the village corporations, is overseeing the mineral-rich lands and controls the development of resources by leasing mineral-rich lands to oil companies. As a result, the corporation provides jobs to its members.

Other benefits include state revenues coming from oil companies' royalties plus the production and corporate income taxes, which are partly distributed to communities via state grants and revenue sharing. The indigenous-run municipality, the North Slope Borough (which operates under the state of Alaska), is distributing money from taxation of oil infrastructure to communities. These state-led benefit sharing arrangements are top down and paternalistic. Finally, transnational corporations, such as Conoco-Phillips and ExxonMobil, pursue CCSR mixed with the partnership mode. They are committed to strategic investments in education, training, and capacity building in indigenous communities. This funding is channeled through direct sponsorship or grants to indigenous and non-indigenous nonprofits.

4.6. Beneficiary Mode: Nunavik, Canada

The benefit sharing regime in the Canadian Arctic mostly builds upon the investment principle, although compensation is also included. Canada is home to a unique mode of benefit sharing, the beneficiary mode. All mechanisms of benefit sharing are available, but Impact and Benefit Agreements (IBA) are very prevalent and most notable.

In Canada, many benefit sharing arrangements originate from the Comprehensive Land Claim Agreements (CLCA) [39]. Throughout history, most of them were signed in conjunction with implementing extractive industry projects. The CLCAs normally include a compensation for the surrendered surface rights using a per-capita formula, as well as ownership over a portion of the land surface and over a smaller portion of the subsurface. The subsurface rights and rights of sharing the resource revenue became part of the most recent CLCAs [40]. CLCAs not only bring benefits to the communities, but serve as an empowerment instrument for the implementation of indigenous peoples' rights. CLCAs establish resource co-management boards involved in the management of natural resources and Environmental Impact assessments. CLCAs are often supplemented by the self-governance policies.

To establish benefit sharing in order to obtain SLO [18], and to avoid risks and litigation processes, extractive industries sign IBAs with the indigenous organizations that represent communities affected by projects. The major aim of IBAs is to ensure benefit sharing, i.e., sharing profits, creating local jobs for Inuit, and making contracts available for indigenous businesses [41]. Some CLCAs require IBAs between the extractive industry and indigenous peoples, for example, the Nunavut and Labrador Inuit land claim agreements [40]. IBAs represent a private, confidential agreement between indigenous organizations and developers [42]. Although communities do not have a right to veto the project directly, the indigenous peoples can ban the project through continuous litigation and by refusing to sign an IBA, i.e., exercise a quasi-veto [40,43].

Nunavik in the Canadian Eastern Arctic has two major on-going mining projects: Raglan (started in 1994), and Expo (operating since 2012). Nunavik is one of signatories of the 1975 James Bay and Northern Quebec Agreements (JBNQA) and Makivik Corporation, which represent the land claim organization that negotiates and signs IBAs. Makivik Corporation, the villages of Salluit, Kangiqsujuaq, and landholding corporations signed their IBA with the Raglan subsidiary in 1995 [44]. According to this IBA, 4.5% of profits acquired by mining are divided between Salluit (45%), Kangiqsujuaq (30%) and the Kaktivik Regional Government (25%). The distribution of money depends on the community decisions by annual voting. Salluit beneficiaries voted for distributing most of the money to individuals, while Kangiqsujuaq mostly initiates community projects [45]. In the framework of the

IBA, a consortium of Salluit and Kangiqsujuaq businesses, called Nuvimmiut, was created. It works on contracts with Raglan, which allows additional benefits to be provided to communities [46,47].

5. Discussion: Considering Advantages and Disadvantages of Benefit Sharing Regimes

This paper developed the typology of various benefit sharing regimes in the Arctic and illustrated them with examples from Russia, Alaska, and Canada. In the cases of the NAO, YNAO, and KMAO regions of Russia we see path-dependent practices of benefit sharing at the regional level vested in the principles of social infrastructure investment, compensation, and charity and implemented through a largely paternalistic mode [3,16,17]. In all these regions, the most common practice is to conduct socio-economic agreements between companies and the regional governor. Regional authorities, with little input from indigenous and local communities, act as the main actors in decision-making in respect to social investment and industrial activity, thus reproducing Soviet and post-Soviet paternalistic experiences [17,30,34]. Indigenous and local peoples participation in the decision-making processes is minimal. Therefore, the benefit sharing regime at the regional level is characterized by insufficient procedural and distributive equities [5], strong path-dependency, extractivism and overreliance on semi-formal and trickle-down mechanisms.

If we look at the local scale and direct interactions between companies and indigenous peoples in the Russian Arctic, we observe a continuum of regimes that span from strictly paternalistic to CCSR mode-based arrangements. It is important to point out that benefit sharing regimes differ considerably among Russian territories. YNAO represents an example of a regime where local agreements are setup via the regional and local governments, and no separate agreements with indigenous communities are negotiated, except for state-owned reindeer herding enterprises. In NAO we observed a move towards CCSR due to the switch to the new federal methodology for calculating the compensation for damage, which partly substituted socio-economic agreements between companies and indigenous peoples. The new arrangement gave more leverage, funds and spending freedom to reindeer herders. However, we concur with the literature [17,29] that in Russia, CCSR-based benefit sharing regimes echo the Soviet experiences. They are characterized by the companies' paternalistic attitudes towards the indigenous communities and desire to retain the decision-making power in respect to benefits. This is often done by applying the charity principle to benefit distribution and reliance on semi-formal arrangements, in which communities are typically at the mercy of an extractive company. Direct benefit sharing arrangements between companies and indigenous peoples in NAO and KMAO are determined by the regional legislation. In NAO companies are obliged to compensate for expropriated and/or damaged agricultural land leased by reindeer herding enterprises. In KMAO, companies are required to compensate for building infrastructure and damaging the TTNU lands.

Benefit sharing regimes based on both paternalism and CCSR are characterized by the limited involvement of indigenous peoples in decision-making processes. During the construction phase of large oil infrastructure, public hearings and environmental impact assessment proceedings are organized in larger settlements with limited participation of nomadic reindeer herders. The main decisions on social investments are made via semi-formal negotiations between the company and the authorities. Money is allocated for building social infrastructure, purchasing goods and providing transport for indigenous peoples. Indigenous peoples own initiatives receive little attention. There are no mechanisms developed for monitoring public opinion and requests from the indigenous and other local residents.

In contrast, the benefit sharing regime in Sakhalin is guided by the corporate policies of the international consortia conducting the oil extraction, as well as by the standards of international financial institutions. Both Sakhalin Energy and Exxon Neftegaz Limited strategically involve the state actors in the tripartite partnerships in order to avoid state pressure to force these companies to fill gaps in the state budget and public services (which happens with the state-owned extractive companies, such as Rosneft) [37]. In the case of Sakhalin, the transnational actors brought in the international standards that are reflected in benefit sharing arrangements. The peculiar feature of

the tripartite model is that the companies readily involve indigenous people in making decisions about their own development. Sakhalin Energy is granting indigenous representatives the power to allocate and distribute funds without assistance from the company or the state. Both companies enabled a procedure of filing complaints to the company. The information about the results of grant competitions, the amount of money granted and the beneficiaries are fully disclosed to the community. Social investment involves supporting and promoting local initiatives [3].

Successful benefit-sharing practices can help companies to ensure a long-term SLO and can enhance sustainability in resource-dependent communities [14,33,34]. However, the practices of interactions with stakeholders differ in the investigated case studies. In NAO and KMAO we observed the shift from arrangements based on the financial aid (charity) principle to the compensation principle of benefit sharing with the growing role of CCSR. This kind of benefit-sharing may enhance corporate efficiency for the short-term, but does not guarantee long-term SLO and does not eliminate risks of conflicts, especially in cases when compensations are small and/or are not calculated properly. However, this does not mean that the tripartite partnership model in Sakhalin is unequivocally better for effective benefit-sharing among indigenous communities. The partnership mode assumes that the communities are ready to comply with the transparent rules, as well as the companies themselves. This also assumes that the community is able to take responsibility for its decisions. This, however, is not always true. For instance, in the case of Sakhalin, the company delegated power to indigenous representatives to distribute grants between households, which in turn entailed conflicts. In the partnership mode, local initiatives and entrepreneurship workshops are prioritized, however, not all training programs prove to be efficient. In a variety of cases, investing corporate funds by Russian companies in the construction of communities' facilities turns out to be a more important instrument of social investment [34].

The Alaskan and Canadian Arctic benefit sharing regimes differ considerably from one another and from Russia. This can be explained by differences in land ownership, as well as by diverging political and economic contexts. In Russia the land belongs to the state and land with mineral deposits is leased to the extractive companies. Benefits from lease sales go to the state. In both Alaska and Canada, a significant sum of money comes to indigenous communities via royalty payments. In Russia when companies encroach upon land (TTNU or agricultural) leased by indigenous reindeer herders, these companies pay (relatively minimal) compensation for the loss of pastures. In Alaska in the framework of ANCSA, and in Canada in the framework of CLCAs, land is owned by indigenous peoples and a significant amount of royalties are paid to indigenous communities when oil companies use the land. These royalty payments are much greater than compensations in Russia. In both Alaska and Canada, a significant effort was made to invest in indigenous communities and build capacities by creating indigenous-run businesses. Such benefit sharing mechanisms have largely not emerged in Russia. In Alaska, Native corporations, are involved in oil drilling themselves, and in Canada regional corporations invest and maintain a variety of businesses. In both Alaska and Canada, however, there are often tensions between indigenous traditional activities and non-traditional businesses involvement with potentially negative impacts of the expanding wage economy on traditional practices and cultural vitality [48,49].

Benefit sharing regimes based on the shareholder mode in Alaska and beneficiary mode in Canada are relatively unique for the Arctic and may present considerable interest to other world regions, although they do have their strengths and weaknesses. Conceptually, each regime has characteristics that support increasing the wealth of both individuals and communities. In both cases the indigenous peoples are empowered to make decisions on distribution of benefits, however, some of these decisions may fail to foster sustainability in local communities. At the same time, in the North Slope of Alaska village corporations create intergenerational inequalities by denying the "afterborns" shares and in Canada the distribution of payments to individuals may elevate alcohol and drug abuse and disrupt social services.

6. Conclusions

Building on various existing case studies, this paper presented a systematic view of benefit sharing regimes found in the Arctic. Each regime is characterized by a combination of benefit sharing principles, modes, mechanisms, and scales of benefit application. While not exhaustive or entirely comprehensive, this systematization and typologies appear to be useful for streamlining the analysis and improving understanding of benefit sharing in the extractive sector. The ability to make distinctions among benefit sharing frameworks is not only an academic task, but an important practical tool. The notions of benefit sharing regimes, mechanisms, modes, and scales may help both communities and companies to more effectively assess and compare their existing or proposed arrangements with known practices.

The case studies in the Russian North, Canada and Alaska described in this paper demonstrated various benefit sharing arrangements in the Arctic. We observed a continuum from mostly compensatory, paternalistic frameworks to regimes that promote partnerships and co-management of benefits. The regional specifics, including path-dependency, appear to be very important in the making of benefit-sharing arrangements across the Arctic. Land designation (agricultural, traditional nature use, public, or private) is essential for the benefit sharing regimes, and their specific combinations of principles, modes, and mechanisms. Legislation is also an important component, especially laws related to TTNU in Russia, ANSCA in Alaska, and CLCAs in Canada. In certain cases, the approach to benefit sharing is guided by the company's corporate principles or requirements set by landing financial institutions. High indigenous involvement in the negotiation of benefits was observed in Sakhalin, Alaska, and northern Canada.

In the Russian North the investments have been mainly focused on creating "brick-and-mortar" infrastructure. Construction projects (sports halls, schools, and so on), as well as cultural or sports events, are prioritized. Here, the development of indigenous peoples' initiatives and entrepreneurship receives little attention. In contrast, both in Alaska and northern Canada, the benefit sharing regimes foster development of indigenous-run businesses and local (self)governments.

The paper has not identified an ideal benefit sharing regime in the Arctic, but revealed the advantages and pitfalls of various arrangements. Diversity of regimes seems beneficial for different Arctic communities; however, in each benefit sharing framework there is a significant space for improvement. Sustainable development in the Arctic can be defined as development that improves the wellbeing, health, and security of Arctic communities and residents while preserving ecosystem structures, functions, and resources [50]. Ideally, benefit sharing services have exactly the same purpose: to improve human wellbeing and protect ecosystems to the maximum extent possible (or compensate for their degradation). Therefore, benefit sharing is a mechanism that affects multiple aspects of sustainability— economic, social, and environmental. Equitable benefit sharing is also part of sustainable governance and supports community sustainability.

In the future the best regimes in respect to sustainable development would be those that support the transition from the currently prevalent forms of benefit sharing to benefit co-management and benefit sovereignty. Benefit sharing in a narrow sense may mean a simple recognition by the state or a company that some benefits belong to rights, knowledge, and stakeholders. Benefit co-management emphasizes the active and equitable role of communities in designing, monitoring, and managing benefits from extractive activities, where the guarantees of sharing are coupled with the flexibility and responsiveness to the community's current and future needs. In addition, co-management implies the availability of a functioning monitoring system that (independently) tracks impacts of benefit sharing arrangements on communities, and thus, allows informed decisions to be made about benefit sharing arrangements. So far, in most regions of the Arctic such monitoring systems are very limited and incomprehensive, or do not exist altogether [51]. Finally, benefit sovereignty requires a full community control over the benefits, their sharing, and management, where an extractive company may be delegated some benefits for performing certain services (such as conducting resource extraction). The dynamics towards co-management and sovereignty contributes to the design and implementation of

broader democratic procedures, which ensure high indigenous participation. Developing the principles and practices of more equitable benefit sharing is an important task for future research.

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