

3rd UNITAR-Yale Conference on Environmental Governance and Democracy

Human Rights, Environmental Sustainability, Post-2015 Development, and the Future Climate Regime

Antarctica: Environment, Justice, Sustainability & Development

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Case Study Paper

Human Rights and Environmental Justice: Cases from Countries and the Field

Abstract

This paper focuses on Antarctica and its status as a commons area with potential to facilitate both the human rights objectives and development agendas of global south states. It suggests that, using a combined and complementary environmental justice, just sustainability and cosmopolitan democracy (EJJSCD) framework, global south states can advance a human rights-based approach to development using monies generated from resource extraction in Antarctic waters. In this framework, environmental justice, just sustainability, and cosmopolitan democracy serve as new or emerging paradigms that offer previously untried ways of addressing issues of inter and intra-generational equity, democracy beyond borders, marginalization of global south states in environmental governance regimes, and lack of ongoing capital funding for development projects (both large and small scale) in the global south.

The paper argues that the uncertain legal status of Antarctica, the presence of two separate, overlapping legal regimes in the area south of 60° South (the Antarctic Treaty System and the UN Convention on the Law of the Sea (UNCLOS)), and rapid technological advances have permitted resource extraction in the form of bio-prospecting to occur without appropriate environmental governance oversight or regulation. This opens up opportunities for global south states, building both upon the concept of sustainable development embedded in the Brundtland Commission report and their common rights and development objectives, to collectively press for regulation of the industry and equitable benefit-sharing from resource extraction utilizing the EJJSCD framework in order to achieve the vital outcomes outlined in the UN Millennium Development Goals.

Introduction

Fourteen years after the establishment of the UN's Millennium Development Goals (MDGs) and one year out from their expiry date of 2015, no global South (GS) state has achieved all of its MDG objectives and many have fallen far short of the nominated targets (United Nations 2014a, 2014b). While progress has been made in many areas, the collective inability to attain *in toto* the MDG goals speaks to the complex inter-relationship between the different facets of development and, in particular, the links between security, human rights, the environment and sustainable development (United Nations 2005).

As we move further into the 21st century, the propensity of insecurity to undermine development efforts has become more apparent. This is graphically illustrated in the examples of fragile states such as the Democratic Republic of the Congo, Colombia, Somalia, Afghanistan, and Sudan which have made little progress towards the MDGs (mdgTrack 2014). The late twentieth century also saw the rise of resource-based conflict with concomitant disastrous impacts on the lives of peoples affected by those armed struggles (Klare 2012; Vision of Humanity 2014). The vicious cycle of jeopardized human security, rights derogation, compromised development, and consequent degradation of human life and the natural environment has, unfortunately, become a template only too well known in the global South and its zones of instability.

The starting point for this paper, then, is the need for GS states to break the cycle of insecurity and diminished life opportunities, and to progress towards environmentally embedded, rights-based, sustainable development for their peoples. What is suggested in this paper is that a combined and complementary environmental justice, just sustainability, and cosmopolitan democracy framework can provide a platform from which GS states can collectively press for bio-prospecting governance architecture in the Antarctic commons. The salience of such a proposal is twofold: the need for environmental oversight and regulation of a commercial activity in an especially vulnerable commons area to ensure the sustainability of affected resources; and the potential for GS states to further their human rights objectives and development agendas by benefitting economically from the resource extraction monies generated by the bio-prospecting industry and using these as a springboard for development pathways that enhance human dignity and freedom.

This paper is structured into four parts. Part one outlines the extant governance situation in Antarctica and the presence of two different legal regimes with application to Antarctic and Southern Ocean waters, while the second part focuses on the concept of the Common Heritage of Mankind and its applicability to GS development. The third part of the paper examines the paradigms of environmental justice, just sustainability, and cosmopolitan democracy, and how these can be integrated into a framework that provides an enabling nexus for operationalizing an environmentally embedded, rights-situated notion of development. The final section of the paper gives an overview of bio-prospecting and the legal uncertainties attaching to bio-prospecting activities in the Southern Ocean and Antarctic waters, argues the value of the EJJSCD framework to GS development via the bio-prospecting mechanism, and finishes by briefly noting some caveats and qualifications to this proposal.

A number of factors are assumed as a basis for analysis and discussion in this paper, and as being uncontested in the context of development in the global South. These are:

- That in the wake of the global recession there have been worsening inequalities across and within many countries and that these have had especially invidious effects upon global South states (Oxfam International 2013; UN DESA 2013; World Bank 2014);
- that significant investment in development needs to occur in GS states in order to overcome metrics of persistent disadvantage manifesting in those states (UNDP 2013b);

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- that barriers presenting to GS states seeking capital development funds prevent those states from initiating comprehensive schemes that could produce enhanced development outcomes and indicators of positive progress (United Nations 2003, pp.5-6; UNDESA 2012);
- that the global North has a common, vested interest in the global South mitigating current disparities and inequalities and seeking to close the gap between them (UNDP 2013a; Elliott 2014; Puzanghera 2014); and
- that development initiatives for the global South need to be sustainable, consistent with both inter and intra-generational justice imperatives, and that those involving the natural environment must be premised on the precautionary principle (Joyner 2005, pp.207-208).

1. Antarctica, Governance, and Clashing Regimes

In 1959 the Antarctic Treaty was created by twelve State Parties – Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, Norway, South Africa, the Soviet Union, the United Kingdom, and the United States – and came into effect in 1961 when the last of the twelve ratified the agreement. The Treaty together with subsequent legal instruments and measures collectively form the Antarctic Treaty System (ATS). Those legal instruments and measures include, *inter alia*, the 1964 Agreed Measures for the Conservation of Antarctic Fauna and Flora; the 1972 Convention for the Conservation of Antarctic Seals; the 1980 Convention on the Conservation of Antarctic Marine Living Resources, (CCAMLR); the 1988 Convention for the Regulation of Antarctic Mineral Resource Activities, the 1991 Protocol on Environmental Protection to the Antarctic Treaty, and the 2004 Agreement on Conservation of Albatrosses and Petrels. Under the Treaty a multilateral condominium governance system was established with the leading role in governance being taken by the Consultative Parties who are empowered to propose and vote on initiatives at the regular Antarctic Treaty Consultative Meetings (ATCMs). In 2014 fifty-one states are signatories to the Antarctic Treaty, twenty-nine of them being Consultative Parties, with the other twenty-one having the status of Contracting Parties (ATS Secretariat 2014). All pre-existing claims to Antarctica - seven at the time of the Treaty's establishment - were placed in abeyance under Article IV of the Treaty, which also prohibits any new claims. Under the Treaty, Antarctica is designated a peaceful, non-militarized area from which nuclear weapons are banned, and as a continent dedicated to international scientific cooperation and freedom of scientific investigation (Articles I-III, Antarctic Treaty 1959).

The ATS forms one regime that applies to Antarctica and Antarctic and Southern Ocean waters. A second regime with application to that region is the United Nations Convention on the Law of the Sea, 1982. The United Nations Convention on the Law of the Sea (UNCLOS) is a comprehensive regime for governance of the oceans. It codified customary international law and its development over the previous century to create a regime that established clear rules about national sovereignty and maritime zones. UNCLOS came into effect in 1994 and by 2013 had been ratified by 166 states, including all Antarctic Treaty State Parties, bar the USA which has signed but not ratified the Convention (UNDOLS 2013). A notable feature of UNCLOS is its designation of The Area – that part of the seabed, ocean floor and subsoil beyond national jurisdiction – and its resources as comprising the Common Heritage of Mankind (Article 136, UNCLOS 1982). As a Common Heritage of Mankind (CHM), The Area is not subject to appropriation, sovereign claims, or the exercise of sovereignty over any of its parts. Furthermore, conduct by states in The Area is required to comport not only with the specific provisions of UNCLOS and other rules of international law, but also the 'principles embodied in the Charter of the United Nations' (Article 138, UNCLOS). Part XI of UNCLOS lays out a protocol and process for activities in The Area which, according to Article 140, are to be 'carried out for the benefit of mankind as a whole, irrespective of the geographical location of States, whether coastal or land-locked, and taking into particular consideration the interests and needs of developing States'. UNCLOS established the International Seabed Authority (the

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Authority) to ‘provide for the equitable sharing of financial and other economic benefits derived from activities in the Area through any appropriate mechanism, on a non-discriminatory basis’ (Article 140, UNCLOS). Additionally, the Authority is vested with a special mandate to carry out activities in The Area

in such a manner as to foster healthy development of the world economy and balanced growth of international trade, and to promote international cooperation for the over-all development of all countries, especially developing States (Article 150, UNCLOS).

Both the ATS and UNCLOS have application in Antarctic and Southern Ocean waters. The ATS instruments generally follow either the application areas of the Antarctic Treaty or of CCAMLR. In Article V, the geographical parameters of application of the Antarctic Treaty are specified as ‘south of 60° South Latitude, including all ice shelves’ (Article VI, Antarctic Treaty 1959). The CCAMLR area of application is ‘the area south of 60° South latitude and to...the area between that latitude and the Antarctic Convergence which form part of the Antarctic marine ecosystem’ (Article I, CCAMLR). UNCLOS, by contrast, was intended to create ‘a legal order for the seas and oceans’ (Preamble, UNCLOS), so was anticipated to be employed across the globe by states as an international blueprint for oceans governance. Consequently, there is no clear demarcation between the regimes in respect to the areas over which the two agreements hold sway. As Rothwell (1994, p.156) has noted, a number ‘of the provisions of UNCLOS are important for Antarctica and the Southern Ocean, particularly those dealing with expanded maritime zones and the deep seabed’. For instance, although claims to sovereignty are frozen under the provisions of Article IV of the Antarctic Treaty, several Antarctic Treaty Consultative Parties (ATCPs) can be described as coastal states in proximity to the southernmost continent and are theoretically entitled, under the extended continental shelves provisions of UNCLOS (Article 76 and Annex II, UNCLOS), to expand their maritime jurisdiction into the waters surrounding Antarctica. Additionally, because The Area is deemed a CHM under UNCLOS, deep seabed mining may be countenanced as an activity that could occur in those same waters. This has created a tension between the position taken by Antarctic Treaty signatory states that the ATS acts on behalf of the international community in a stewardship role for Antarctica and its surrounding waters, and the status of UNCLOS as a ‘constitution for the oceans’ that celebrates ‘human solidarity and the reality of interdependence’ (Koh 1982, p.xxxvii). The situation is further complicated, firstly by the fact that under international law neither agreement trumps the other and, secondly, by the uneasy state of southern polar politics with its blend of both national and ‘common interests in the international space of Antarctica’ (Berkman 2010, p.7). In this latter context, Rayfuse (2008, p.1) has observed the ‘jostle’ among ATS parties, and between the parties and ‘the rest of the international community over control of the great white continent and its surrounding Southern Ocean’. Elliott (1994) has noted the imperial origins of the Antarctic Treaty, and Chaturvedi (1996), Dodds (2006), Scott (2011) and Elzinga (2012) have commented on the neo or postcolonial overtones evident in the contemporary ATS, a situation exacerbated by the ‘sovereignty performances’ (Dodds 2011, p.231) in which claimant states still engage. Finally, and against this background, it should be acknowledged that Antarctica’s critical environmental importance has become increasingly recognized over time as ongoing scientific research has revealed the vital roles and functions it plays in the global biosphere - for instance, the Intergovernmental Panel on Climate Change (2007, p.655) noted that the Arctic and Antarctic were ‘the regions with the greatest potential to affect global climate and thus human populations and biodiversity.’

2. The Common Heritage of Mankind and Global South Development

Antarctica is frequently cited as one of the global commons along with the oceans, outer space and the atmosphere (Vogler 1995; Buck 1998). According to Joyner (2005, p.224) global common spaces are

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those domains that lie beyond the exclusive jurisdiction of any state but which may be used by states or their nationals for their own purposes, such as resource extraction, waste disposal, or scientific research.

Analogous to the concept of global commons spaces is the Common Heritage of Mankind (CHM). The CHM was introduced in UNCLOS and referenced in relation to Antarctica by GS states during the early 1980s when the 'Question of Antarctica' was placed on the agenda of the General Assembly of the United Nations. Although there is no universally accepted definition of the CHM, Shackleton (2008, p.103) notes that there appear to be five common elements:

First, there can be no private or public appropriation of the commons. Second, representatives from all nations must manage resources since a commons area is considered to belong to everyone. Third, all nations must actively share in the benefits acquired from exploitation of the resources from the common heritage region. Fourth, there can be no weaponry or military installations established in commons areas. Fifth, the commons should be preserved for the benefit of future generations.

In both the global commons and the CHM, the collective ownership by humanity of designated spaces and access to those spaces are core ideas. This is explicitly buttressed in the CHM by the notion of inclusive controlled management of such common spaces in order to preserve them for humankind in the future - a corollary of the late twentieth century consciousness of the carrying capacity of the earth, accelerated degradation of natural resources, shared obligations to prevent a 'tragedy of the commons' (Hardin 1967), and increasing acceptance of the concept of sustainable development, defined in the World Commission on Economic Development (WCED) Report (1987, p.43) as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'.

This cluster of ideas around the CHM as a common patrimony of humankind helped inform global South activism about the status of Antarctica in the UN in the 1980s. Building upon the naming in UNCLOS of The Area as a CHM, and the instructions in the Preamble about utilization of this CHM, 'the exploration and exploitation of which shall be carried out for the benefit of mankind as a whole, irrespective of the geographical location of States' (Preamble, UNCLOS), the applicability of the CHM concept to Antarctica was asserted strongly by a Malaysian-led bloc of GS states (UN General Assembly 1984, pp.34-38). It was, however, opposed equally strongly by the ATCPs who also rejected the simultaneous, linked claims made by GS states about the Antarctic decision-making group as being unrepresentative, exclusive and exclusionary, secretive, undemocratic, racist, and as having created a club of rich, western members with privileged access to what was expected to be a forthcoming mining bonanza in Antarctica (Beck 1985, 1986, 1989).

The period since then has not seen the ATCPs resile from the position that Antarctica is not a CHM, despite the presence among the Consultative Party group from 1983 (India) and 1985 (China) of the two largest GS states. Indeed, after a series of internal changes to ATS governance which helped satisfy some of the grievances enunciated by the GS states in their critique of the Antarctic regime, and the creation in 1991 of a Protocol to the Antarctic Treaty that banned mining in the continent for fifty years, the 'Question of Antarctica' was removed from the agenda of the General Assembly in 2006. Although it is formally a matter of which the Assembly 'remains seized', it is no longer a lightning rod for protest by GS states in the UN, and the contention that Antarctica should be deemed a CHM has not been subsequently invoked in that forum. Instead, India and China were able to take advantage of the changes made by the ATCPs in response to the GS critique in the UN to enter the decision-making group and themselves become ATCPs. Additionally, the international community of states generally has benefitted from the greater openness and information-sharing about ATS governance, and the transformation of South Africa, one of the founding

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ATCPs, from an apartheid state to a multicultural democracy from 1994, helped ease criticisms about racism and the undemocratic nature of the Antarctic governance leadership. Nevertheless, it should not be assumed that GS states have ceased to be concerned about the legal status of Antarctica, or that a period of quietude in international fora about the CHM concept has eliminated consideration about the potential of Antarctic resources to help drive GS development. Rather, a confluence of facilitative factors suggest that the possibility of naming Antarctica as a CHM should be revisited, and that such nomination would be important in providing a legal foundation to establish a universally applicable bio-prospecting regime with equitable benefit-sharing provisions. These factors include: the colonial nature of claims on Antarctica and ongoing issues related to those claims; the concepts of environmental rights and environmental justice (explored in more detail later in the paper); ‘contemporary understandings of interdependence and shared trans-boundary problems; and the idea of intra-generational justice and its links to global south development’ (Verbitsky 2014).

At the time that the Antarctic Treaty was instituted, seven sovereign claims, comprising eighty percent of the continent, had been made by Argentina (1943), Australia (1933), Chile (1940), France (1924), New Zealand (1923), Norway (1939), and the United Kingdom (1908 & 1917). Additionally, both the United States and the Soviet Union, although not recognising the claims made by the other states, themselves reserved the right to make claims upon Antarctica in the future (Stonehouse 2000, pp.250-253). The seven pre-Treaty claims are recognised only by other members of the claimant group, with the exception of the UK, Chile and Argentina. The sectoral claims of these three countries in Antarctica overlap, and the conflict between them in the 1950s over their competing claims became sufficiently grave to cause the UK to seek an ultimately failed attempt at arbitration by the International Court of Justice (Dodds 2012, p.55). The establishment of the Antarctic Treaty in 1959, then, was a timely intervention that helped prevent further escalation of the conflict between the three countries, and also made Antarctica an off-limits area in the superpower conflict of the Cold War. Despite this, Article IV’s freezing of pre-existing sovereign claims has not prevented claimant states engaging in actions that reinforce their claims, despite the claims officially being suspended while the Treaty is in force. As the claims themselves have not been extinguished, they would once again become live should the Treaty be terminated or become defunct. However, since 1959 more and more national research stations and bases have been built across all the claimed sectors of Antarctica, an element that makes it difficult to see how the claims could actually be enforced, especially in light of the argument made by Brady (2012, p.454) that because no states have objected to the situation whereby for more than half a century each state with a permanent research base in Antarctica has acted ‘as if their bases are sovereign territory’ and has applied ‘their national laws there, including the right to exclude others’, this ‘amounts to local customary law, independent of the Antarctic Treaty’. Adding to this is the modern distaste for claims to sovereignty staked in colonial times. The UN’s sponsorship of decolonization was reinforced by Resolution 1514(XV) of 1960, the *Declaration on the Granting of Independence to Colonial Countries and Peoples*, which states that the ‘peoples of the world ardently desire the end of colonialism in all its manifestations’ and proclaims ‘the necessity of bringing to a speedy and unconditional end colonialism in all its forms and manifestations’. The Declaration states that ‘Any attempt aimed at the partial or total disruption of the national unity and the territorial integrity of a country is incompatible with the purposes and principles of the Charter of the United Nations’. It has been argued (Verbitsky 2014) that despite ‘the lack of an indigenous population or ‘dependent peoples’, the Declaration has application ‘to the sovereign claims upon Antarctica through the breaches of territorial integrity of the continent that they represent, and the determination of claimant states to subjugate and impose their alien will upon the southernmost land’.

Environmental rights and environmental justice link to the idea of Antarctica as a CHM through their recognition that there is a reinforcing connection between human rights and the environment, the

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distribution of environmental ills and reduced life opportunities, and global inequities and rights derogations. This reflects key aspects of Principles 1 and 2 of the Declaration of United Nations Conference on the Human Environment, 1972:

Man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being, and he bears a solemn responsibility to protect and improve the environment for present and future generations...

The natural resources of the earth, including the air, water, land, flora and fauna and especially representative samples of natural ecosystems, must be safeguarded for the benefit of present and future generations through careful planning or management, as appropriate.

Intra-generational justice and GS development are relevant in this context because of their complementary focus on contemporary inequalities and the need to pro-actively intervene to try and meet the needs of the world's poorest peoples. Similarly, interdependence and shared trans-boundary problems underscore 'the increased global awareness of humankind's common vulnerability to environmental degradation, and the importance of Antarctica to the earth's ecosystem' (Verbitsky 2014), factors which emphasize the primacy of the relationship between humankind and the environment, and recognise that human rights are ecologically embedded. Within this frame of reference, then, the notion of an Antarctic CHM in which bio-prospecting occurs via an established governance system with equitable benefit-sharing has tractability.

3. Cosmopolitan Democracy, Environmental Justice, Just Sustainability, Development and Human Rights

In the 'century of the environment' (Lubchenko 1998), environmental justice, just sustainability and cosmopolitan democracy offer both important theoretical insights and practical pathways for addressing the inequalities, marginalization and lack of voice experienced by GS states in global governance, and the need to achieve sustainable development that is founded on ecologically embedded human rights.

Cosmopolitan democracy 'attempts to specify the principles and the institutional arrangements for making accountable those sites and forms of power that presently operate beyond the scope of democratic control' (Held, McGrew, Goldblatt & Perraton 1999, p.449). It recognizes the reality of citizens as members of diverse multiple communities across the local, national, regional and global levels, and the disconnection experienced by those citizens as a consequence of the democratic deficit engendered through hollowing out of the state and the lack of accountability and democratic participation in increasingly globalized governance systems. Cosmopolitan democracy thus propounds the need for equivalence between decision-makers and decision-takers in order that 'those who are significantly affected by a global good or bad should have a say in its provision or regulation' (Held 2007, p.248).

Environmental justice has entangled roots in social movements and local campaigns centered on issues of recognition, protection and equality for marginalized communities, and in public policy contestation over the problematic distribution of environmental ills, which 'mirrors the inequity in socio-economic and cultural status' (Schlosberg 1999, p.12). It emphasizes that because inequity in distribution of the environmental ills and lack of recognition by affected communities in the political process are inextricably linked, justice 'requires both redistribution and recognition' (Fraser quoted in Schlosberg 1999, p.13). Specifically, environmental justice requires 'equity in the distribution of environmental risk, recognition of the diversity of the participants and experiences in affected communities, and participation in the political processes which create and manage environmental policy' (Schlosberg 2004, p.517). Environmental

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justice thus nominates sustainable development as its overarching public policy goal and stresses the importance of pluralistic forms of justice to achieve real social justice.

Just sustainability has similar starting points to environmental justice in its focus on justice, the environment and sustainability. However, just sustainability departs from environmental justice in perceiving problems in sustainable development praxis that lead to an imbalance between inter and intra-generational equity, and subsequent 'equity deficit' with the latter (Agyeman 2008, p.752). Just sustainability, therefore, reframes environmental justice to equally weight justice and equity within sustainability discourse and policy, linking these together as one of the four key elements - quality of life; present and future generations; justice and equity; and living within ecosystem limits - to form the foundational basis of the paradigm (Agyeman 2008, p. 755).

Although differing in their orientations and prescriptions for change, the three paradigms commonly recognize the limitations of extant governance systems in a globalized world to address or substantively engage with core problems identified by them to do with justice, equity, recognition, participation and representation. All three identify problems with the invidious assertion of power by elites over communities that, lacking means of redress, cannot rectify the situation and, consequently, suffer ongoing burdens of disadvantage and deprivation. These problems increasingly manifest, through the lens of cosmopolitan democracy, in the inability of individual states to deal with complex trans-boundary problems, such as climate change, and in the alienation of communities from a political order that lacks democratic representation and participation channels in which they have a voice. In the environmental justice framework, the liberal individualist conception of distributive justice constrains the integration of redistribution, recognition, and public participation needed to prevent environmental inequities being disproportionately distributed among communities. It also perpetuates the negative effects of environmental ills because of its focus on distributive justice while neglecting the existing underlying poor distributions of social goods. Just sustainability, meanwhile, focuses on the harms caused by decoupling equity and justice within sustainable development, and the recognition that a transformative vision of sustainability is both an objective and conduit for social justice:

A truly sustainable society is one where wider questions of social needs and welfare, and economic opportunity, are integrally related to environmental limits imposed by supporting ecosystems. This emphasis upon greater equity as a desirable and just social goal, is intimately linked to a recognition that, unless society strives for a greater level of social and economic equity, both within and between nations, the long-term objective of a more sustainable world is unlikely to be secured (Agyeman, Bullard & Evans 2002, p.78).

Individually, each of the three paradigms provides powerful contributions to critiques of the dynamics of power in the governor/governed relationships of the 21st century. Each also offers an agenda for change, with environmental justice and just sustainability having particularly well-established records of praxis. What is suggested here, though, is that in the context of Antarctica and the GS, cosmopolitan democracy, environmental justice and just sustainability can be combined into a complementary, interlinking and mutually reinforcing framework that would serve as an enabling nexus, providing the GS with an ideational basis for asserting the need for change in the status of Antarctica and the introduction of bio-prospecting architecture incorporating equitable benefit-sharing.

The utility and efficacy of this approach is that it addresses key problematic aspects of the current situation: a contested space subject to two separate, overlapping legal regimes whose marine-based resources could be used to help drive GS development. Cosmopolitan democracy provides support for the idea of asserting a greater presence for the GS in the Antarctic governance domain, including space for trans-national NGOs and civil society organizations to represent the voices of those who have not

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previously been heard in that setting. The principle of equivalence between decision-makers and decision-takers helps frame the GS as decision-takers entitled to participate in the decision-making that integrally affects them and their future. Environmental justice also gives support for the recognition and participation of the GS in Antarctic decision-making fora, and the emphasis given in the paradigm to recognizing the underlying poor distributions provides a strong basis for asserting the need to help rectify this through bio-prospecting in the Antarctic commons. The superordinacy of sustainable development in environmental justice indicates that bio-prospecting would be permitted only as consistent with sustainability limitations, and thus subject to enforced caps to protect the viability of those resources and their situated environment for future generations. Additionally, the recognition in the environmental justice paradigm of disparities and inequalities relating to class, race, gender, environment and social justice form firm foundations for advancing a change programme with Antarctica and bio-prospecting that links to the notion of a commons space and CHM as engines for GS development. The just sustainability paradigm reinforces the idea that intra-generational equity is equally important as inter-generational equity, and so there is a strong claim for GS states to use bio-prospecting in Antarctic waters to help remedy current day inequities (the underlying poor distributions) and achieve a truly global sustainability predicated on recognition, representation, participation, equity, and social justice. The just sustainability acknowledgment of ‘The need to ensure a better quality of life for all, now and into the future, in a just and equitable manner, while living within the limits of supporting ecosystems’ (Agyeman, Bullard and Evans 2003) brings into sharper focus the correlation between the disproportionately allocated environmental risks and burdens suffered by GS states, lack of voice of the marginalized GS in global governance systems, the multiple indices of disadvantage and deprivation of the GS evidencing the underlying poor distributions, and the consequent diminished capabilities of GS communities. It crystallizes the connections between environmental ills, GS states, and lack of capabilities, underscoring the fundamental relationship between humans and the environment, and the crucial importance of the environment to achieve human rights and ‘a public order of human dignity’ (McDougal quoted in Weston and Bollier 2013, p.123). And, like environmental justice, it also recognizes a duty of care to the environment and the need for limitations to activities impacting ‘supporting ecosystems’.

In short, the combined cosmopolitan democracy, environmental justice and just sustainability (CDEJJS) framework weaves together the procedural and substantive aspects of equity and justice necessary to gird about a capabilities-based approach to development grounded in ecologically-embedded human rights (the truly sustainable society). Enmeshing the three paradigms in this way provides a politico-structural frame for application to the Antarctic context that, because of the complex, multi-layered nature of the problematics there, is philosophically stronger than using one or other paradigm alone. It also provides a supporting agenda for action across different levels (local, national, regional, global) and within different domains (economic, social, cultural, political) that allows for ‘movement fusion’ and the building of strategic alliances and blocs to facilitate and progress the goals of naming of Antarctica as a CHM and the introduction of a bio-prospecting governance regime that incorporates equitable benefit-sharing.

This CDEJJS approach incorporates the ‘inescapable fact that humans are ecologically embedded beings’ (Barry and Woods 2013, p.381). It takes as a given that humans are simultaneously grounded in the environment and dependent on it for survival. Therefore, the environment is ‘prerequisite to the enjoyment of human rights’ (Barry and Woods 2013, p.381) and creation of social justice, just as the human duty of care and protection of the environment is fundamental to ensuring unimpaired functioning and longevity of the natural world. Further, the mutually dependent relationship between the environment and human rights acknowledges that threats to one impact on the other to their joint detriment. It also recognizes that insecurity compromises and jeopardizes both human capabilities and environmental functioning by undermining or removing the conditions in which humans can flourish and the environment can be

protected. The relationships between the environment, rights, and social justice are, consequently, seen as inherent, fundamental and inseparable.

4. Bio-Propecting in the Southern Ocean and Antarctic Waters

Bio-prospecting is ‘a range of activities associated with the search for novel biodiversity, whose component parts may then be utilized in a product or process and developed for commercialization’ (Rogan Finnemore 2005, p.3). The extreme conditions of Antarctica have evoked interest from pharmaceutical and biotechnology companies for bio-prospecting in Antarctic waters in order to discover the adaptations that biota have made to survive the conditions, and how these unique biochemical and genetic materials may be harnessed for commercial applications. According to Farrell & Duncan (2005, pp.25-26) antifreeze proteins are one of the best known bio-prospecting successes. Currently, there is considerable interest in krill. As an Information Paper presented to the 2012 ATCM noted, ‘Twelve of the twenty-two patent applications granted between 2010 and 2012 relate to krill’ and include the use of krill extracts and oils in prevention and treatment of diseases such as cancer, diabetes, and arthritis (Netherlands et al 2012, p.3).

It is only recently that the economic potential of marine genetic resources has garnered attention, a consequence Beslier (2009, p.334) observes of ‘the combination of two recent developments: progress in knowledge of deep-sea ecosystems and emergence of biotechnology as a major source of industrial and commercial innovation’. In just a short period bio-prospecting ‘has become a global multi-billion dollar industry’ (Connolly-Stone 2005, p.69). A 2007 report stated that ‘The industry generates over US\$60 billion in revenue and has created hundreds of products in the area of human health alone’ (UNEP 2007 IP63, ATCM, p.14). Recent research specifies that ‘the global market for marine biotechnology products and processes is estimated at € 2.8 billion for 2010’ (Jorem 2012, p.1, fn. 5). However, bio-prospecting is neither a quick nor easy road to riches. The four phases of the bio-prospecting process – sample collection; isolation, characterization and culture; screening for pharmaceutical activity; development of product, patenting, trials, sales and marketing – are time-consuming, extremely expensive and there is no guarantee of success. Nevertheless, the potential for profit in bio-prospecting is such that bio-prospecting activities by universities, research centres, biotechnology and pharmaceutical companies – often working in consortia - have been occurring in Antarctic and Southern Ocean waters since the late 1980s (Hemmings, 2010, p.5).

Bio-prospecting first appeared on an ATCM agenda in 1999 (Hemmings 2010, p.5) and has, since the mid-2000s been a regular agenda item at the annual meetings of the Consultative Parties to the Antarctic Treaty. Two resolutions relating to bio-prospecting have been agreed at ATCMs, the first in Stockholm in 2005 (Resolution 7), the second in Baltimore in 2009 (Resolution 9). These resolutions pertain to information-sharing among State Parties about bio-prospecting activities by national Antarctic programmes and research centres (Resolution 7), and information-sharing about the collection and use of Antarctic biological material by governments of State Parties (Resolution 9). To date (August 2014), no action has been taken by the Antarctic Treaty members to establish a regulatory framework for bio-prospecting activities in the area covered by the ATS instruments.

The absence of an ATS regulatory framework for bio-prospecting is compounded by the legal gaps relating to bio-prospecting beyond areas of national jurisdiction either in UNCLOS or in the Convention on Biological Diversity 1992 (CBD) and Nagoya Protocol 2010. De la Fayette (2009, p.224) notes that UNCLOS dates from a period when issues of marine biodiversity were not considered important and marine genetic resources were almost unknown, so the convention only briefly mentions the former and

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does not mention the latter at all. Because of the lack of regulation or designation of a special zone in UNCLOS of bio-prospecting, the Southern Ocean and Antarctic waters, therefore, can be viewed as a high seas area ('all parts of the sea that are not included in the exclusive economic zone, in the territorial sea or in the internal waters of a State, or in the archipelagic waters of an archipelagic State', according to Article 86 of UNCLOS) and so 'open to all States, whether coastal or land-locked' to engage in a variety of activities including 'freedom of scientific research' (Article 87, UNCLOS).

Originating in a later era, the CBD, introduced at the Rio Earth Summit in 1992, is the most comprehensive international agreement dealing with biodiversity, and its three objectives – 'conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of benefits arising from the utilization of genetic resources' – cover the critical issues associated with bio-prospecting matters (UNEP 2011, p.1). The CBD also pays particular attention to GS states and sustainable development, as the Preamble makes clear in its statement that 'special provision is required to meet the needs of developing countries, including the provision of new and additional financial resources and appropriate access to relevant technologies', and 'that economic and social development and poverty eradication are the first and overriding priorities of developing countries'. However, the CBD deals only with 'components of biological diversity' in maritime zones (the territorial sea and Exclusive Economic Zone) under the jurisdiction of states (CBD, Article 4a). It does not, therefore, cover areas beyond national jurisdictions and so the Southern Ocean and Antarctic waters also lie outside the scope of this convention.

The problems that arise from this state of affairs are neatly encapsulated by Jabour (2012, p.242):

...bioprospecting in the Antarctic does not have clarity about jurisdictional scope, regulatory status, access arrangements, environmental implications, commercial use of material and information or benefit-sharing....bioprospecting is already happening, patents are being filed and products developed – all within a legal and administrative vacuum.

Therein lies the rub. Bio-prospecting has been taking place for almost a quarter of a century in an area of the world central to the global eco-system where, due to the separate, overlapping UNCLOS and ATS regimes, there is no legal clarity or certainty about the regulation of bio-prospecting activities, and no mechanisms to safeguard the fragile environment or ensure sustainable protection of marine resources. Inevitably, commercial entities have stepped into the vacuum and undertaken entrepreneurial ventures in bio-prospecting.

What is suggested in this paper is a two-pronged process: the declaration of Antarctica and its waters as a CHM; and the construction of a bio-prospecting governance scheme that regulates activities and includes an equitable benefit-sharing scheme. While the declaration of Antarctica as a CHM is not a strict prerequisite to the instigation of a bio-prospecting governance scheme, it would be preferable to achieve this prior to introducing bio-prospecting architecture in order to settle the status of Antarctica and to provide legal and political clarity about the rules governing bio-prospecting. The 'vacuum' in this area and the lack of convergence between the ATS and UNCLOS regimes permits unregulated, unchecked bio-prospecting activity to occur, something that is wholly undesirable from the viewpoint of sustainability and marine environmental protection. It is also less than optimal in terms of political and legal confusion about the duties, obligations and rights of states and, increasingly, non-state actors, in the Antarctic and Southern Ocean waters. The current state of affairs privileges those entities with the capacity, financial resources, and entrepreneurial abilities to exploit what is, effectively, a giant loophole in the global marine environmental regulatory domain. It underscores the dangers of inaction by the ATS regime in bio-prospecting, the inability of UNCLOS to manage an activity not specifically demarcated and ring-fenced in the convention and, consequently, the contemporary risks from unregulated invasive activity to which the marine environment and resources are being subjected. It also sends signals to commercial bio-

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prospecting entities that for as long as there is divergence between the ATS and UNCLOS over the status of Antarctica, they will be able to operate without restraint. Ideally, the ATCPs (particularly the seven claimant states) need to be included in a bio-prospecting governance scheme that involves the white continent. Not only would their expertise and leadership be extremely valuable in respect to the southern polar region, but their active participation would send a strong message about the determination of the international community to collaboratively protect the marine environment and regulate activities in the sector, an important consideration given the presence of non-state actors involved in bio-prospecting. Absent their participation, the Antarctic and Southern Ocean waters are more and more likely to be perceived, for the purposes of bio-prospecting, as high seas zones, open to all for exploitation and untrammled profiteering. Such a scenario would inevitably endanger the marine environment and resources, vanquish any hope of marine sustainability in the area south of 60° South, ruin prospects for inter and intra-generational justice engendered from commercial activities in these areas and, because of the vital role of Antarctica in the biosphere, significantly compromise the essential human-nature relationship.

What could be gained from the introduction of a CHM status for Antarctica and the initiation of bio-prospecting governance regime with equitable benefit-sharing is a potential springboard for development by GS states. Bio-prospecting revenue offers a possible route away from petitioner status with international financial institutions to autonomy, authority and agency for GS states in capital financing of development programmes, both large and small-scale. In this context, bio-prospecting would be invaluable in helping provide GS states with a means to self-determination in the development sphere. It could act as an engine to jump-start development projects currently unable to be financed because of cost factors, and enable GS states to help practically create the conditions to lift the life opportunities for their peoples. Because of the inherent links between development, human rights and the environment, bio-prospecting also offers a means to enhance and progress the human rights of peoples of the GS and safeguard the natural environment. As the World Commission on Environment and Development recognized, ‘a reduction in poverty itself is a precondition for ecologically sound development’ (quoted in Gillespie 1997, p.175). Similarly, the designation of Antarctica as a CHM would help fulfill, albeit belatedly, the promise of the MDGs of ‘making the right to development a reality for everyone and to freeing the entire human race from want’ (UN General Assembly Resolution 2000, Article 11). It would recognize the ability of all states to be involved in decision-making about the future of the continent, and the rights of all states – tempered by the precautionary principle and sustainability precepts – to gain access to Antarctic and Southern Ocean waters to facilitate, via bio-prospecting, intra-generational justice and a route to closing the gap between global North and South.

The practical politics of implementing this proposal are beyond the scope of this paper. It is possible, however, to limn some caveats and qualifications to the proposal. Firstly, the fact that bio-prospecting has been taking place for more than two decades in the area south of 60° South means that there are already vested commercial interests at play, making it harder to introduce regulations about bio-prospecting without an international community willing to act in a cohesive and united manner about the issue. The extant difficulties of achieving compliance and enforcement of international law in respect to third parties that are non-state entities would be seriously exacerbated by lack of unanimity among states on this matter. Secondly, a very real problem with bio-prospecting is where and how to draw the line between ‘pure’ scientific research and commercial application of scientific research. In a related vein, there is the associated difficulty of attempting to separate out commercial and non-commercial entities among scientific consortia as most involve universities or academic institutions and agencies. In this context, the prioritization of cooperative international scientific research in the Antarctic Treaty and information-sharing adds another dimension of complexity. A further problem lies with extant collections of marine genetic resources and materials, their ownership, and access to the collections. Lastly, a question must

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also be raised in relation to the amount of monies that may be generated from bio-prospecting, and the time frame in which the monies may be accrued. As Lodge (2012, p.741) has noted, 'unlike minerals, genetic resources themselves are not valuable—rather it is the product of extensive research and development that may be valuable'. Revenue generation from bio-prospecting in the Antarctic commons should not, therefore, be seen as quick path to economic liberation by GS states or as some panacea for the problems of international development financing but, rather, as a scenario that offers long-term opportunities for GS states in financing development schemes that would help provide lives of greater dignity and freedom for their people.

Conclusion

In the second decade of the twenty-first century, the time may now be ripe for serious consideration of two related issues – the declaration of Antarctica as a CHM, and the introduction of a bio-prospecting governance regime that includes equitable benefit-sharing. While the idea of an Antarctic commons is not a new one, the emergence over the last quarter century of the cosmopolitan democracy, environmental justice and just sustainability paradigms - which speak directly to issues of justice, participation, recognition and equity - provides a spur to reconsider the importance of the CHM concept and its potential for advancing common GS development and rights agendas. The MDG goals have been helpful in both focusing attention on the prime needs of the GS and stimulating efforts in specific domains, but in the long term even greater energies will need to be expended to fulfill the promise of the 'fundamental values...essential to international relations in the twenty-first century': freedom; equality; solidarity; tolerance; respect for nature; and shared responsibility (UNGAR 2000, p.2).

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