

AicQoL 2013 Langkawi  
AMER International Conference on Quality of Life  
Holiday Villa Beach Resort & Spa, Langkawi, Malaysia, 6-8 April 2013  
*"Quality of Life in the Built and Natural Environment"*

## Policy Integration: Internationalization of state environmental protection policy

Rohani Mohd Shah<sup>a\*</sup>, Zaliha Husin<sup>b</sup>

<sup>a</sup>*Faculty of Law*

<sup>b</sup>*Faculty of Administrative Science and Policy Studies  
Universiti Teknologi MARA (UiTM), Malaysia*

---

### Abstract

The Policy Integration Theory enhanced the role plays by Antarctica in stabilizing the planetary raising temperature due to global warming from negative impact of urbanization activities through The Antarctic Treaty 1959 and the Madrid Environmental Protocol of 1991. Today, this theory becomes a compromise used to reinforcing State standard on environmental protection policy which previously governed by the economic actors. This Theory adopted the international environmental protection policy initiated through Antarctica science diplomacy to be practised and activated voluntarily by State in their quest for better quality of life for their subjects. Malaysia is the example of this achievement.

© 2013 The Authors. Published by Elsevier Ltd. Open access under [CC BY-NC-ND license](#).

Selection and/or peer-review under responsibility of the Association of Malaysian Environment-Behavior Researchers, AMER (ABRA malaysia).

*Keywords:* Policy intergration; Antarctica; environmental protection; policy

---

### 1. Introduction

Policy integration means the internalization of environmental concerns into the core of economic development strategies and policies. A policy integration entails the adoption of institutional arrangements and policy tools that allow better quality of life and better decision by economic actors – firms, farms, and households – to respond positively to pressures for enhanced the best of its environmental policy performance. Rather than addressing environmental performance exclusively

---

\* Corresponding author. Tel.: +60 – 019 353 361; Fax:+06 03 5521 1074.  
E-mail address: rohanimohdshah@salam.uitm.edu.my.

through the external pressure of a freestanding environmental agency, policy integration seeks to internalize environmental considerations within the basic economic decision making of firms and industries, and within the policies of the economic development agencies that bear primary responsibility for promoting industrial and urban growth. Today, the policy integration is a major concern in the study of Antarctica. Antarctica is important to the rest of the world when referring to the major role it plays in stabilizing the planetary raising temperature due to global warming from negative impact of urbanization activities in order to secure and sustain quality of life. The Antarctic Treaty 1959 and the Madrid Environmental Protocol of 1991 are dedicated laws to preserving the region unique environment which Malaysia now has ratified.

It is often suggested, there are an inherent conflict of interest between protecting the environment and promoting economic growth. Thus, policy integration may be a potential compromise in pursuing the suggestion. Through comparison, the nature of the policy integration which was applied in Arctic Region and later published by those Polar researchers, this study will be able to identify the issue prior to the application of the Theory in order to understand its effectiveness.

The article explores and identifies situations in which the goals of state economic development and environmental protection are mutually reinforcing through the international standard on environmental protection as indicated to the world and obligated upon the member states of the Antarctica Treaty System, rather than in opposition. The paper shall be divided into three segments; first, the role of Antarctica as elaborated by the literature review; second, the initial Antarctica Science diplomacy as a concept deliberated by the literature reviewed; and thirdly, preliminary discussions leading from the key factors to the need of further research and recommendations.

## **2. The role of Antarctic**

Antarctica is the largest and most pristine wilderness covering an area of nearly 14 million square km. but less than 0.5% of the continent is ice free. Scientific research is the major human activity carried out in Antarctica, but there are also significant fisheries and tourist operations. The continent is so important for science because it is an unparalleled natural laboratory for undertaking research of global relevance. But much of the scientific value of Antarctica will be lost if it is allowed to be polluted or significantly disturbed. Most human activities have some form of environmental impact. The effects of activities taking place outside Antarctica have caused major and lasting impacts in Antarctic *per se*. for example, the "ozone hole" above Antarctica which is caused by the release of man-made chlorofluorocarbons (CFCs) many miles away from the region.

The Antarctica is governed by international arrangements aimed at its protection and conservation where the resource use is limited to fishing in certain southern waters and that a minerals convention currently prohibits prospecting and exploitation. Whereas, the Arctic is an emerging major resource frontier which multinational companies always express their ambitions to search for oil, gas and minerals, there. The two polar regions are considered important scientific frontiers, places in which, it is argued, it is imperative that scientific research should be carried out because the Arctic and Antarctic contribute to an understanding of global climate change processes, such as the important role the polar regions play in influencing and controlling the planet's energy, the temperature, in regulating ocean currents, understanding the nature of climate change, or understanding the development of ecosystems and biodiversity. Due to these scientific reason, many countries and international corporations race to the two Polar jurisdictions, in order to activating their scientific activities, which at the same time, acquiring jurisdiction for their permanent location. The scientific reasons therefore developed geopolitics development in both regions. However, the influence of science is more prominent in Antarctica then in the Arctic, due to the fact that Antarctica Treaty 1959 declares Antarctica Regions an international space

which jurisdiction cannot be acquired by any sovereignty whom initiated the Treaty. Most of these State have base station for the purpose of scientific research, on the continent of Antarctica. Looking at this angle of scientific research, it is almost impossible to separate science from politics, they integrate.

### 2.1. *Governing laws of Antarctic science diplomacy*

The Antarctica Treaty 1959 is the main governing legislation which enters into force in 1961 and currently has 48 signatory nations that sets aside Antarctica as an international space, reserved for peaceful purpose, establishes freedom of scientific investigation and bans military activity on that continent. The latest addition is the Protocol on Environmental Protection to the Antarctic Treaty or Madrid Protocol 1991 was entered into force on 1998. This agreement provides for the protection of the Antarctic environment through six specific annexes on stringent requirement on environmental impact assessments, conservation of fauna and flora, preventing marine pollution, proper waste management plan, establishing two specific protected areas and dealing with liability. Its mission is to protect Antarctic's pristine environment for the benefit of humanity and sustaining quality of life for the future generation. The most important obligations the Protocol imposes are:

- Antarctica is designated as a "natural reserve devoted to peace and science"
- Mineral activities are prohibited for at least 50 years, except for scientific minerals research
- All activities are to be conducted so as to limit adverse environmental impacts.

Scientists and support staff from national programmes will continue to work in Antarctica in a sustainable way. As the local residents they have first-hand knowledge of Antarctica, realise its global importance as a wilderness region and unpolluted natural laboratory and are committed to the environmental protection of the continent, all their discoveries are *information* which is mandatory to be shared with the rest of the world. The governing legislations encourage the development of the new concept of Antarctic Science Diplomacy and the geopolitics of Antarctic. Therefore Policy Integration is the best theory in managing the sharing of Antarctic's discoveries. United Nations Environmental Protection Unit adopted several principles from Antarctic science in its mission to enhance economic development of state members without depleting the quality of global environment such as Agenda 21 under the Stockholm Declaration on Conservation of Environment and The Montreal Protocol 1997.

Science is recognized as the major activity undertaken in Antarctica. The fundamental rationale for scientific research interest in Antarctic springs from recognition that events and processes there have a profound influence on the environment and evolution of the entire globe, (e.g. climate, biological production, and ocean circulation). More directly, research has direct relevance to itself at a regional level including the issues of ozone layer depletion, fisheries resources, and the fact that geological research in Antarctica provides insight into likely resources in the region.

### 3. **The policy integration**

The Theory of Policy Integration should focus on closing the major gaps between State's public knowledge and understanding of the intrinsic value, features and potential resources of the Antarctic Region. Informed policy making would require deeper understanding and assessment of the Antarctic ecosystem in our area. Malaysia needed to be aware of the potential for future resource exploitation on the Continent not envisaged in the Environmental Protocol to the Treaty. The rapid development of biotechnology has for instance, increased the potential for important discoveries in Antarctic fauna.

The basic question remained "is science the driver of the Malaysia national presence in Antarctica?" The level of science activity had in fact fallen off following restructuring of the government involvement in science development. What science could be done only in Antarctica? Could the scope of Antarctic

science be broadened? Another issue was how increasingly significant non-scientific activities in Antarctica – such as eco-tourism, recreational tourism and educational uses – can be effectively managed to ensure protection of Antarctic's intrinsic values. Which international standard of environmental protection suitable for Malaysia to develop its economy?

Understanding climate change impacts and adaptation has preoccupied the efforts of many researchers in a number of disciplines in recent years, and the social sciences and the humanities in particular have been making a greater contribution to the literature on Antarctic itself. Susan Crate explores the shifting dynamics of the utility and socio-economic importance of ice and snow. She provides an ethnographic account of how people are finding that ice and snow are increasingly less dependable and predictable and, quite often, absent. People report that climate change means increased effort and cost are involved and pointed out the importance of understanding climate change within the context of other changes affecting communities. She argues, for instance, that however critical to subsistence practices ice and snow conditions are, increasing economic uncertainty and changing demographics bring more immediate threats to local communities, and she makes some important observations about young people in both places being seemingly disinterested in continuing to engage with traditional economic life. Crate's work contributes to a growing body of work that argues that climate change perhaps magnifies changes already experienced by many Arctic communities.

Science is often used as a powerful tool in presenting arguments for resource development and large-scale projects. Such projects also require careful regulatory review and environmental impact assessment in most countries, especially developing state like Malaysia.

The Antarctic Treaty System needs to become, and to remain, more transparent and, hence, more understandable to Treaty member states and non-signatories alike. To prepare the Treaty for the challenges of the 21st century requires that change be made, and be sustained, in the way business is conducted and presented to the world at large. Greater intelligibility should contribute to the appeal of the system for those countries that remain outside. Refinement of the decision-making process can contribute to transparency, efficiency and accessibility of the Consultative meetings.

Although it cannot be the last word on the question of protection and management of Antarctic, the 1991 Environmental Protocol to the Antarctic Treaty lays out a far-sighted, complex and ambitious programme. Basically the ambitious programme envisaged under the Environment Protocol extends far wider than just minerals activity (which it bans outright) and requires Treaty parties, as well as private individuals, to minimise their environmental impact upon Antarctica.

### *3.1. The literature contribution to the development of the theory of policy integration*

Simo Sarkki and Timo Karjalainen contribute a valuable article that considers how scientists employ various strategies with the intention of informing policymakers. They can assume a number of roles, including being "honest brokers", by which is meant that they aim to communicate a variety of management options with the intent of inspiring discussion about a range of uncertainties, or they can be "issue advocates" and argue the case for particular and specific management options

Arthur Mason's observations of policy discussion and plans for developing natural gas pipelines in Alaska illustrate how energy consultants present and disseminate plans, ideas and projects encounter particular ideas from a distinct historical period of market restructuring and he analyses situations in which energy consultants convey specific aspects of technical expertise.

Hannah Strauss, on the other hand, looks at the development of large-scale energy projects draws largely on research on the decision-making processes behind the siting of nuclear power plants and hydro-power projects in Finland. She argues that some scholars have observed an international convergence of concepts and practices in environmental impact assessment, despite apparent differences in legal

circumstances. Importantly, however, she argues that such a convergence hardly benefits – indeed it is indifferent to – local communities and social and cultural situations. Furthermore, Strauss shows that large-scale energy projects involve the implementation of new governance models that appear to prioritize environmental protection, but in reality fail to allow local communities adequate opportunities to participate in crucial decision-making processes or to contemplate alternative development strategies.

To show how this works in practice, Sarkki and Karjalainen take an interesting look at a debate between the status of preserving the forests in its original nature and the nature of risk and the understanding of sustainability of the population. Sarkki and Karjalainen debates about resource management and conservation and argue, perhaps alarmingly, that not only is it a risk for scientists to play the role of “honest brokers”, but that they also reduce their ability to provide neutral and credible policy advice if they push for a preferred management and conservation option.

Alan Hemmings is concerned with the effect and influence that the foundational values of the Antarctic Treaty System. The ATS came about because of particular historical circumstances and contingencies. The contemporary Antarctic political environment, however, is under pressure from a range of interests which challenge the foundational values of the ATS. There are competing ideas of the future of the continent, as well as various and divergent resource and geopolitical interests expressed by the various states that operate in Antarctica. In addition, the seven claimant states (as well as two ‘semi-claimant’ states) have their own notions of what is meant by, and what constitutes, Antarctic territory. Hemmings draws attention to other factors that the future of Antarctica will depend on how far states continue to subscribe to the values that led them to formulate and implement the ATS in the first place.

In the forty years of collective significant scientific discoveries have and still to be made notably at the global context. The increased knowledge of Antarctic science enabled Antarctic studies now to be linked closely to global processes especially in regard to environment and climate change. All of this meant that the way in which Antarctica is viewed and used in terms of scientific endeavour and environmental management, was changed. Changes at the global level likewise added impetus to evolutionary change in Antarctica itself over the last decade of the present century. Technology, especially satellite technology, opened up new ways of researching Antarctica by using, for example, remote-sensing and unmanned equipment with real-time links to laboratories elsewhere in the world. The fixed bases on the Continent together with air transport allowed scientists to visit the Antarctic quickly and over reasonably short periods of time, to carry out experimentation without the need for lengthy expeditions of earlier times. The high costs of Antarctic science have increasingly induced State to be in favour of international collaboration on the scientific activities in the Continent. Such collaboration is promoted in particular by the 1991 Environmental Protocol of the Antarctic Treaty itself.

### *3.2. State response to Antarctica science diplomacy*

The Malaysian Cabinet endorsed an Antarctic research programme in the area of climate change and biodiversity in 1997. The Academy of Sciences Malaysia was given the mandate to oversee and coordinate the programme. The Antarctic Treaty System established Antarctica as a continent dedicated to science and is the largest earth system laboratory in the world. Malaysia team concentrates on the extreme environment studying the evolution of the organisms that may have biotechnology value. The ice cap of Antarctica and its ice core archived the earth climate back to about a million year before present. Therefore the local team study Antarctica influence on the southern ocean how their relationship effects global climate system. Another study is on the density of the deep water generated under the sea ice of Antarctica which has a function as the main driver of the global thermohaline circulation. The current study of Arctic Oscillation shown that does have some influences over our own Northeast Monsoon. In

the study of effect and adaptation of UV radiation and temperature on polar and tropical microbes some sensitive and resistant species to these parameters were identified.

Hence changes in the Antarctic and Arctic, the cold regions do have a significant influence on the global climate system, globally. The Malaysia Antarctic Research Program (MARP) has been active in Antarctic and Arctic research since RMK 8 and RMK 9 with is actually a particular niche on polar and tropical relationship in physical and biological sciences. It has established cooperation and Memorandum of Understandings with nearly all the leading polar research centres such as British Antarctic Survey and Japanese National Institute of Polar Research. MARP is a full member of the Scientific Committee on Antarctic Research and a member of the Asian Forum on Polar Sciences. Political decisions often determine what scientific priorities are placed on a national science agenda, or how national science policy will take shape. At the root of many of questions was, whether the Treaty and its Madrid Protocol 1959 will constrain scientific activity on the Continent by making it more difficult and more expensive. That issue was central to an assessment of whether further capital investment was warranted by state members in reacting to the need to protect world environment by protecting Antarctica's environment. Membership of the Antarctic Treaty System, and involvement in collective endeavours' under the Treaty system, has created measurable assets in the form of bilateral and international connections that benefit of science.

#### **4. Conclusion**

One of the principles that has been relatively easy to agree upon is Environmental Policy Integration. It refers to the integration of environmental aspects and policy objectives into sector policies. Malaysia finds Antarctica constitutes to the national asset for a small country with limited sinew and leverage in the world. Malaysia interest there needs to be of the highest order that reflects our own national values and aspirations while being developed in partnership with the United States, Argentineans and other nations active in the Ross Dependency and the Southern Ocean. The policy tests will be significant. They will embrace the State's role in the Antarctic Treaty System reinforcing the development of science. The policy builds relationship with the pre-eminent player in and on Antarctica on environmental management, non-government science, recreational use and tourism.

The policy challenges State to have a strategy of excellent science to develop Antarctic scientific activities to be acknowledged as excellence and world quality. In a global situation where there is no overarching world order smaller nations have to work harder and smarter to preserve and promote interests. Malaysia interests with respect to Antarctica are no exception. Antarctic policy-making remains complex. Sensitivity, subtlety and awareness of the bigger picture – attention to detail at the same time as focus on the longer term – are indispensable and will continue to provide real challenge for Malaysia to revise Antarctic structure. There are certainly no cast-iron guarantees about the future as changes in the availability of operational and logistic support in Antarctica amply illustrate. Antarctic policy and Antarctic science will have to compete for attention. Malaysia can now build a strategic objective for Antarctic which is defined as "... the conservation of the intrinsic values of Antarctica for the benefit of the world community, and for present and future generations of mankind as a whole".

Active and responsible activities should promote Malaysia interest in the near future or could contribute to her broader foreign policy objectives in the Asia-Pacific region generally has not been extensively canvassed. Amongst the ATCP's, there are three key East Asian members, China, the Republic of Korea and Japan. The onus was on upon Malaysia to take the initiative with these governments to explore scientific collaboration and practical interaction possibilities under the Antarctic Treaty rubric. Inside South-East Asia, Malaysia's persistent leadership of a move within the UN to assert UN interest and responsibility for Antarctic has enjoyed support, or at least understanding, from many

others in the UN. Collaborative Antarctic scientific research projects would provide the platform when required for ongoing political dialogue with Malaysia and more widely in South-East Asia.

## Acknowledgements

This research is funded by Long Term Research Grant (LRGS) 2011 research area on ‘The Connectivity between Equatorial and Polar Regions’ which is awarded to University Malaya, University Science Malaysia and Universiti Teknologi MARA. The latter is assigned with the task on Madrid Protocol 1991: Implications for Malaysia.

## References

- Sarkki, Simo & Timo P. Karjalainen (2012). Science and Issue Advocacy in a Forest Debate in Finland. *The Polar Journal*, 2(1), 125 – 138.
- Sarkki, Simo & Anna Reetta Rönkä (2012). Neoliberalisations in Finnish Forestry. *Forest Policy and Economics*, 15, 152 – 159.
- Sairinen, R., Barrow, C., & Karjalainen, T.P. (2010). Environmental Conflict Mediation and Social Impact Assessment: Approaches for Enhanced Environmental Governance? *Environmental impact assessment review*, 30(5), 289-292.
- Crate, S.A. & Mark Nuttall (2009). *Anthropology and Climate Change: From encounters to actions*. Walnut Creek: Left Coast Press, 166 – 169.
- Hastrup, Kirsten (2009). *The Question of Resilience: Social responses to climate change*. Copenhagen: Danish Academy of Science and Letters, (Chapter 2).
- Nuttall, Mark (2010). *Pipeline Dreams: people, environment, and the Arctic energy frontier*. Copenhagen: IWGIA.
- Awang-Shuib, A.R., Sahari, S.H. & Ali, A.J. (2012). Multicultural Awareness and Urban Communities: Validating a Multicultural Awareness Scale. *Journal of ASIAN Behavioural Studies*, 2(6), 50-62.
- Bajunid, A.F.I., Abbas, M.Y. & Nawawi, A.H. (2012). Tessellation Planning: Relationships between The Physical Environment And The Neighbourhood. *Journal of ASIAN Behavioural Studies*, 3(7), 45-53.
- Mark Nuttall (2012). Politics, Science and Environment in Polar Regions. *The Polar Journal*, 2(1), 78-86.
- Robert W. Murray, Klaus Dodds & value Ingimundarson (2012). *Arctic Politics in the Emerging Multipolar System: Challenges and Consequences*.
- Tina T, Hemmings, A.D. (2008). Pressures On the Wilderness Values of the Antarctic Continent. *International Journal of Wilderness*, 14, 7-12.
- Policy Integration: Environment And Development In Asia (accessed on the 12<sup>th</sup>. Feb. 2013) Retrieved from [http://pdf.usaid.gov/pdf\\_docs/PNACSS503.pdf](http://pdf.usaid.gov/pdf_docs/PNACSS503.pdf)
- Tessellation Planning: Relationships between The Physical (accessed on the 8<sup>th</sup>. Feb. 2013). Retrieved from <http://fspu.uitm.edu.my/cebs/images/stories/cebs/av3n7jan2012c5.pdf>
- Anthony Giddens (2008). The Politics Of Climate Change, Policy Network Paper, September 2008.
- Beck, P.J. (2002). The United Nations and Antarctica. *Polar Record*, 39(210).
- Dodds Klaus (2010). Governing Antarctica: Contemporary Challenges and the Enduring Legacy of the 1959 Antarctic Treaty. *Global Policy*, 1(1), 108.
- Farhana Yamin & Diana Deplege (2004). *The International Climate Change Regime: A Guide to Rules Institutions and Procedures*, University Press, Cambridge.
- John Turner (2008). Antarctic Climate Change and the Environment, Scientifics Committee for Antarctica Research, In Contribution to International Polar Year 2007-2008.
- John Machowski (1992). The Antarctic Environmental Legal Regime. *Polish Polar Research*, 13, 183- 214.
- Richard SJ, Tol. (2009). The Economic Effects of Climate Change. *Journal of Economic Perspectives*, 23(2), 29–51.
- Richard S.J. Tola & Roda Verheyen (2004). State Responsibility and Compensation for Climate Change Damage: A Legal and Economic Assessment. *Energy Policy*, 32, 1109–113.
- Slaughter, Anne Marie (2004). *A New World Order*. Princeton University Press, pp 123 – 126.