

Antarctica: new territory of international dispute

A report by Sam Bateman and Anthony Bergin¹ of the Australian Strategic Policy Institute, Canberra in the Australian daily *The Australian*, shows panic reaction of Australia as the largest territorial claimant in Antarctica. A quote directly from the report¹ is as follows:

'China and India's increasing interest in the Antarctic could presage the use of their stations for military purposes, destabilising the continent as a zone of peace.... Like other rising nations, China and India want a higher profile in Antarctic affairs. But, unlike other countries, they're chasing that profile with much more vigour and with determined independence.... Advanced defence forces are heavily reliant on space-based infrastructure, communications and navigation systems. China and India could use their Antarctic bases for these purposes. But how would we know? To do so would be at odds with the Antarctic Treaty, but the sparse use of the treaty's inspection mechanisms means that such activity could go undetected (www.theaustralian.com.au).'

Though the Antarctica treaty does not seem under immediate threat, this report shows the need to re-evaluate the scientific interests in the region and the role of the treaty in international scientific and operational cooperation. The treaty was opened on 1 December 1959 and entered into force on 23 June 1961. The original Antarctic treaty shows 14 articles, but approximately 200 more recommendations have been added to it from time to time according to the needs. Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, Norway, South Africa, the Soviet Union, the United Kingdom and United States of America were the first signatories and they had established over 50 Antarctic stations in the year 1957–58.

According to the National Centre for Antarctic and Oceanographic Research, Goa chapter, the Indian Antarctic programme began in 1981 as a first expedition. Considering the allegation by the above authors if one sees the progress of India in the Antarctic is slow and steady and there is no question of vigour (dictionary meaning *staying power*). In 1983, India was admitted to the Antarctic treaty. Thereafter, the first permanent station 'Dakshingangotri' was built and the same year India received consultative status. In October 1984, the country was

admitted as a member of the scientific committee on Antarctic research. In 1986, India became a member of the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR). The period of 1988–89 was required to build the second permanent station, 'Maitri' and in 1997 India ratified environment protocol to the Antarctic treaty upholding its commitment to preserve pristine continent. India's third permanent station, 'Bharati' symbolizes its entry into the elite group of nine countries (Argentina, Australia, China, Chile, France, Russia, the UK and USA) having multiple permanent bases on the continent is in pipeline and may be the reason of apprehension for some of these nations.

According to Article 4 of the Antarctic treaty, the treaty does not recognize, dispute, nor establish territorial sovereignty claims; no new claims shall be asserted while the treaty is in force, most countries do not recognize territorial claims in Antarctica, but the Australian Antarctic Territory (AAT)², a part of Antarctica was claimed by the UK and placed under the authority of the Commonwealth of Australia in 1933. Australia's claim to sovereignty over the AAT is recognized by the UK, New Zealand, France and Norway, but Japan does not recognize this claim to the Australian Antarctic territorial waters in which Japanese ships conduct whaling.

Comparing the scale of India's Antarctic programme to that of Australia, the former has hardly completed 29 years, whereas the latter has completed 101 years on the continent. India has only one existing research station, Maitri, as Dakshingangotri was abandoned in 1989, as it was buried under ice and Bharati is a proposed station; whereas Australia has three round-the-year stations (Mawson, Davis and Casey), sub-stations at Macquarie islands and remote field bases operating during summer research season. Maitri has a capacity of 25 personnel, whereas Australia accommodates 300 permanent staff. Under the AAT, Australia claims 5,896,500 sq. km area, whereas India has not made any territory claims in the region till date.

The Australian environmental minister Tony Burke introduced the Antarctic treaty (Environmental Protection) Amendment Bill 2011 in the name to improve the

safety of tourism and non-governmental activities on 23 October 2011, which has now been passed on to the senate for consideration³. Though tourism is shown as the reason behind the Bill, the actual interest in the region is strategic. Antarctica plays an essential role in the global weather system, is a major carbon sink, and has vast marine resources⁴ and great potential for bio-prospecting. Its major resource attraction, however, are its mineral resources, including coal seams, manganese ores, iron, uranium, copper, lead and other metals⁵. Antarctica's predicted oil reserves have been estimated at up to 203 billion barrels, with 50 billion barrels expected in the Weddell Sea and Ross Sea, which respectively cover the continental shelves adjacent to the claimed territories in Australia and New Zealand⁶. If the total estimate is correct and the oil can be feasibly extracted in the future, Antarctica's reserves would be the third largest in the world after Saudi Arabia (262.6 billion barrels) and Venezuela (211.7 billion barrels)⁷.

The late Christopher Joyner (Department of Government at Georgetown University, Washington DC, USA) identified three potential challenges to the cooperative spirit of the agreement, driven by the changing global, political and economic climate. States might implement national continental-shelf claims in offshore Antarctic waters in pursuit of energy resources, he suggested, or tensions could escalate between Japan and Australia over whaling in the Antarctic waters. Joyner's third scenario is widespread and unregulated bio-prospecting. Nearly 200 research organizations from 27 states are carrying out research for commercial purposes in the Antarctic, according to Joyner, and one big goal is shifting its plants and animals for beneficial genetic and biochemical resources⁸.

According to Ellie Fogarty (Lowy Institute for International Policy, Australia) over the past decade several states like Argentina, Chile, China, India and New Zealand have expressly stated their intentions to increase their Antarctic activities and involvement in Antarctic administration, asserting their interests through a range of novel arguments and strategies. In such a scenario Fogarty suggests that Australia needs to elevate

the priority of the Antarctic policy, and better integrate it into national security and strategic policy thinking. It should deepen engagement with the Antarctic treaty system and make better use of its compliance mechanisms. Open discussions are needed with like-minded states in anticipation of sovereignty and resource issues being revisited in 2048. The policy function of the Australian Antarctic Division must be relocated to Canberra and moved into the Attorney-General's Department. It should invest in Antarctic science, logistics and other capabilities including ski-equipped aircraft. Antarctica's strategic importance should be defined in national security policy statements, including the next

Defense White Paper, and how personnel from the national security community may contribute to Australia's Antarctic programme must be explored⁹.

Considering these facts, one can make out that international interest in Antarctica is not confined to science/research, but it has crossed its boundaries and can become the next territory of international dispute over the resources.

1. Bateman, S. and Bergin, A., *The Australian*; 31 December 2011.
2. Australian Antarctic Territory Acceptance Act 1933.
3. Greater Protection Endorsed for Antarctica, Report, Department of Sustainability, Environment, Water, Population and Communities, Australian Antarctic Division,

Australian Government, 29 February 2012.

4. Beck, P. and Dodds, K., CEDAR Discussion Paper Series, 1998, vol. 26, p. 34.
5. Roucek, J. S., *Am. J. Econ. Soc.*, 1986, **45**, 71.
6. St John, *Mar. Pet. Geol.*, 1987, **5**, 34.
7. United States Energy Information Administration, International Energy Statistics, 2011.
8. *Nature*, 2012, **481**, 237.
9. Antarctica: Assessing and protecting Australia's national interests, Report, Policy Brief, August 2011.

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Non-tragedy of the commons

The problem of the commons need not be a 'tragedy'. The theory proposed by Garrett Hardin in 1968 (ref. 1) – the tragedy of the commons – may no longer be as convincing and popular as it has been. According to Hardin, allowing users to manage common property resources, by appealing to their individual consciences, is not realistic. Some of his points of view are: '... the commons, if justifiable at all, is justifiable only under conditions of low-population density¹'. 'To couple the concept of freedom to breed with the belief that everyone born has an equal right to the commons is to lock the world into a tragic course of action¹'. To manage the commons, Hardin recommends mutual coercion, 'mutually agreed upon by the majority of the people affected¹', such as compulsory taxes.

This outlook was questioned by Elinor Ostrom², the first woman to receive The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel (in 2009) 'for her analysis of economic governance, especially the commons'³. A press release by The Royal Swedish Academy of Sciences states: 'Elinor Ostrom has demonstrated how common property can be successfully managed by user associations ... has challenged the conventional wisdom that common property is poorly managed and should be either regulated by central authorities or privatized ... She observes that re-

source users frequently develop sophisticated mechanisms for decision-making and rule enforcement to handle conflicts of interest, and she characterizes the rules that promote successful outcomes⁴.'

In the T. N. Khoshoo Memorial Lecture she delivered in Bangalore on 3 February 2012, Ostrom described a framework to identify variables that decide whether users would self-organize in order to achieve sustainable social-ecological systems (SES). In a related article, she notes that: '... we must learn how to dissect and harness complexity, rather than eliminate it from such systems ... this process is complicated, however, because entirely different frameworks, theories, and models are used by different disciplines to analyse their parts of the complex multilevel whole⁵' and that 'simple blueprint policies do not work.'⁵

Ostrom said that, to the question: 'when will the users of a common property resource self-organize?', Hardin had answered: 'Never!' Many policies were based on this conclusion by Hardin, and people assumed that governments must impose uniform solutions on all similar resources, e.g. forests. There were many failures and some successes. Ostrom indicated that people will self-organize when they perceive the benefits of self-organization to be greater than the costs.

Ostrom spoke to *Current Science* at the end of the T. N. Khoshoo awards function (see Box 1).

How does one decide when ownership by the stakeholders is better than governmental governance?

You want to be looking at how big the resource is. If it is giant, and there are thousands of people involved in it who don't know one another, then it is probably not going to be self-organized very effectively. But a 100 to 200 people, they have some common history, and they can get a knowledge base that is accurate – then indeed they have a strong interest. So it is not one of these simple things and there isn't just a single variable.

Why are there so few women Nobel laureates?

Well, I can't answer that! There are very few. When I entered academia in 1965, there were very few women in social sciences. You don't want to hear my long history, but I can tell you the problems in being a woman all the way. I think part of it is there were few academic women in economics or the social sciences. We are now making a change. I am focusing on the future rather than going over the past. I have had women PhD students working with me and am trying to help