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Experts meet on need for new rules to govern world's fragile polar regions

Need for better international approach to control polar activities on agenda in Iceland

A new co-ordinated international set of rules to govern commercial and research activities in both of Earth's polar regions is urgently needed to reflect new environmental realities and to temper pressure building on these highly fragile ecosystems, according to several of the experts convening in Iceland for a UN-affiliated conference marking the International Polar Year.

Due to climate change, the ancient ice lid on the Arctic Ocean is fast disappearing, creating new opportunities for fishers and resource companies, and opening a potential new, far shorter ocean route between Europe and Asia, a prospect already drawing billions of dollars in investment in ice-class ships.

Antarctica, meanwhile, is witnessing a growing parade of tourists (40,000, including tour staff, in 2007), as well as researchers (now about 4,000 in summer occupying 37 permanent stations and numerous field camps) and companies interested in exploiting the biological properties of that continent's "extremophiles."

However, "many experts believe this new rush to the polar regions is not manageable within existing international law," says A.H. Zakri, Director of the United Nations University's Yokohama-based Institute of Advanced Studies (UNU-IAS), co-organizers of the conference with Iceland's University of Akureyri, in partnership with Tilburg University (Netherlands), and the Northern Institute for Environmental and Minority Law, at the Arctic Centre of the University of Lapland (Finland).

"Pressure on Earth's unique and highly vulnerable polar areas is mounting quickly and an internationally-agreed set of rules built on new realities appears needed to many observers. In Iceland, leading scholars will detail fast-emerging issues in international law and policy in the polar regions caused by such developments as the opening up of the Northwest Passage. They will identify priorities for law-making and research and offer

their best advice to decision makers, who clearly need to act even faster than the changing environment."

Rising Arctic economic activity

Problems forecast for the Arctic as its ice recedes include:

- Overfishing;
- Pollution from ships and offshore extraction of oil and gas;
- Oil spills; and
- Invasion of alien species carried by ships' ballast water

"Overfishing, the result in part of illegal, unreported and unregulated fishing, is already occurring in the Okhotsk and Bering Seas," says conference presenter Dr. Tatiana Saksina of the World Wildlife Fund's International Arctic Programme

"Agreements are needed now to regulate shared and straddling fish stocks and to protect fish migrating to higher latitudes in search of colder waters," she says.

"Arctic sea routes are among the world's most hazardous due to lack of natural light, extreme cold, moving ice floes, high wind and low visibility and the Arctic marine environment is particularly susceptible to the effects of pollution (as demonstrated by the Exxon Valdez oil spill). The same conditions that contribute to high oil spill risks can also make response operations extremely difficult or totally ineffective," she adds. "Yet there are no internationally binding rules to regulate operational pollution from offshore installations. Strict standards for the transportation of Arctic oil are also urgently needed,"

National marine environmental protection regimes that cover significant portions of Arctic waters constitute a fragmented system of governance, with large gaps in jurisdiction, implementation and effectiveness. The UN Convention on the Law of the Sea (UNCLOS), meanwhile, includes environmental rules inadequate to protect the ice oceans, she says.

"Despite the applicability of many global and regional treaties concerned with the protection of the arctic marine environment and effective management of shipping issues by the International Maritime Organization (IMO), there are many problems that require attention. There is a need for an arctic ship routing system, traffic separation schemes, and use of Automatic Identification System (AIS) and Long Range Identification and Tracking (LRIT). Due to their vulnerability, arctic waters require very strict standards for ballast water exchange, fuel content, discharge and emission. There should be internationally binding standards for construction, design, equipment and manning of ships," says Dr. Saksina.

"There is an urgent need for a comprehensive international environmental regime specially tailored for the unique arctic conditions. This regime is needed before natural

resource development expands widely. The earliest date of summer Arctic Ocean without ice may be 2013. The longer the delay in developing international environmental rules, the more likely it is that unplanned and unregulated development will damage the very resources most necessary for a sustainable future in the Arctic. There is no time to waste and no reason to wait."

Antarctic Tourists and Researchers

Conference chairman Dr. David Leary of UNU-IAS notes that the Madrid Protocol to the Antarctic Treaty commits signatories to avoid changing distribution, abundance or productivity of Antarctica's fauna and flora, to jeopardize endangered or threatened species or to degrade or create substantial risk to areas of biological, scientific, historic, aesthetic or wilderness significance.

It also commits signatories to guard against importation of non-sterile soil and the introduction of non-native species and micro-organisms (e.g., viruses, bacteria, parasites, yeasts, fungi).

In the Antarctic, however, tourist activities can compromise the region due to seeds, invertebrates and soil in their clothing and footwear, and in their provisions and equipment, says Dr. Leary. As well, visitors may introduce and spread infectious disease-causing agents through, for example, interactions with wildlife and leaving behind organic wastes.

According to a 2005 UNEP report: "Governments may be reluctant to impose thorough quarantine controls on tourists for fear of damaging the industry ... [and] tourists are likely to be moving between similar sites (for example, wildlife viewing areas), increasing the risk of spreading invasive alien species."

It also notes that "researchers may pose a particular risk to biodiversity because they have access to sites of high conservation value that may be closed to the general public, and may carry equipment or organisms to those sites."

Law professor Tullio Scovazzi of the University of Milano-Bicocca, Milan, says States should make full use of existing provisions under maritime law to establish measures to protect polar regions from harm, including shipping traffic separation schemes, recommended routes, deep-water routes, areas to be avoided, compulsory pilotage and other vessel traffic services.

He notes a UNCLOS provision devoted to "ice-covered areas" which refers to the right of coastal states to adopt and enforce laws and regulations within their exclusive economic zones, "where particularly severe climatic conditions and the presence of ice covering such areas for most of the year creates obstructions or exceptional hazards to navigation and pollution of the marine environment could cause major harm or irreversible disturbance of the ecological balance."

Given changing environmental circumstances, however, he anticipates potential new questions arising, such as:

- At what temperature are climatic conditions considered particularly severe?
- Do laws and regulations adopted by the coastal States for ice-covered areas apply also in the part of the year when the areas are not covered by ice? and
- What happens if in certain years the waters are ice-covered for most of the year, but in other years they are not, also considering that the precise calculation of the duration of ice-coverage can only be made at the end of the year?

Bioprospecting is also emerging as an issue in both polar regions, says Dr. Leary of UNU-IAS.

"Bioprospecting in Antarctica in particular raises new questions about its impact on freedom of scientific research and the unique framework of international co-operation and governance in Antarctica and the Southern Ocean which is built upon the ideals of Antarctica as a region devoted to science and peace.

"Similar questions arise in the Arctic as well. It is quite surprising but it looks like bioprospecting is already a well established commercial activity in the Arctic, perhaps exceeding the level of activity in Antarctica. Both biotechnology companies and government funded research projects alike see the potential of the Arctic's unique biodiversity for new developments in biotechnology.

"The neural stem cells of Arctic squirrels for example offer interesting new possibilities for the treatment of strokes in humans, while some Arctic fish species have already yielded new interesting enzymes useful in industrial and manufacturing processes."

"But can these new commercial activities, often occurring on the high seas, be sustainably managed? That is but one new challenge for international law we are considering at this conference", says Dr. Leary.

Thorsteinn Gunnarsson, rector of the University of Akureyri says: "As the impact of climate change is increasing, it is highly important to discuss leadership and governance in the Arctic regions. The academic community should provide a platform to explore and openly debate these issues. University of Akureyri is very proud to offer this platform by holding this conference in international law and policy in the polar regions in cooperation with UN institutions and other partners."

Says Konrad Ostrerwalder, UN Under Secretary-General and Rector of UNU: "As the ecosystems of the Arctic are affected by climate change, so too will the inhabitants be affected, because of their heavy reliance on the natural resources of the Arctic.

"It is important that voices of the indigenous and other peoples of the Arctic be heard in the course of the development of government policies at all levels."

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UNU Institute of Advanced Studies, Yokohama Japan

The Institute of Advanced Studies (www.ias.unu.edu) is part of the United Nations University's global network of research and training centres. IAS undertakes research and postgraduate education on leading sustainable development issues, convening expertise from disciplines such as economics, law, biology, political science, physics and chemistry to better understand and contribute creative solutions to pressing global concerns. UNU-IAS works to identify and address strategic issues of concern for all humankind, for governments and decision makers and, particularly, for developing countries.

United Nations University

Established by the U.N. General Assembly, UNU (www.unu.edu) is an international community of scholars engaged in research, advanced training and the dissemination of knowledge related to pressing global problems. Activities focus mainly on peace and conflict resolution, sustainable development and the use of science and technology to advance human welfare. The University operates a worldwide network of research and post-graduate training centres, with headquarters in Tokyo.

University of Akureyri, Iceland

Founded in 1987 in northern Iceland, the University of Akureyri (<http://english.unak.is>) offers courses in humanities and social sciences, law, health sciences, education, business and natural science. Its 1,400 students represent roughly 10% of Iceland's university student population. It also features the country's largest distance education program, with 450 students. A new Masters Program in Polar Law aims to train policy makers and lawyers to tackle many emerging polar region challenges. For more information: <http://english.unak.is/?d=5&m=page&f=viewPage&id=246>

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