

# International Law Aspects of an Arctic Continental Shelf Delimitation Agreement

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703: Graduate Seminar in Legal Research and Methodology

## Annotated Bibliography of Relevant Scholarly Literature

### LEGISLATION

- Act on Survey, Exploration and Exploitation of the Oil resources in the Iranian Territory and its Continental Shelf*, July 31, 1957 (1957), online: United Nations <<http://www.un.org>>.
- Act No. 45 concerning the Territorial Sea, Exclusive Economic Zone, Continental Shelf and other Marine Areas*, Dec. 17, 1977 (1977), online: United Nations <<http://www.un.org>>.
- Agreement between the Kingdom of Saudi Arabia and the State of Kuwait concerning the submerged area adjacent to the divided zone*, July 7, 2000 (2001), online: United Nations <<http://www.un.org>>.
- Agreement concerning the sovereignty over the islands of Al-'Arabiyah and Farsi and the delimitation of the boundary line separating submarine areas between the Kingdom of Saudi Arabia and Iran (with exchanges of letters, map and English translation)*, Oct. 24, 1968 (1969), online: United Nations <<http://www.un.org>>.
- Convention on the Continental Shelf*, Apr. 29, 1958 (1964), online: United Nations <<http://www.un.org>>.
- Decree regarding the Delimitation of the Breadth of the Territorial Sea of the State of Kuwait*, Dec. 17, 1967 (1967), online: United Nations <<http://www.un.org>>.
- Frontier agreement*, Febr. 2, 1958 (1958), online: United Nations <<http://www.un.org>>.
- Law of the Russian Federation "On the Continental Shelf of the Russian Federation"*, Oct. 25, 1995 (1995), online: Tacis <<http://spb.ecology.net.ru>>.
- Royal Decree No.M-27*, Sept. 7, 1968, online: United Nations <<http://www.un.org>>.
- United Nations Convention on the Law of the Sea*, Dec. 10, 1982 (1994), online: United Nations <<http://www.un.org>>.

### SECONDARY MATERIAL: MONOGRAPHS

Berkes, Fikret et al. "Breaking ice: renewable resource and ocean management in the Canadian north" (2005) University of Calgary Press.

I have reviewed this material for a deeper understanding of ecological problems in the Arctic region. Also it provides a Canadian perspective towards the environmental protection of the Arctic region.

Gault, Ian. "Petroleum Operations on the Canadian Continental Margin" (1983) Faculty of Law. The University of Calgary.

This is the first of the Canadian Continental Shelf Law Project series. The work comprises an in-depth examination and analysis of Canadian law governing the conduct of offshore exploration, development, and transportation of the hydrocarbons from the continental shelf.

It is an important reference material for explanation of Canadian perspective on continental shelf delimitation.

Harrington, Michael. "Conflict of Laws in the Eastern Canadian Offshore: the Aftermath of the Arctic Explorer and Ocean Ranger Sinkings" (1984) Conference materials "New Directions in Maritime Law". Canadian Maritime Law Association. Halifax. Nova Scotia.

Harrington explores the scope of the conflicts of law problems in the Arctic resource exploration. It is useful for general reference providing examples of obstacles in resource development.

Klimenko, Boris. "Peaceful Resolution of the Territorial Disputes" (1982) International Relations. 184.

The author analyses the doctrine on delimitation of the continental shelf in the International Law. The book is important for explanation of general principles on continental shelf delimitation in International Marine Law.

Mero, John. "Mineral Resources of the Sea" (1969) Progress. 75.

The author explores legal issues related to continental shelf and its resources exploitation. It is a fundamental work on International Marine Law. It is useful for understanding International Law approaches on the Arctic resources dispute resolution.

Movchan, Aleksandr. "International Marine Law" (1997) Academic Law University. Moscow.

Movchan conducts conceptual analysis of the problem of internationalization of the Arctic region. The author provides national legislation of the Arctic countries regarding territorial claims on the continental shelf. This work is important as a primary reference book in order to determine and identify positions of the adjacent states.

#### SECONDARY MATERIAL: INTERNET ARTICLES

"Canada ratifies United Nations Convention on the Law of the Sea" (6 November 2003), online: Foreign Affairs and International Trade Canada <<http://w01.international.gc.ca>>.

"Canada ratifies United Nations Convention on the Law of the Sea" (6 November 2003), online: Foreign Affairs and International Trade Canada <<http://w01.international.gc.ca>> .

"Continental Shelf Project" (21 February 2006), online: Ministry of Science, Technology and Innovation of Denmark <[http://a76.dk/lang\\_uk/main.html](http://a76.dk/lang_uk/main.html)>.

Denmark ratified the UNCLOS on November 16<sup>th</sup> of 2004 in addition to Danish parliaments of the Faroe Islands and Greenland recently providing similar endorsements.

Boswell, Randy. "Canada draws line in the ice over Arctic seabed" (30 June 2007), online: CanWest News Service <<http://www.canada.com>>.

The article is an analysis of the Canadian position on the UNCLOS implementation.

Latham, Andrew. "Future of the Arctic, A New Dawn for Exploration" *Video Interview* (1 November 2006), online: Wood Mackenzie Press <<http://www.woodmacresearch.com>>.

The article is a critical joint study by Wood Mackenzie and Fugro Robertson "Future of Arctic", with findings on the Arctic petroleum potential. This work covers issues related to worst case scenario events that could add significant cost to the project.

Tuzova, Anna. "Освоение полюса на всю глубину" (30 August 2007), online: MVK Group <<http://www.mvk.ru>> .

The article reviews Russian position on the resolution of the Arctic continental shelf disputes.

# ANNOTATED BIBLIOGRAPHY ABORIGINAL SELF GOVERNANCE / TREATY / ENTITLEMENT TO WATER RESOURCES

Davin MacIntosh

December 19, 2007

**Asch, Michael.** "Aboriginal Self-Government and the Construction of Canadian Constitutional Identity" (1992) 30 Alberta Law Review 465.

Asch, an anthropologist, argues that the current Canadian constitutional law will prevent finding of a right of self-government because of its adherence to "universalism." Asch suggests an alternate approach using the concept of "consociation" which he argues would involve recognition of individuals as members of communities and facilitate protection of equality for both individual and collective rights.

As an example, Asch applies the "consociation" approach to the Quebec situation. Arguing that elements of the approach have already been adopted in the courts' recognition of "ethnonational collectivities." Asch argues that "consociation" represents a better approach than "universalism" and suggests that the Constitution could support such an approach.

Reasonably good legal analysis for a non-lawyer – principles are a little abstract though.

**Relevance:** May be a useful for arguing other perspectives.

**Bankes, Nigel.** "Aboriginal Water Rights: Revisiting Bartlett" *Reflections on Our Future... A New Century of Water Stewardship* (PowerPoint presented at CWRA Conference, Banff, 14 June 2003) [unpublished].

PowerPoint presentation considers how the law has changed since the publication of Bartlett (see below). Considers pre and post-Bartlett jurisprudence on several rights and the implications of changes since.

Significant changes occasioned by Delgamuukw (a provincial law may (justifiably) infringe a s.35 protected right; title may not be limited to "traditional use of such resources), Sioui, Badger, Marshall, Sundown (all support Bartlett's approach), Sparrow, Haida and Taku (duty to consult triggered "when the Crown has knowledge, real or constructive, of the potential existence of the Aboriginal right or title and contemplates conduct that might adversely affect it"), Nikal (AMF rule does not apply to navigable water bodies & strong presumption that reserves do not include beds), New agreements include Yukon, Gwichin, Sahtu,

LIA, Nisga'a, Nunavut Final Agreement (generally contain water rights provisions, often co-management).

Conclusions are that there has not been significant case law on the issues and that agreements are growing in importance as a resource for considering the content of rights to water.

**Relevance:** Topic is closely related to my Law 649 paper topic.

**Bankes, Nigel.** "The Legal Framework for Acquiring Water Entitlements from Existing Users" (2006) 44 *Alberta Law Review* 323.

This article provides a thorough analysis of the framework for transfer and assignment of entitlements under the *Water Act* (Alberta) and the *Irrigation Districts Act*. The analysis focuses on the legal framework but includes insightful comments about potential uncertainty and discretion issues as well as a few comments on policy issues and effects of the scheme as a whole. The article is well organized and makes the important differentiation between types or classes of entitlements and the rights associated with each.

**Relevance:** this is one of the only sources of information on the subject. Relevant to practice and to understanding the *Water Act* and related legislation.

**Bartlett, Richard H.** *Aboriginal Water Rights in Canada: A Study of Aboriginal Title to Water and Indian Water Rights* (Calgary: Canadian Institute of Resources Law, University of Calgary, 1988).

THE authority on Aboriginal rights to water in Canada. Pre-Sparrow. Methodically examines Canadian and United States decisions to determine the extent of Aboriginal rights to water and treaty rights to water. Suggests that treaty rights should include right to adequate water to supply "all the practically irrigable acreage" with an early priority. Suggests that Aboriginal title includes water rights but such rights likely limited to "the traditional use of such resources". Promotes US "Winter's Doctrine" which suggests that the intent of the legislators setting apart reserves should be considered, and necessarily included all those rights necessary to make economic use of the land. May need updating in light of recent law.

**Relevance:** Relevant to any discussion of Aboriginal water rights.

**Bartlett, Richard H.** "Prior and Paramount Aboriginal Water Rights in Canada" (1987) 18 *Canadian Institute of Resources Law Newsletter: Resources*. Also available at: <http://www.ucalgary.ca/~cirl/pdf/Resources18.pdf>

Short article by Bartlett for a paper / presentation at public consultation re: Peigan / Oldman River Dam issues. Represents a small piece of his overall work with few significant additions or deviations from what is included in *Aboriginal Water Rights in Canada*.

**Relevance:** May be useful for pithy summary quotes.

**Grant, Peter R.A.** "The Supreme Court Of Canada's Decision In Marshall and Bernard: Its Implications For Aboriginal Title In British Columbia" (Paper presented at the Aboriginal Law and Natural Resource Use Conference, Vancouver, 2005), (Vancouver: Continuing Legal Education Society of British Columbia, 2005).

Discussion of the Marshall & Bernard decision and its implications for Aboriginal title in BC. Good discussion of evolution, suggests tightening of law since Delgamuukw. Industry focused perspective.

**Relevance:** short summary of Marshall & Bernard.

**Hunter, John J.L.** "Consultation Obligations In The Forest Sector - Recent Developments" (Paper presented at the Aboriginal Law and Natural Resource Use Conference, Vancouver, 2005), (Vancouver: Continuing Legal Education Society of British Columbia, 2005).

Provides a practical analysis of consultation obligations for the forestry industry. Conclusions are based almost entirely on *Haida*. Well written.

**Relevance:** Useful for providing a pragmatic explanation of the duty to consult.

**Kempton, Kate.** "Bridge Over Troubled Waters: Canadian Law on Aboriginal and Treaty 'Water' Rights, and the Great Lakes Annex" (2005) *The Water Hole* <<http://www.thewaterhole.ca/publications/Aboriginal%20water%20rights%20and%20annex%20paper%20final.pdf>>

Specific discussion of interface between "annex regime" (Great Lakes treaty-type regime requiring consensus for certain diversions and uses) and Aboriginal rights. Good Great Lakes specific history. Interesting that she mentions "two underlying paradoxes" at the beginning of her article. Aboriginal law background is focused somewhat on ON, but up to date and includes some discussion of recent consultation cases. Water law section, does not add much concretely to Bartlett. Bold use of evolving principles. Very pro-Aboriginal. Application to Great Lakes annex regime analogous to a limited extent to the AB context.

**Relevance:** applies evolving principles of honour of the crown and reconciliation to Aboriginal water rights.

**Lysyk, Joanne R.** "Aboriginal Water Rights: An Introduction To The Legal Issues" (Paper presented at the Aboriginal Law and Natural Resource Use Conference, Vancouver, 2005), (Vancouver: Continuing Legal Education Society of British Columbia, 2005).

Very basic overview of water rights, drawing extensively from Bartlett, but adds discussion of consultation obligations supported by recent decisions and reference to Nisga'a agreement.

**Relevance:** May be helpful in preparing conference presentation re: consultation, unfortunately no discussion of Marshall or Mikisew.

**Macklem, Patrick.** *Indigenous Difference and the Constitution of Canada* (Toronto: University of Toronto Press, 2001).

Macklem provides excellent analysis of constitutional rights, in part by adopting an interdisciplinary approach and encouraging his reader to consider what the interests are that constitutional rights protect. Macklem is critical of the current approach of the Courts to Aboriginal rights and identifies several inconsistencies in particular with the application of section 35. Macklem argues that the Constitution should protect "indigenous difference" which is based on the cultural differences specific to Aboriginal peoples. By this approach, he argues that the Constitution supports protection of rights to engage in practices, customs, and traditions, rights relating to territorial interests including Aboriginal title, rights related to interests of Aboriginal sovereignty and self-government, and treaty rights.

**Relevance:** May be useful for arguing different perspectives, and for discussion of recent treaty law.

**Mainville, Robert.** "An Overview of Aboriginal and Treaty Rights and Compensation for Their Breach" (Saskatoon: Purich Publishing Ltd., 2001).

Provides a basic, but solid overview of treaty rights with reference to recent cases and changes in law. Well organized and pithy. Good summaries at the conclusion of chapters.

**Relevance:** Useful for locating changes in treaty law occasioned by the *Marshall* decision.

**Miller, J.R.** "Bringing Native People in from the Margins: The Recent Evolution and Future Prospects of English-Canadian Historiography on Native-Newcomer Relations" in Miller, J.R. *Reflections on Native-Newcomer Relations: Selected Essays* (Toronto: University of Toronto Press, 2004) 13.

Miller's article provides a critical review of historical scholarship in relation to Aboriginal Peoples. Beginning with a summary account of early historical writings he follows the evolution of method and subjects of inquiry of historical scholarship, purporting to address the following questions: Why did historians ignore the activities of native peoples? If historians were not writing about aboriginal people, were any other scholars in English Canada? When did this neglect begin to fade and why? What have been the major trends in scholarship, especially historical scholarship, about Aboriginal People over the past 30 years? Are there any indications of where scholarship is headed as the twenty first century begins?

Miller argues convincingly that before the 1970s there was very little historical scholarship dedicated to APs. He illustrated that early writings were mostly from Christian missionaries or self-trained amateurs – not historians. Miller is critical of most pre-1970 writings ("salvage anthropology"), pointing out how particular quotes of historians affected Federal policy and other academic work relating to APs.

He explains the absence of lawyers as being related to provisions of the Indian Act which made "the giving or soliciting funds for pursuit of claims a criminal offence". Such provisions were rescinded in 1951.

Miller states that things finally began to change around 1970 and the publication of Native Rights in Canada by lawyers Peter Cumming and Neil Mickenberg. The 70s also ushered in the civil rights movement, the American Indian Movement and greater global awareness of the Third World, the White Paper, the Calder decision, and a diversification of methodologies employed by historians.

Miller concludes by pointing out that there is much yet to be done and there are significant hurdles to overcome, not the least of which is the resentment and suspicion among APs of non-native researchers which has been raised by historical approaches.

**Relevance:** Useful account of historical progress, may be relevant to 649 paper when arguing evolution of treaty rights.

**Moen, Robert K.** "Honour Of The Crown: Historical Background And Development" (Paper presented at the Aboriginal Law and Natural Resource Use Conference, Vancouver, 2005), (Vancouver: Continuing Legal Education Society of British Columbia, 2005).

Very interesting article questions first principles including: sources of "Honour of the Crown" and fiduciary duty; and evolution of equitable principles. Appears to warn that "equity is flexible" and that "Crown Honour" is not absolute. Includes discussion of recent cases including Bernard and Marshall. Notes availability of equitable defences to equitable arguments: laches, acquiescence, but does not discuss in detail. Focus of application discussion is duty to consult. But these issues could be translated to a discussion of rights.

**Relevance:** May be relevant to 649 paper, esp. for presenting the possible limitations of Marshall and Mikisew.

**Nowlan, Linda.** "Customary Water Laws and Practices in Canada" (2004) Food and Agriculture Organization of The United Nations  
<<http://www.fao.org/legal/advserv/faoiucncs/canada.pdf>>

Solid article -- provides excellent background and thorough arguments. Background is up to date and included reference to many contemporary issues. Good analysis of constitutional framework / division of powers. Discussion of

interface between customary rights and statutory rights. Includes specific reference to AB and problems with the *Water Act* -- notes that the Guide for Discussion Draft for revisions to the Act provided that "the Province's position is that Aboriginal rights have been extinguished." Some issues for further research include: updated Bartlett in light of current cases, esp. U.S. cases; examining decisions of tribunals concerning Aboriginal water rights to further consider conflict of statutes with traditional rights.

**Relevance:** V. useful example of how to organize article and set out background.

**O'Callaghan, K. & Mullard, Joanne** "The Marshall and Bernard Decision: The Supreme Court of Canada Takes a Principled Approach to Treaty Rights and Aboriginal Title" *Faskens Aboriginal Law Bulletin* <[www.faskens.com](http://www.faskens.com)>

Example of initial response to Marshall and Bernard. Suggests general tightening of law in relation to Aboriginal Title. Suggests limits on duty to consult. Industry targeted.

**Relevance:** May be useful as counter-point to discussion of cases that may expand recognition of Aboriginal title and consultation requirements.

**Pozniak, Kristy.** "Indian Reserved Water Rights: Should Canadian Courts "Nod Approval" to the Winters Doctrine and What are the Implications for Saskatchewan if They Do?" (2006) 69 *Saskatchewan Law Review* 251.

Pozniak makes the argument for application of the Winters doctrine in Saskatchewan. Saskatchewan has similar water management legislation to AB and was subject to the NWIA. Legal background is brief and somewhat of a gloss. Translation of Winters doctrine to Sask context is reasonably good. Doesn't add significantly to Bartlett's analysis. Relevant to Alberta context. Provides specific comparisons to AB scenario.

**Relevance:** Refer to for discussion of Winters Doctrine (for conference presentation esp.)

**Slattery, Brian.** "Making Sense of Aboriginal and Treaty Rights" (2000) 79 *Canadian Bar Review* 196.

Proposes a framework for understanding Aboriginal and treaty rights generally. Discusses sources of right and then uses sources to divide Aboriginal rights into classes, including, generic and specific rights, exclusive and non-exclusive rights, and depletable and non-depletable rights. Provides a good analysis of how doctrine has evolved.

**Relevance:** Useful for putting everything in context; historical and current context.

**Slattery, Brian.** "The Metamorphosis Of Aboriginal Title" (2007) 85 Canadian Bar Review 255.

Follows somewhat from "Making Sense" by discussing the recent evolution of doctrine. General theme is a shift from "principles of recognition" to "principles of reconciliation" or generative rights, the latter being more flexible and suited to fulfill objects of reconciliation. Generative rights are "dynamic but latent in form." Fulfillment of such rights requires agreement between Indigenous parties and the Crown.

**Relevance:** Provides a high-level overview of evolving themes in doctrine.

**Smith, Christina.** "Irrigation Districts and the Duties of Public Utilities" (LLM Paper, University of Calgary, 2006) [unpublished].

Provides analysis of purposes and functions of Irrigation Districts and argues that irrigation districts are tantamount to public utilities. Argument is based on historical analysis and public interest. Suggests that the Irrigation Districts Act requires overhaul.

**Relevance:** Current relevance. Interesting and convincing analysis of the shortcomings of Irrigation Districts. Relevant to issues in conference presentation.

**Smith, Christina.** "The Dampening of Good Intentions: A Review of the Principles & Intents Underlying the First Water Legislation in Southern Alberta" (LLM Paper, University of Calgary, 2006) [unpublished].

Provides a concise history of water legislation in Alberta and points to several shortcomings. Argument is based on historical analysis and public interest.

**Relevance:** Provides an excellent timeline of water legislation in AB. Interesting and convincing analysis of the shortcomings of current framework. Relevant to issues in conference presentation.

**Statt, Graham R.** "Tapping into Water Rights: An Exploration of Native Entitlement in the Treaty 8 Area of Northern Alberta" (2003) 18 Canadian Journal of Law and Society 103.

Statt considers Aboriginal water rights and title in Treaty 8 area. Provides a good background on treaty interpretation issues and sources. Treaty 8 areas are different from others in that the NWIA came into force prior to Treaty 8. Statt argues that this doesn't (he means shouldn't) affect rights significantly. Statt's argument appeared to me to have several holes -- in particular with respect to the NWIA - Treaty chronology. Some discussion of Delgamuukw. Overall doesn't advance theory much beyond Bartlett.

**Relevance:** Very similar analysis to proposed 649 paper. Not great for form.

# **Legal and Institutional Framework for an Integrated Management of Nigeria's Coastal Zones - Lessons from Canada.**

## **Annotated Bibliography**

Compiled by Akonobi Doris N.

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This web page contains selected sources of information, relevant to my LL.M. thesis research at the University of Calgary.

My thesis examines the Integrated Coastal Zone Management (ICZM) Policy and its suitability for solving the diverse environmental problems associated with Nigeria's coastal zones. It examines the ICZM and its current status under international law, with the aim of ascertaining the legal and institutional pre-requisites for its adoption in Nigeria. The thesis examines ICZM implementation efforts in coastal states like Canada with the aim of understudying the ideas that can be transferred to Nigeria to strengthen its adoption, and as a necessary corollary, implementation of the ICZM. This thesis also examines key features of the Canadian ICZM policy framework and provides answers to the questions: What are the legal and institutional actions necessary for the formal adoption of the integrated coastal zone management (ICZM) policy in Nigeria? Would the Canadian approach be appropriate and feasible in Nigeria?

ICZM has been globally acknowledged as a major tool for achieving sustainable development in coastal states, and as a more practical replacement for the traditional sectoral approaches to coastal management that have proved ineffective. It replaces the piecemeal and distinct management strategies with a comprehensive approach which harmonizes all the activities in the coastal areas, such that they are all adequately catered for in a single management instrument. It seeks to balance the environmental, economic, social, cultural and recreational objectives, all within a single framework. Thus, "Integrated" in ICZM refers to the integration of objectives and the integration of all relevant policy areas, sectors related to the coastal zones and a resolution of all the associated problems within a comprehensive legal and institutional framework.

Despite the recognition of the ICZM policy as a major tool for achieving sustainable development in coastal environments, the rules and regulations on its adoption, and consequently implementation, are still in their infancy in most resource based developing countries; Nigeria is one of such countries. Despite the multifaceted problems facing Nigeria's coastal zones, there are presently no laws relating to ICZM in Nigeria, also the institutional capacity and administrative infrastructure required to develop and implement ICZM are still absent. This must, of necessity, change if Nigeria seeks to overcome the perennial problems of oil spillage, gas flaring, water pollution, loss of arable land, destruction of traditional practices and the large scale environmental disequilibrium that have, for so many years, made life unliveable in its coastal areas. This thesis will examine the legal and institutional framework needed for the effective adoption of the ICZM policy in Nigeria.

This thesis examines ICZM efforts in coastal states like Canada with the aim of understudying the ideas that can be transferred to Nigeria to provide a roadmap for its adoption of the ICZM policy. Apart from the fact that Canada has adopted and implemented the ICZM policy with some level of success, Canada is also adopted as a case study for this research because it is, like Nigeria, a major oil producing state of the world. As such, learning from another oil producing state which has successfully managed issues associated with oil exploration may be a good way to go for Nigeria. Also, Canada and Nigeria have certain similarities in their legal systems, such as the fact that; both countries as British colonies operate the common law systems. Similarly, Nigeria like Canada is a federal state, governed by an intricate web of federal, provincial/state governments, regional and municipal regulations and policies.

This annotated bibliography is divided into five sections; each section (except section five) contains a part on monographs and another part on relevant articles.

**Section one** contains general information on coastal environments and the management of coastal resources, the social, economic and environmental significance of these regions, their sustainability. This section is intended to provide background information needed to understand the study.

**Section two** is devoted to literature on ICZM policy in international law, its scope, aims and objectives, and suitability for the effective management of the coastal zones. This is intended to establish, amongst others, the importance of the necessary frameworks for ICZM, specifically for Nigeria.

**Section three** encompasses the materials dealing with the theoretical perspectives of the thesis.

**Section four** is devoted to works on the adoption of the Canadian ICZM frameworks for Nigeria. It contains works on the coastal environments in Canada, the ICZM laws in Canada and the legal and institutional framework existing in Canada on the ICZM. It also contains works on the coastal environments in Nigeria, analysis of the laws governing these regions, the possible legal and institutional barriers to the adoption of the ICZM policy in Nigeria. These materials are intended to provide justification for the choice of research question, theoretical or conceptual framework and method; it will, also, form the basis for my comparative analysis of the coastal zone management approaches in Nigeria and Canada.

**Section five** contains useful links to other web based sources, containing relevant information on the ICZM and on ICZM adoption in Nigeria and Canada.

## SECTION ONE

### GENERAL INFORMATION ON COASTAL ENVIRONMENTS: MANAGEMENT AND SUSTAINABILITY

#### Monographs

**Ascher, William & Mirovitskaya, Natalia. *Guide to Sustainable Development and Environmental Policy*, (Durham: Duke University Press, 2001).**

This work is a comprehensive presentation of definitions, philosophies, policies, models, and analyses of global environmental and developmental issues. With succinct explanations of more than a thousand terms, thoughtful interpretations by international experts, and helpful cross-referencing, this work should serve as a roadmap for understanding the issues and debates in the overlapping fields of environment and development. It is particularly helpful to this thesis in showing the importance and significance of ICZM, as a collaborative framework necessary to ensure that development and management plans for coastal zones are integrated with environmental, economic and social goals.

**Beatley, Timothy & Schwab, Anne K. *An Introduction to Coastal Zone Management*, 2d ed. (Washington: Island Press, 2002).**

This book offers a comprehensive overview of coastal planning and management issues. It presents detailed information on coastal pressure and critical management issues and puts forth a compelling vision for future management and sustainable coastal planning. It devotes particular attention to the role of stakeholders, including state and local governments, in management decisions affecting these regions.

**Kay, Robert. *Coastal Planning and Management*, 2d ed. (United Kingdom: Taylor & Francis, 2007).**

This book presents the important link between coastal planning and management, with emphasis on tools for the development, evaluation and implementation of all key types of coastal management plans. It also analyses coastal planning styles and approaches, such as ecosystem-based and values/societal planning.

**Kay, Robert & Alder, J. *Coastal Zone Management*, 2d ed. (London: Taylor and Francis, 2005).**

The book examines coastal management issues, concepts of coastal planning and management, major coastal management and planning techniques. It provides a blueprint for planners and managers who want to produce integrated coastal

management plans.

**Walters, Carl. *Adaptive Management of Renewable Resources* (New York: Macmillan Publishers, 1986).**

This book is about ways of dealing with uncertainty in the management of renewable resources, such as fisheries and wildlife. The author's basic theme is that management should be viewed as an adaptive process, rather than through basic research or the development of general ecological theory. The author's major conclusion is that actively adaptive, probing, deliberately experimental policies should indeed be a basic part of renewable resource management.

**Wondolleck, Julia M. & Steven, L. Yaffee. *Conservation of Natural Resources* (London: Island Press, 2000).**

The authors offer an invaluable set of lessons on the role of collaboration in natural resource management and how to make it work. The book explains why collaboration is an essential component of resource management, describes barriers that must be understood and overcome and presents eight themes that characterize successful efforts at natural resource conservation. The images of success offered are particularly useful for providing ideas to empower the proposition for new approaches, which are collaborative and comprehensive in style, as opposed to the traditional management styles.

## Articles

**“Lasting Landscapes: Reflections on the Role of Conservation Science in Land Use Planning” (2007), online: Environmental Law Institute <[http://www.elistore.org/reports\\_detail.asp?ID=11212](http://www.elistore.org/reports_detail.asp?ID=11212)>.**

This paper suggests that land use and development decisions made at the local, county, and state levels have a significant and cumulative effect on the conservation of native species diversity. It acknowledges that through their planning and local regulatory powers, land use planners and local elected officials have the ability to influence the types, extent, and arrangement of land uses across the landscape.

**Storrier, K. L. & McGlashan, D. J. “Development and Management of a Coastal Litter Campaign: The Voluntary Coastal Partnership Approach” (2006) 30 Marine Policy 189.**

The authors discussed the voluntary coastal partnership approach in the development and management of a coastal litter campaign. The authors observed that a combination of education, provision of adequate waste facilities and enforcement of legislation is needed to tackle coastal problems.

**United Nations Educational Scientific and Cultural Organization (UNESCO), “The Role of Communication and Education in Sustainable Coastal Development” (1999), online: Pan-African Conference on Sustainable Integrated Coastal Management (PACSICOM) <<http://unesdoc.unesco.org/images/0011/001185/118569eo.pdf>>.**

This paper suggests that communication and education are essential for raising public awareness and improving the capacity of people to understand as well as appreciate issues and problems of the coastal areas. It also maintains that these two broad domains are also critical in any efforts to reinforce and develop the knowledge, values, attitudes, practices and skills required to participate fully in the sustainable development of coastal regions.

## SECTION TWO

### INTEGRATED COASTAL ZONE MANAGEMENT: OVERVIEW

#### Monographs

**Clark, John R. *Coastal Zone Management Handbook* (Florida: CRC Press, 1996).**

This book presents a detailed manual on coastal resource planning and management technology issues. It also presents the process of integrated coastal zone management (ICZM), by describing environmental impacts that need to be controlled and by outlining the variety of available methods. In addition to its comprehensive coverage of general concepts related to coastal regions, the book describes the strategic basis for coastal management, provides a set of working tools for management and planning activities. Extensive references are provided for management analysis, practices, techniques, and solutions. It is a useful resource for the study of coastal management issues, particularly, integrated coastal zone management.

**Christie, Donna R. & Hildreth, Richard G. *Coastal and Oceans Management Law in a Nutshell*, (United States of America: Thompson, 1999).**

This book discusses the management of coastal resources, including the integrated approach to coastal management. It presents coastal zone management as comprising aspects of property law, land use regulation, water law, natural resources law, constitutional law, federal and state statutory law, and international law in the special context of the coastal environment. It offers useful insights on how countries can benefit from the prospects of the ICZM. It is a succinct exposition of the law on this area.

**Cicin-Sain, Biliana & Knecht, Robert. *Integrated Coastal and Oceans Management: Concepts and Practices*, ( Washington: Island Press, 1998).**

This book, primarily, provides essential information about integrated coastal management, which proves useful in establishing functional and effective programs for coastal management. It, also, provides a clear description of the benefits of ICZM, to help policy makers in coastal nations decide whether and how to develop ICZM programs. It pays particular attention to intergovernmental, institutional, legal and financial considerations for the adoption of this policy. The book offers a rich discussion on the initiation, formal adoption, implementation, and operation of an ICZM program.

**Kullenberg, Gunnar & Stel, Jan H. *Coastal Zone Management Imperative for Maritime Developing Nations* (The Netherlands: Kluwer Academic Publishers, 1997).**

The present volume is based on the 1994 international workshop *Integrated Coastal Zone Management*, and brings together contributions by leading specialists both on basic concepts and on applications of coastal management. The work is divided into six parts, dealing with the conceptual framework of ICZM; regional and global aspects of coastal management; environmental assessment in ICZM; capacity building and technology transfer; monitoring and environmental analysis; and case studies and status of ICZM plans. The book also incorporates an interactive ICZM planning module, which can be of use in designing a management plan for a coast. Attention is also given to long-term environmental effects of present-day actions. This work gives a broad coverage of conceptual and technical aspects of ICZM.

**Vallega, Adalberto. *Fundamentals of Integrated Coastal Management*, (The Netherlands: Kluwer Academic Publishers, 1999).**

This book presents a comprehensive treatment of integrated coastal management based on the sustainable development concept. It covers the components of the ecological conditions, the economic and social organisation, and the role of decision-making systems. Each chapter contains not only the theoretical, historical and philosophical foundations of integrated coastal management, but also some useful guidelines for management.

## Articles

**Agrawal, Arun & Gibson, Clark C. "Enchantment and Disenchantment: The Role of Community in Natural Resource Conservation" (1999) 27 World Dev. 1.**

The authors analyse those aspects of community most important to advocates for community's role in resource

management and indicates the weaknesses of these approaches. They suggest a more political approach on how these actors influence decision-making, and on the internal and external institutions that shape the decision-making process. This presents a clear view of the community participation requirement of the ICZM policy.

**Bennett, Roger G. “Future Perspectives on Integrated Coastal Zone Management” (2001), online: Geografi Bergen <<http://www.nhh.no/geo/Nyesider/GIBframe/GIB.full.pdf/GIB243.pdf>>.**

The paper gives a brief overview of the motives for and essential features of Integrated Coastal Zone Management. It examines essential problems of sectoral management and the implications of integration. It also challenges the assumption underlying much ICZM research, that more knowledge of coastal systems is the key to better management, pointing out that problems related to the management system itself often hinder the application of knowledge already possessed.

**Clark, John R. “Integrated Management of Coastal Zones” (1994), online: Food and Agriculture Organisation of the United Nations, Rome <<http://www.fao.org/DOCREP/003/T0708E/T0708E00.htm>>.**

This report identifies governmental actions that can lead to effective management of coastal resources and strengthening the national capacity for effective coastal resources management, through ICZM. It presents a detailed discussion of the principles, aims and benefits of ICZM. Its major argument, with respect to ICZM, is that the process may be initiated in response to a planning mandate but more often because of a crisis – a use conflict, a severe decline in a resource or a devastating experience with natural hazards. The orientation of the report is towards developing countries and is therefore, a useful source of ideas and information.

**Elder, Danny. “Cross-Sectoral, Integrated Coastal Area Planning (CICAP): Guidelines and Principles for Coastal Area Development (Marine Conservation and Development Reports)” (1993), online: Gland, Switzerland, Water Conservation Union (IUCN) <[http://www.wb2020.qld.gov.au/regional\\_profile/glossary\\_and\\_abbreviations/glossary\\_and\\_abbreviations.htm](http://www.wb2020.qld.gov.au/regional_profile/glossary_and_abbreviations/glossary_and_abbreviations.htm)>.**

This work presents guidelines for the development of coastal area plans that can be applied at a national level. It contains a brief review of coastal zone problems and the effects of climate and other global sources of change. Patterns of past, present and future use of the coastal zones are reviewed and the need for integrated approaches to management and planning, in the light of the need for conflict resolution, is discussed. Cross-sectoral coastal area planning is outlined and defined. The process by which such integrated planning might be achieved is discussed and the past experiences of several countries in attempting different forms of coastal management and planning are discussed.

**Brachya, V., Juhasz, F., Pavasovic, A. & Trumbic I., “Guidelines for Integrated Management of Coastal and Marine Areas” (1994), online: United Nations Environmental Programme <<http://www.pap-thecoastcentre.org/pdfs/ICAMguidelines.pdf>>.**

This document suggests that integrated management of coastal areas is required to lay the foundation for sustainable development, which will reduce or eliminate pollution, rectify other impacts, and prevent these occurring in the future. It sets down the guidelines for such integrated management. It also offers sufficient guidance for the authorities responsible for implementing policy in a specific coastal area.

**Solent Forum, “Integrated Coastal Zone Management” (2006), online: Solent Forum - Working in Partnership for the Future <<http://www.solentforum.hants.org.uk/CoastalMgt/ICZM.htm#ICZM8>>.**

This work, which discusses ICZM as a major tool for the co-ordination and management of the diverse activities and interests in the coastal and marine environment, contains an overview of the ICZM policy, its underlying principles, scope and objectives. It also contains wider initiatives for ICZM and will be a useful source of ideas for the planning and formal adoption of ICZM.

**Olawuyi, Damilola S. “Integrated Coastal Zone Management Policy-An Overview” (2007), online: United Nations**

This policy paper offers a synoptic guide for local authorities on the implementation of the ICZM at the national level. It provides guidelines for the development and implementation of the ICZM policy, the likely challenges and strategies to overcome such challenges. Being a summary of the modalities for the implementation of the ICZM, this paper would be a useful tool in the hands of national policy makers, particularly those in developing countries who are still struggling to understand the concept of ICZM.

**Scialabba, Nadia. “Integrated Coastal Area Management and Agriculture, Forestry and Fisheries” (1998), Food and Agriculture Organisation (FAO) Guidelines, online: Environment and Natural Resources Service, FAO, Rome <<http://www.fao.org/fi/website/FIRetrieveAction.do?dom=topic&fid=16000>>.**

These guidelines address the incorporation of agriculture, forestry and fisheries planning into integrated coastal zone management (ICZM). It posits that the external or internal environmental effects that each of these sectors generate, as well as the environmental impacts originating outside these sectors and affecting them, need to be taken into account in sector plan formulation. These guidelines examine issues specific to the agriculture, forestry and fisheries sectors, and suggest the processes, information requirements, policy directions, planning tools and possible interventions that are necessary for ICZM.

**Shipman, Brian & Stojanovic, Tim. “Facts, Fictions and Failures of Integrated Coastal Zone Management” (2007) 35 Coastal Mgmt. 23.**

This paper identifies some unexplored difficulties in overcoming the obstacles to successful ICZM as: the continued complexity of regulation across the land-sea interface, the national policy vacuum for ICZM, the absence of a networked approach to information management at the coast, and the need to move beyond technical exercise to include the intangibles of ICZM. The authors identify principles which can form the rationale for future developments of ICZM: interrelationship of effects and impacts identification and management, integration between spatial planning and management, consistency, transparency and democratic accountability in decision making and empowerment of local communities and stakeholders.

**Pergent-Martini, C., Pasqualini, V., Ferrat, L. & Pergent, G., “Ecological Data in Integrated Coastal Zone Management” (2006) 38 E. M. 1.**

This paper exemplifies the usefulness of ecological data to ICZM programs. It, however, concludes that new approaches must be developed to evaluate more accurately the impact of human activities on the most important ecosystems and to establish their carrying capacities.

**Post, Jan C. & Lundin, Carl G. “Guidelines for Integrated Coastal Zone Management,” online: Washington DC, World Bank (1996) Environmentally Sustainable Development Studies and Monographs Series No. 9. <[http://www.wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/1996/08/01/000009265\\_3961219091924/Rendered/PDF/multi\\_page.pdf](http://www.wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/1996/08/01/000009265_3961219091924/Rendered/PDF/multi_page.pdf)>.**

These guidelines are a conceptual presentation of how Integrated Coastal Zone Management may be applied to contribute to the evolving practice of environmentally sustainable development. It predicts that due to the increase in coastal populations, unless careful environmental management and planning are instituted, severe conflicts over coastal space and resource utilisation are likely, and the degradation of natural resources will close development options.

## **SECTION THREE**

### **THEORIES OF LEGAL TRANSPLANTS AND INTEGRATION**

#### **Monographs**

**Gunderson, Lance H. & Holling, Crawford S. *Panarchy: Understanding Transformations in Human and Natural Systems*, (Washington, DC: Island Press, 2002).**

This book expands the integrative theory and explores its implications for ecological, political, institutional and management systems. It deepens one's understanding of linked ecological/economic/decision systems through the use of a set of interactive models and several analyses of institutions that link people and nature. The book represents a significant step in integrating disciplinary knowledge for the adaptive management of human-natural systems across widely divergent scales, and offers an important base of knowledge from which institutions for adaptive management can be developed.

**Nelken, David & Feest, Johannes. *Adapting Legal Cultures* (Oxford: Hart Publishing, 2001).**

Contributors to this edited work attempt to present the best explanatory model of external forces acting on any legal system and the internal reasons for legal evolution and change in the legal culture. They address the often deliberate adoption of legal cultures and the relationship to the economic, political and social factors that condition the attractiveness of foreign models of law.

**Watson, Alan. *Sociological Jurisprudence*, (Philadelphia: Temple University Press, 2001).**

In this classic work of comparative legal scholarship, the author argues that law fails to keep step with social change, even when that change is massive. The author considers the development of law in global terms and across the centuries. His arguments centering on how societies borrow from other legal systems and the continuity of legal systems are particularly instructive for those interested in legal development and the development of a common law.

## Articles

**Dezalay, Yves & Garth, Bryant. "The Import and Export of Law and Legal Institutions: International Strategies in National Palace Wars" in Nelken, D. & Feest, J., *Adapting Legal Cultures* (eds.) (Oxford: Hart Publishing, 2001) 240.**

The authors discuss the terms legal transplant and legal culture. There is a discussion on successful and unsuccessful legal transplants. The authors seek to examine the structures and processes that challenge and transform legal transplants.

**Hein, S.J. "Predicting Legal Transplants: The Case of Servitudes in the Russian Federation" (1996) 6 *Transnat'l & Contemp. Probs.* 187.**

This article discusses the concepts of legal transplants, particularly, Professor Watson's version of the theory and Professor Otto Kahn-Freund's postulations. It recognizes that on the one hand, legislators may simply transplant legal institutions and rules from states that have created viable solutions to specific problems and on the other hand, each state has its own unique history and identity that may cause transplanted rules or institutions to fail.

**Holling, Crawford S. "Understanding the Complexity of Economic, Ecological and Social Systems" (2001) 4 *Ecosystems* 390.**

The authors develop and test the elements of an integrative theory that had the degree of simplicity necessary for understanding economic, ecological and social systems. Also, the complexity required to develop policy for sustainability is discussed. The author describes how hierarchies and adaptive cycles comprise the basis of ecosystems and social-ecological systems across scales

**Nelken, David. "Comparatists and Transferability" in Legrand, P. and Munday, R. (eds.) *Comparative Legal Studies: Traditions and Transitions* (Cambridge: Cambridge University Press, 2003) 437.**

This author presents a detailed discussion on the issue of the meaning of "successful legal transplant". He also discusses such issues as whether respecting differences rule out a social science of legal transfers, or whether there is any point in asking if legal transfers will fit into the societies into which they are adopted.

**Nelken, David. "The Meaning of Success in Transnational Legal Transfers" (2001) 19 Windsor Y.B. Access Just. 349.**

In this article, the author discusses the increasingly common incidence of legal transfers and borrowings across jurisdictions and borders. Specifically, in this article, he attempts to bring together the various views on the meaning of success in legal transfers and the factors that affect such success, such as the type of legal transfer under consideration. He focuses on issues such as the measurement of the success of legal transfers.

## **SECTION FOUR**

### **COASTAL ZONE MANAGEMENT IN CANADA AND NIGERIA**

#### **Monographs**

**Harrison, Peter. *Coastal Management in Canada* (New York: Crane Russak, 1983).**

Management of Canada's extensive coastal zone is the responsibility of a large number of federal and provincial agencies. This work introduces the special issue on Canada by outlining some of the principles of coastal zone management which emerged and by identifying key policy questions for the future – especially federal – provincial cooperation. This work will be particularly useful to my thesis, considering the similarities in the division of jurisdictions and authorities in ocean and coastal governance, in Nigeria and Canada.

**Gundling, L. *International Environmental Law: Marine Environment, Polar Regions, Outer Space* (Geneva: United Nations Institute of Training and Research, 2006).**

This book, published by the United Nations, offers useful insights on how coastal states can benefit from the sustainable development prospects of the ICZM. It discusses the scope and objectives of ICZM. It presents ICZM as the major tool for achieving sustainable development in coastal environments, which replaces the traditional approaches to management in coastal areas that have proved to be ineffective. It also acknowledges Canada as the best model for ICZM implementation, at the national level.

**Hildebrand, Lawrence P. *Canada's Experience with Coastal Zone Management* (Canada: The Canadian Institute of Canada, 1989).**

This work traces the decades of experience with coastal zone management in Canada. Beginning with a brief description of Canada's extensive and varied coastal zone, it then compares Canada to other coastal nations, to provide a context for determining the Canadian disposition to coastal management. A detailed description and analysis of the Canadian initiatives of national coastal zone management policy development follows, highlighting the challenges faced and the lessons to be learned for this experience. Particular attention is paid, however, to the shortfalls of Canada's coastal zone management efforts.

**Omotola, J. A. *Environmental Laws in Nigeria* (Lagos: Mayodele Ajayi Enterprises, 1990).**

This book achieves the unique task of providing various points of view on addressing most of the legal issues connected with environmental protection in Nigeria. It offers a rich guide on the institutions, ministries and legal regimes on environmental management in Nigeria.

**Rothwell, Donald R. & VanderZwaag, David L. *Towards Principled Oceans Governance: Australian and Canadian Approaches and Challenges*, (Routledge: New York, 2006).**

This book assesses the obligation, compliance, implementation and trends in international ocean law and their impact in Australia and Canada. It also explores how these countries have responded to the challenges of ocean and coastal governance, looking at the legal, policy and political responses that the countries have adopted. While Canada and Australia cannot set the international ocean governance agenda, this volume considers the ways in which they have attempted to influence that agenda and the lessons learned from their successes and failures, lessons that could be applied to nearly all coastal states seeking to engage in an integrated oceans and coastal governance policy.

**Sorensen, J. C. & McCreary, S. T. *Institutional Arrangements for Managing Coastal Resources and Environments* 2d ed. (Washington, D.C.: Renewable Resources Information Series, Coastal Management Publication No. 1, 1990).**

This book presents available strategies to strengthen the governance of coasts and the management of renewable natural resources in coastal zones of the developing nations. It represents a synthesis of literature from the developed and developing world along with the findings of interviews with coastal resource managers. Key points of this report include that: an array of management strategies and an array of institutional managements are necessary to allocate coastal resources among competing and conflicting interests and; institutional arrangements and management strategies must be tailored to the needs of each individual coastal nation. It concludes that nations with one or more of four critical coastal-dependent sectors - fisheries, tourism, mangrove forestry, or an economy vulnerable to coastal hazards - have a strong incentive to pursue integrated coastal management.

## Articles

**Badejo, Olusegun T. & Nwilo, Peter C. “Management of Oil Dispersals along the Nigerian Coastal Areas,” (2006) online: Department of Surveying and Geoinformatics, University of Lagos <<http://www.isprs.org/istanbul2004/comm7/papers/241.pdf>>.**

This paper traces the history of oil spillage, as a major environmental problem of the Nigerian coastal environments. It also analyses the impacts of such spillages on the environment and offers useful recommendations for the more effective managements of such incidents in Nigeria.

**Chinsman, B., Okoro, O. O., Van-Dessel, J. P., Wicks, A., Pullen, S., Otobo, A. T. & Ivbijaro, M. F. “Defining an Environmental Development Strategy for the Niger Delta,” online: Industry and Energy Operations Division West Central Africa Department <[http://www-wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2000/11/10/000094946\\_00082605382641/Rendered/INDE](http://www-wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2000/11/10/000094946_00082605382641/Rendered/INDE)>**

This report examines the major obstacles to sustainable development in the Niger Delta and presents strategic options for overcoming them. The report assesses the full range of environmental issues to identify the priority concerns based on the severity of their health and environmental impacts. The principal constraints to addressing the concerns, including institutional capacity, information, beneficiary consultation, regulatory frameworks, and enforcement, are examined. The report also critically discusses policies issues and options that should be addressed in designing a regional environmental development strategy for Niger Delta.

**Eleri, Otu Ewah. “Strengthening Energy and Ecosystem Resilience in Nigeria” (2007), online: <<http://74.220.209.240/jessup/jessup08/mcgill.pdf>>.**

The author examines major obstacles to sustainable development in the Nigerian coastal areas and identifies some structural factors that contribute to the vulnerability of these regions to climate change-related events. In the bid to address this vital issue, he makes several recommendations, including developing and mainstreaming a National Action Plan for these regions and empowering the population to contribute in such activities.

**Fabbri, Karen P. “A Strategic Decision Support Framework for Integrated Coastal Zone Management” (2006) 6 *Envtl. Tech. & Mgmt.* 1.**

The authors identify that the advantages of structuring decision situations include the embodiment of shared responsibility, accountability and transparency. The paper identifies an integrated methodology that combines multiple approaches and tools to support strategic decision making in ICZM. This provides policy-makers a method through which the objectives, courses of action, and the possible impacts of ICZM can be structured and compared.

**Hatzios, Marea E. "A World Bank Framework for ICZM with Special Emphasis on Africa" (1997) 37 *Ocean and Coastal Management*, 281-294.**

This paper describes the World Bank's emerging program in Integrated Coastal Zone Management (ICZM), with a focus on Africa. The major elements and direction of this program are summarized, drawing especially on examples from Eastern Africa and the Western Indian Ocean, where the Bank's program in ICZM was initiated and where significant opportunities exist to influence the course of development in coastal areas still not transformed by major growth. The challenges ahead in establishing a viable framework for ICZM in Africa are then discussed. The paper concludes with suggestions as to how the Bank and partners in the region can best focus their efforts in the future to meet these challenges.

**Intergovernmental Panel on Climate Change, "Regional Impacts on Climate Change: Africa", November 2000, online: IPCC Special Reports on Climate Change <<http://www.grida.no/climate/ipcc/support/about.htm>>.**

This work is devoted to an analysis of the vulnerability and impacts of climate change on the African coastal zones, the first section of which provides information on the significance of these regions for African States. It goes on to provide further information on the implications of these impacts on selected African States, including Nigeria. This is particularly useful for this thesis because it exposes the interconnectedness of these coastal activities. Also, it will be useful to this thesis, as a source of information, for the background of the research problem.

**O'Boyle, R. & Jamieson, G. "Observations on the Implementation of Ecosystem-Based Management: Experiences on Canada's East and West Coasts" (2006) 79 *Ocean and Coastal Management* 1.**

The proclamation of the Canada's *Ocean Act* in 1997 announced Canada's intention to adopt a holistic approach to the management of its aquatic ecosystems, one in which the impacts of the activities of diverse oceans industries would be considered as part of an integrated framework. Since then, there have been a number of initiatives undertaken to explore the structure and function of this new approach. The progress made and the lessons learned are summarized in this paper.

**Okeke, Ifenyinwa F. "Coastal Challenges and the Challenges of Coastal Education in Nigeria" (2006) online: <<http://www.gisig.it/coastgis/papers/okeke.htm>>.**

This paper analyses some of the problems common to the Nigerian Coastal Zone and suggests some solutions to these problems. It however emphasises that one of the major challenges of coastal education in Nigeria is the dearth of coastal education, even among the professionals in this field.

**Osanwuta, Dennis A. & Nwilo, Peter C. "Capacity Building for Integrated Coastal Areas Management in Nigeria" (2005), online: <<http://www.gisig.it/coastgis/papers/osanwuta.htm>>.**

This paper analyses interdependency of the activities affecting the Nigerian coastal environment. It acknowledges the need for a legal and institutional framework, and a policy instrument to achieve the goals of ICZM. It also examines possible obstacles to ICZM in Nigeria.

**Prior, D. B. & Pickrill, R. A., "Marine Geoscience Contributions to Integrated Coastal Zone Management" (2004),**

**online:** <<http://www.mar.dfo-mpo.gc.ca/science/review/e/pdf/marine.pdf>>.

This paper illustrates some of the principal contributions that marine geosciences in general, and Canadian marine geosciences specifically is making to ICZM. It also indicates some future directions to the Geological Survey of Canada's marine programme.

**Raufu, Abiodun. "Africa Underwater: Nigeria's Coastline is Besieged by Global Warming - Currents - Brief Article" (2002), online: E: The Environmental Magazine <[http://findarticles.com/p/articles/mi\\_m1594/is\\_2\\_13/ai\\_83667620](http://findarticles.com/p/articles/mi_m1594/is_2_13/ai_83667620)>.**

The author analyses some of the problems of the coastal regions of Nigeria caused by global warming, with particular emphasis on the Victoria Island of the Lagos Coast, as the most threatened coastline in Nigeria. He suggests options for managing these problems. The author's major conclusion is that available measures can only minimize the impact on Nigeria's coastline, as opposed to a permanent solution. This conclusion is within the contemplation of the ICZM policy and is, therefore, particularly useful, as a source of ideas, to this thesis.

**The World Bank Group, "The Niger Delta: A Stakeholder Approach to Environmental Development" (1995), online: The World Bank Group <<http://www.worldbank.org/afr/findings/english/find53.pdf>>**

This study attempts to move beyond emotive arguments to provide an analytical basis for substantive stakeholder discussion of the most critical environmental and social issues and possible interventions. It offers a comprehensive assessment of the environmental issues in the Niger Delta region of the Nigerian Coast and resulting social impacts.

## **SECTION FIVE**

### **Useful Links**

For an overview of the management and sustainability of coastal zones, and integrated coastal zone management, including links to relevant organisations home pages, and other information sources, see Coastal Management Web Sites, online: Coastal Management Related WWW Sites <<http://www.ncl.ac.uk/tcmweb/tcm/czmlinks.htm>>.

For an overview of Canada's efforts at developing strategies to give effect to ICZM, see the following:

Oceans Action Plan, online: Fisheries and Oceans Canada, <[http://www.dfo-mpo.gc.ca/home-accueil\\_e.htm](http://www.dfo-mpo.gc.ca/home-accueil_e.htm)>.

National Programme of Action, online: Canada's National Programme for Action for the Protection of the Marine Environment from Land Based Activities <<http://www.npa-pan.ca/en/index.cfm>>.

Government of Canada, online: Links to Websites Related to Integrated Coastal and Oceans Management <<http://aczisc.dal.ca/links.htm#CANADA>>.

For an overview of Nigerian environmental laws, environmental protection institutions and relevant governmental departments in Nigeria, see African Environmental Law and Policy, online: the African Programme of the Environmental Law Institute <<http://www.eli.org/africa/nigeria.htm>>.

For more information on Nigerian environmental laws, see Laws of the Federation of Nigeria, online: Federal Republic of Nigeria <<http://www.nigeria-law.org/LFNMainPage.htm>>.

# Pharmaceutical Contamination of Water

Elsa Kaus

## Annotated Bibliography

### LEGISLATION

#### ***Canadian Environmental Protection Act, S.C. 1999, c. 33.***

This is the primary piece of federal legislation that regulates environmental pollution and specific environmental contaminants. Relevant sections to this paper include: sections 39 and 40 which address causes of action for any member of the public harmed by environmental contamination; section 68 which outlines how toxic substances are assessed; section 64 which defines what a toxic substance is; section 76 which requires the Ministers of Environment and Health to establish and maintain the Priority Substance List; section 90 which allows for the Toxic Substances List and additions thereto; and section 93 which allows the Minister to make regulations regarding the substances on the Toxic Substances List.

#### ***Clean Water Act, S.N.B. 1989, c. C-6.1.***

This legislation from the provincial government of New Brunswick is complimentary to *CEPA* above. Provisions relevant to this paper include Section 10 which allows the Minister to designate a foreign substance in water a contaminant and Section 11 which deals with testing of potable water.

#### ***Environmental Protection and Enhancement Act, R.S.A. 2000, c. E-12.***

This *Act* is complimentary to the federal legislation discussed above and Alberta's *Water Act*, discussed below. Section 11 recognizes the relationship of the environment to health and Sections 147 to 153 address potable water generally.

#### ***Feeds Act, R.S.C. 1985, c. F-9.***

This *Act* defines in great detail the parameters for manufacturing, marketing and usage of animal feeds in Canada. Section 3 specifically prohibits the sale and use of animal feeds that will be harmful to human or animal health.

#### ***Food and Drugs Act, R.S.C. 1985, c. F-27.***

This *Act* defines the parameters for the manufacturing, packaging, marketing and sale of pharmaceutical and other health related products in Canada, as well as food. It does not deal with environmental contamination caused by such products however. These products are the subject of consideration for the Government of Canada's *Environmental Impact Initiative* discussed below.

***Water Act, R.S.A. 2000, c. W-3.***

This *Act* addresses the parameters for the management and conservation of water resources in Alberta. It recognizes the need to promote sustainable use of water resources within the province while maintaining economic growth. It does not address contaminants.

**SECONDARY MATERIALS**

**Booth, Wayne C., Colomb, Gregory G., & Williams, Joseph M. *The Craft of Research*. (Chicago: The University of Chicago Press, 1995) 17-26, 37-52.**

This entire book is very helpful for someone who has not written a thesis before. The first chapter I used for this paper is helpful for learning how to write for your audience. The second chapter I used in this paper was very helpful for getting from a broad idea to a narrower topic. The authors illustrate their points throughout with clear examples. This book is different from other works cited here as it is about how to write and research but not specific to my topic.

**Daughton, Christian G. "Cradle-to-Cradle Stewardship of Drugs for Minimizing Their Environmental Disposition While Promoting Human Health. I. Rationale for and Avenues Toward a Green Pharmacy" (2003) 111:5 Environmental Health Perspectives 757-774 (JStor).**

This article discusses various ways to reduce the amount of pharmaceutical contaminants found in water. Although the suggestions are more scientific than regulatory in nature, the author advocates for the precautionary principle and public education. A lot of the author's suggestions in this article could be carried out by pharmacists. Some suggestions may be helpful to this paper in the area of public education and policy however. At the time that this article was written, the author was the Chief of the Environmental Chemistry Branch of the United States Environmental Protection Agency.

**Daughton, Christian G. "Cradle-to-Cradle Stewardship of Drugs for Minimizing Their Environmental Disposition While Promoting Human Health. II. Drug Disposal, Waste Reduction, and Future Directions" (2003) 111:5 Environmental Health Perspectives 775-785 (JStor).**

This article is a continuation of the one listed directly above. Of interest in this part of the article is the idea of stewardship programs to promote and encourage the safe disposal of unused pharmaceuticals.

**Daughton, Christian G. & Ternes, Thomas A. “Pharmaceuticals and Personal Care Products in the Environment: Agents of Subtle Change?” (1999) 107:6 Environmental Health Perspectives 907-938 (JStor).**

This paper, written by the above author and his colleague from Germany, has a very thorough overview of what pharmaceuticals are being found in water supplies throughout various locations in the United States and Europe, and in what quantities. It also has a very good section on the effects of pharmaceutical contaminants on fish and other aquatic organisms as well as animals and humans. Although targeted more for a scientific audience, the end section has a helpful overview of the current legislation in place dealing with pharmaceutical contamination of water and the environment in the United States.

**Hemminger, Pat. “Damming the Flow of Drugs into Drinking Water” (2005) 113:10 Environmental Health Perspectives A677-A681 (JStor).**

This article is mainly an overview of the guidelines that the European Medicines Agency has in place for dealing with pharmaceutical contamination of water. The author is a freelance science and environmental writer who concludes her article by stating that the European draft guidelines for dealing with pharmaceutical contamination of water are considered an appropriate first response to a newly emerging problem. The guidelines are public policy documents and are geared more towards a scientific audience.

**Holtz, Susan. “There is no Away. Pharmaceuticals, Personal Care Products, and Endocrine- Disrupting Substances: Emerging Contaminants Detected in Water” (2006), online: The Canadian Institute for Environmental Law and Policy <<http://www.cielap.org/pdf/NoAway.pdf>>.**

This article is the most helpful to my paper so far. Susan Holtz combines scientific evidence of water contamination by pharmaceuticals with law and policy perspectives and suggestions. Susan Holtz is a senior policy analyst for the Canadian Institute for Environmental Law and Policy. Her article is well suited for audiences in both the scientific and legal professions.

**Makuch, Stanley M., Craik, Neil., & Leisk, Signe B. *Canadian Municipal and Planning Law*. 2<sup>nd</sup> ed. (Toronto: Thompson Canada Ltd., 2004).**

Although this book is not entirely relevant to my topic, it contains clearly explained information on the rights and powers of municipalities to enact their own regulations and policies. This book is intended for practitioners and students to obtain a good overview of a topic and gives helpful suggestions on where to look for more in-depth research. Two of the authors, Stanley Makuch

and Signe Leisk practice in the areas of Environmental and Municipal Planning Law. Neil Craik practiced in the same areas and now teaches in both of these areas at the Faculty of Law at the University of New Brunswick.

**Savage, Liz. "Health Without Harm: Prescriptions for the Health Care Industry's Ills" (2007) 21.4 Earth Island Journal 34.**

This article discusses the impact that the health care industry has on the environment. It also has an overview of how pharmaceutical contaminants in the environment are regulated in the United States. The author is an intern at the Earth Island Journal who advocates for a more environmentally sensitive health care industry. This article will be a helpful starting point for evaluating how the United States has dealt with or is dealing with pharmaceutical contamination.

### **GOVERNMENT DOCUMENTS**

**Alberta Environment, *Water for Life: Alberta's Strategy for Sustainability*, (Edmonton: Alberta Environment, 2003), online: Water for Life <<http://www.waterforlife.gov.ab.ca/>>.**

This document details Alberta's plan for preserving fresh water for present and future generations. It was produced by Alberta Environment and outlines a series of short term and long term goals for Alberta's water supplies. This document is different from some of my other citations because it concentrates on policy and planning and is more specific to my topic. Eventually my paper will be helpful in Alberta's water sustainability strategy.

**Alberta Environment, *A Preliminary Survey of Pharmaceuticals and Endocrine Disrupting Compounds in Treated Municipal Wastewaters and Receiving Rivers of Alberta* by Al Sosiak and Thorsten Hebben, (Edmonton: Environmental Monitoring and Evaluation Branch, Alberta Environment, 2005), online: <<http://environment.gov.ab.ca/info/library/7604.pdf>>.**

This document, also released by Alberta Environment, is very scientific in nature. It details what pharmaceutical contaminants are in Alberta's water, in what amounts, where they are measured, and how they are measured. It was prepared by two biologists and is geared towards a scientific audience.

**Environment Canada, *Toxic Substances Management Policy*, (Gatineau: Environment Canada), online: Management of Toxic Substances Website <<http://www.ec.gc.ca/toxics/en/index.cfm>>.**

This policy, released by Environment Canada, provides direction and guidance on managing substances deemed toxic under the *Canadian Environmental Protection Act*. It contains the

Government of Canada's Management of Toxic Substances Policy and Toxics Management Process.

**Government of Canada, *Canadian Water Sustainability Index*, (Ottawa: Policy Research Initiative, Government of Canada, 2007), online:**

**<[http://policyresearch.gc.ca/doclib/SD/SD PR CWSI web e.pdf](http://policyresearch.gc.ca/doclib/SD/SD_PR_CWSI_web_e.pdf)>.**

This federal government policy essentially outlines a way to give water quality in a specific area a score. Pharmaceutical contamination of water may factor into this score in some instances, and it will be helpful to my research to understand how this policy works.

**Health Canada, *Environmental Impact Initiative*, (Ottawa: Government of Canada, 2001), online: <[http://www.hc-sc.gc.ca/ewh-semt/contaminants/person/impact/about-impact/index\\_e.html](http://www.hc-sc.gc.ca/ewh-semt/contaminants/person/impact/about-impact/index_e.html)>.**

This initiative was established by Health Canada to begin researching substances regulated by the *Food and Drugs Act* that are being found in the environment. This policy initiative requires Health Canada and Environment Canada to work together to address the problem of pharmaceuticals and personal care products that are being found in the Canadian environment. With regards to policy, this federal government policy is likely to be the most influential on my paper.

# **HOW COMPETITIVE IS GHANA'S NEW MINING LAW IN ATTRACTING FOREIGN DIRECT INVESTMENT?**

## **ANNOTATED BIBLIOGRAPHY**

**Compiled by Martin Kwaku Ayisi**

**LLM Thesis Candidate**

**University of Calgary**

My research project focuses on the competitiveness of Ghana's new mining law in attracting foreign direct investment. My objective is to demonstrate that a clear, transparent, predictable and effective legal framework to govern the activities of the mining industry is indispensable in the relative competitiveness of a country in attracting foreign direct investment. Ghana adopted a new mining law on 31 March 2006 with the objective attracting high levels of foreign direct investment to commensurate with her status as the most attractive destination for mining investment in Africa.

My thesis will focus on a comparative study of Ghana's new mining law with the Latin American Mining law Model. The model refers to the key features of the legal and regulatory framework for the exploration and exploitation of minerals in many Latin American countries representing a blend of concepts and procedures distilled from the actual laws of such countries as Chile, Peru, Bolivia and Mexico. The model was adjudged and recommended by the World Bank as a criterion for good laws in attracting foreign direct investment for which mineral-rich countries should emulate or seek to achieve in reforming their legal framework.

The following Annotated Bibliography deals with some of the literature for my thesis project. I must point out the bibliography is still a work in progress and therefore not comprehensive at this stage.

## **LEGISLATION**

Chilean Mining Code, Law No. 18,248, Official Gazette 14 October 1983.

*Organic Constitutional Law of Mining Concessions*, No. 18,097, Official Gazette 21 January, 1982.

Peruvian Law for the Promotion of Investment in the Mining sector, Legislative Decree No. 708, Official Gazette 14 November, 1991.

Single Revised text of the General Mining Law of Peru, Supreme Decree No. 014-92-EM, Official Gazette 4 June 1992.

Minerals and Mining Act, Law No.703 (Act 703) of 22 March 2006, Official Gazette 31 March, 2006.

Minerals and Mining Law, Provincial National Defence Council Law No. 153, 4 July 1986 of Ghana, Official Gazette 18 July 1986.

## **Secondary Sources**

### **Books**

**Elizabeth Bastida, Thomas Walde, and Janeth Warden-Fernandez (eds.), *International Comparative Mineral Law and Policy: Trends and Prospects*(The Hague: Kluwer Law International, 2004).**

This book, a mining compendium is a compilation of more than sixty papers. The book reflects a range of approaches and experiences in mineral-rich countries on mineral law and policy. The book is divided into three chapters but it is the articles in chapter one that is relevant to my research work. The various authors discuss the past and current trends in legal regimes applicable to the exploration and exploitation of mineral from both international and comparative perspectives. It was clear from the articles in this chapter that there is a growing consensus that foreign direct investment in mining activities is attracted by a competitive legal and investment framework.

**Dani Le Barberis, *Negotiating Mineral Agreements: Past, Current and Future Trends* (London: Kluwer law International, 1999).**

This book basically explores the various forms of a mining agreement can take. The author analyses the evolution of mining agreements in four mineral-endowed countries. These were Australia, Indonesia, Papua New Guinea and Chile. The author also discusses the need for most governments particularly the developing ones eager to attract foreign direct investment to balance their mining policies with the investors' need for stability of the investment terms and parameters, a key criterion most foreign investors will consider before deciding to invest in a foreign mining project. The author concludes with an explanation on how to write a mining agreement that will stand the test of time.

**Koh Naito and Felix Remy, *Mining Sector Reform and investment: Results of a Global Survey* (London: Mining Journal Books, 2001).**

This book was prepared by the officials and consultants of the World Bank and reviews the bank's experiences in legal and fiscal reforms in mining globally. The authors discuss the results of a global survey on mining reform and its relationship to exploration worldwide. The objective of the survey which covered thirty five countries was to develop a comprehensive and objective methodology for evaluating the impact of mining sector reforms. The authors conclude that long term success in attracting private investment in mineral exploration depends on how a mineral-rich country adapts its legal, fiscal and institutional framework to the challenges of competitive global markets for capital and mineral products.

**Koh Naito, Felix Remy and John P. Williams, *Review of Fiscal Frameworks for Exploration and Mining* (London: Mining Journal Books Ltd., 2001).**

This book has been prepared by World Bank Officials and Consultants and reviews the bank's experiences in legal and fiscal reform in mining globally. The book primarily discusses the result of a survey of the legal and regulatory framework, fiscal regime and environmental requirements in selected mineral-rich countries. Chapter three which focuses on global

trends in Legal frameworks and Chapter four which discusses the key building blocks of mining law reforms are particularly useful to my thesis project. The objective of the survey and as outlined in the book is to determine the best practice in mining law among the developing countries.

**Otto James and Cordes John, *The Regulation of Mineral Enterprises: A Global Perspective on Economics, Law and Policy* (Westminster, Colorado: Rocky Mountain Mineral Law Foundation, 2002)**

This book explores a broad range of issues that affect the mining industry globally. It covers topics such as mining policy, mineral taxation and environment and sustainable development. The discussion of the increasing importance of a mining code as a central source of regulation in chapter three is what makes the book relevant to my thesis project. The author in this chapter focuses on the trends in national mining regulation system in developed, developing and transitional economies. Of particular relevance is the framework of questions that should often be considered in analyzing a mining law from exploration and development to mining and mine closure.

### **Articles and Journals**

**Elizabeth Bastida, “A Review of the Concept of Security of Tenure: Issues and Challenges”, 2001, *Journal of Energy and Natural Resources Law*, Volume 19, Number 1.**

This article discusses security of tenure as a key criterion that any Investor will consider before deciding to invest in a foreign mining project. The author reviews the various interpretations that have been given the concept over the years. The author contends that the implementation of the concept by some Latin American countries contributed immensely in helping to attract foreign direct investment to their mining sector. The author further argues that the increasing concerns for stricter environmental regulation, sustainable development and the social impacts of mining pose serious challenges to the concept. The article therefore calls for the need to balance these challenges with the concept in order not to undermine the competitiveness of the mining industry in the countries faced with these challenges.

**Elizabeth Bastida et al., “Mining Investment and Policy Development: Argentina, Chile and Peru”, *CEPMLP Internet Journal*, Volume 16, Article 10.**

This article provides an overview of the law and policy developments that have taken place in the mining industry of Chile, Peru and Argentina within the last two decades. Like the article by John Williams, the authors also discuss the Latin American Mining Law Model and highlighted the historical reasons behind the model. Unlike John Williams, the article concludes by analyzing the challenges that these countries are likely to face in the changing context of mineral sector governance within the concept of sustainable development.

**John P. Williams, “The Latin American Mining law Model”, in Elizabeth Bastida, Thomas Walde and Janeth Warden-Fernandez (eds.), *International and Comparative Mineral Law and Policy: Trends and Propects* (The Hague: Kluwer law International, 2005) 741-757.**

The author of the article describes the so-called “Latin American Mining Law Model” Which he defines as the distillation of the key features of the legal and regulatory framework for minerals exploration and mining in such countries as Chile, Peru, Mexico, Bolivia among others. The author delves into some major features of the model and admits that although the model has not been enthusiastically embraced worldwide, it inspired changes that made the mining laws of many mineral-rich countries more responsive to the needs of the mining industry globally.

**Robert Pritchard, “Safeguards for Foreign Investment in Mining”, in Elizabeth Bastida, Thomas Walde and Janeth Warden-Fernandez (eds.), *International and Comparative Mineral Law and Policy: Trends and Prospects* (The Hague: Kluwer law International, 2005) 73-97.**

This article contends that private investment in mining especially by multinationals depends on a competitive legal and investment framework of the host country. Pritchard is of the view that the most adverse fears of foreign investors is the change of the legal regime in favour of the host country especially after the investor has initially been encouraged by the host state to commit its capital. The author therefore discusses the key legal safeguards which multinationals in particular generally look for before investing their funds in a mining activity in any country. These include legal and fiscal guarantees as well as international arbitration mechanisms to enforce the performance of these guarantees.

**Thomas Walde, “Investment Policies and Investment promotion in Mining Industries” (1991) 6 ICSID/Foreign Investment Law Journal, 1 (Spring) 94-113**

This journal discusses stability of contract terms as key criterion to be considered by investors before a decision is made as to whether to invest in a mining project in any country. The author emphasized this is very essential for most long term investments in mining in order for the investor as well as his sponsors to be assured that the expected benefits of the investment will be realized. The author further argues that the stability of the investment terms and conditions covers not just the proprietary rights and title but extends to taxation, import and export regulations and foreign exchange regulations among others.

## **Reports**

***The Challenge of Mineral Wealth: Using Resource Endowments to foster Sustainable Development (London: International Council on Mining and Metals, April 2006).***

This is a detailed report of a research project sponsored by the World Bank Group, International Council on Mining and Metals and UNCTAD. The report is a case study of socio-economic impact of mining in four countries comprising Chile, Peru, Ghana and Tanzania. The report develops a toolkit focusing on governance processes to assess local, regional and national socio-economic impacts of mining in these four countries with the ultimate aim of applying to a broader set of mineral-rich countries. Although the report covered a broad range of social, economic, political and historical issues, it is relevant in helping to understand the reasons behind the legal reforms in Latin America particularly in Chile, Peru and Ghana which are also the countries to be covered in my thesis project.

***The World Bank Industry and Mining Division- Industry and Energy Department, World Bank Technical Paper No. 345: A Mining Strategy for Latin America and the Caribbean (Washington D.C.: The World Bank, 1996).***

This is a detailed report based on studies undertaken by the World Bank in six Latin American countries as well as the World Bank's experience elsewhere in the world. The studies specifically covered Argentina, Bolivia, Chile, Ecuador, Peru and Mexico. The report essentially highlights the major features of the legal framework for the exploration and exploitation of mineral which succeeded in transforming the region's mining industry in order to provide useful guides for governments in other mineral-rich countries in other parts of the world.

**The World Bank Industry and Mining Division-Industry and Energy Department, *Strategies to attract new investment for Africa mining* (Washington D.C.: The World Bank, June 1994).**

This report examines the strategies that African countries should adopt in if they are desirous in developing their mineral resources. It explores a wide range of measures that African countries must put in place to enable them compete favourably for global mining capital. The report particularly highlights the need for a comprehensive mining law which grants mineral rights according to well-defined criteria rather than governmental discretion among other factors. What is essentially useful about this report to my thesis project is that it discusses the lessons from country experience of Ghana and even Chile although the focus was on Africa.

**Fraser Institute, *Annual Survey of Mining Companies, 2005/2006*,  
Online: < <http://www.fraserinstitute.ca/admin/books/files/mining20052006.pdf>> (last visited on 21/10/2007).**

The Fraser Institute is a Canadian-based independent research and educational organization. The institute's researches cover a wide range of issues globally. Its annual survey of mining companies which commenced in 1997 evaluates how policies of mineral-rich countries influence decisions by companies or businesses across the world to invest in mining projects in the countries surveyed. The survey primary provides a comparative analysis of the existing political legal, institutional, contractual and regulatory frameworks of the various countries surveyed by relying on responses from exploration and mining companies working in the countries identified in the survey.

**Vilhena, F.C., *Main Issues for Formulating Mining Policies Towards Attracting Foreign Investment*, in *The Mining Industry: Old Threats and New Challenges*, CEPMLP, University of Dundee Annual Mining Seminar, 10-14 June 2002.**

One major issue that any legal framework for mining should address is how to resolve conflicts between mining and other land uses. These conflicts may cover such issues as when exploration and mining activities will prevail over other uses of the land and the rights of way and to easements over third parties' land. Vilhena makes it clear that if a country is to attract and sustain investment in the mining sector, then its mining law must define the rights of landowners and other occupiers, ensure that investors in the mining industry recognize these rights in negotiating land access and creates an effective and practical mechanism to enforce such provisions in the law. This paper is particularly useful in the area of land access and compensation which is one of the key features that

will form the basis of my comparison of Ghana's new mining law to the Latin American Mining law Model.

# **Sub-Seabed Carbon Capture and Storage**

## **Annotated bibliography of relevant scholarly literature**

**Compiled by Mathys Truyen**  
**LL.M candidate, University of Calgary**

This bibliography is compiled partly as an assignment for the course Law 703 Graduate Seminar in Legal Research and methodology, and partly as a working document to assist me in the research for my LL.M-thesis on Sub-seabed Carbon Capture and Storage (CCS) and international law. In the latter capacity, the bibliography is currently (18 December 2007) still a work in progress. I will therefore like to point out that the bibliography is not comprehensive.

The bibliography is divided into two parts: one part on CCS with an emphasis on literature on sub-seabed CCS, and a second part on International Law. Especially the international law-part of the bibliography needs further work.

In addition to the annotated entries, I have included some references to other sources relevant to my subject without annotations. The fact that CCS is a relatively new technology, and that the development of CCS for climate change mitigation purposes is currently moving forward at a high pace, means that the available of current scholarly literature is more limited than within a more traditional legal field (such as more general international law. For the same reason, public primary sources are important. Governments, international organisations and NGOs produce materials within the field. One example is the changes in the London Convention on Dumping-regime to facilitate sub-seabed CCS that were adopted by the Meeting of the Parties on 2 November 2006. There is a very limited scholarly literature on this subject, but the documents to found on the website of the International Maritime Organization, which host the Secretariat for the Convention, are of great interest to track the reasoning for allowing CCS under the 1996 Protocol to the Convention.

### **1. Literature on Carbon Capture and Storage**

Bankes, Nigel, "The Legal Framework for Carbon Capture and Storage in Alberta" Paper presented to the Annual Canadian Petroleum Law Foundation Research Seminar in Oil and Gas Law, Jasper, Alberta, June, 2007 (unpublished)

After an introductory part where Bankes describes the concept and several technical issues on CCS, he presents analogous and more well-known processes to draw attention to the issues around CCS. He then points out the status of CCS in existing federal and provincial legislation. In a larger chapter on property issues he discusses several rights

issues before turning to analogous Alberta regulatory issues such as enhanced oil recovery schemes and acid gas disposal. The last part of the paper concentrates on liability issues with an emphasis on post-closure and long term liability. It is particularly the use of legal analogues and the description of the technology for background understanding that is of interest to my project

Bastida, E., Walde, T. and Warden-Fernandez, J. (eds.), *International Comparative Mineral Law and Policy: Trends and Prospects* (The Hague: Kluwer Law International, 2004).

The book is collection of articles covering a wide specter of legal questions relevant to international mining law with contributions from scholars in several nations (including Professor Al Lucas of the UoC) Chapter 1.6 of this book is written by Michel W. Lodge from the Office of Legal Affairs in the International Seabed Authority (ISA). The chapter looks at regulations on prospecting and exploration of deep seabed metallic nodules in international waters by the ISA, which is created under the United Nations Convention on Law of the Sea. The chapter describes an international regulatory regime for use of common resources outside national control, through contracts between the ISA and investors in exploration. One idea is that such an arrangement will lead to technology development. Elements of this regime might be discussed in relation to sub-seabed CCS, especially in international waters. The book also has informative chapters /1.9) on Mining and climate change, and of public participation in global mining (1.10).

Brewster Weeks, Ann, "Subseabed Carbon Dioxide Sequestration as a Climate Change Mitigation Option for the Eastern United States: A Preliminary Assessment of Technology and Law", (2007) 12 *Ocean & Coastal L.J.* 245

In this article Brewster Weeks discusses the technological possibilities of CCS within the US East Coast Exclusive Economic Zone and concludes that there are a large potential for CCS, a potential that should be explored, especially near heavily populated areas. She makes a short analysis of UNCLOS and the London Dumping convention, including its latest amendments, before turning to US legislation. Brewster Weeks point out that the Marine Protection Research and Sanctuaries Act (MPRSA) does not consider the particular question, and is ambiguous regarding how it should be applied on CCS. She recommends that the MPRSA as part of a climate legislation package should be amended in line with the latest and careful amendments of the London Convention to clarify the legality of CCS. This is one of only a few articles written after the amendments of the London regime.

Carlin, Allen, "Global Climate Change Control: Is There a Better Strategy than Reducing Greenhouse Gas Emissions", (2006-2007) 155 *U. Pa. L. Rev.* 1482

Carlin is critical to the current solutions to climate change mitigation through the Kyoto Protocol. He argues that binding reductions for the western world will not be sufficient as long as high emitting developing countries are participating. He is looking for other ideas, and focuses on “engineered climate selection” and “geoengineering”, which means reflecting solar radiation back into space by adding particles to the atmosphere. He does foresee large technological, legal and political obstacles. The idea of geoengineering might seem farfetched, but it provides a contrast to conventional thinking. Geoengineering raises large questions on if and how man might influence nature, questions of legal, technical and philosophical nature. But, like CCS it is a new idea. Will accelerating climate change and unwillingness to reduce energy use lead to an increased pressure on more radical and environmentally dubious remedial methods? And should CCS be viewed in this light?

Forbes, Sarah M., “Legal Barriers for Carbon Capture, Storage and Sequestration”, (National Energy Technology Laboratory, 2002) (Unpublished, available at [http://www.netl.doe.gov/technologies/carbon\\_seq/refshelf/reg-issues/Capture.PDF](http://www.netl.doe.gov/technologies/carbon_seq/refshelf/reg-issues/Capture.PDF)) In this paper, published on the US Department of Energy website, Forbes focuses on legal analogues to CCS but pointing out how they differ from CCS. She uses waste disposal, energy storage, and energy production as analogues. In her opinion, CCS regulation is much about risk management for the long time period the CO<sub>2</sub> must be kept in the ground. She goes through and discusses - although briefly - several types of risks related to CCS, some - but not all - relevant also to discussion of sub-seabed CCS.

Susanne Haefeli, Martina Bosi and Cedric Philibert “Carbon Capture and Storage Issues – Accounting and Baselines under the UNFCCC” (2004) IEA Information Paper, Paris, May 2004 available at [http://www.netl.doe.gov/technologies/carbon\\_seq/refshelf/IEApaperaccounting%20issues%20CCS.pdf](http://www.netl.doe.gov/technologies/carbon_seq/refshelf/IEApaperaccounting%20issues%20CCS.pdf)

The paper is published as an “Information paper” from International Energy Agency (IEA) At least two of the authors was employed by the IEA at the time of writing. The paper deals with the unresolved question on CCS in relation to the UN Framework Convention on Climate Change, and especially accounting issues and emission reductions obligations. It also discusses CCS and the different mechanisms under the Kyoto Protocol. Of special interest to my project is paragraph 60 – 65 on Cross-border CCS projects. If CCS is shipped from one country to another, who will be responsible according to current and future international emission reduction agreements. If the CO<sub>2</sub> escapes, how it is accounted for? The authors points out that current international agreements do not deal with cross-border CCS projects.

Heinrich, Jason, “Legal Implications of CO<sub>2</sub> Ocean Storage”, (2002 Working Paper, Laboratory for Energy and the Environment, Massachusetts Institute of Technology)

In this – for the subject – older paper, Heinrich discusses both CCS and ocean storage of CO<sub>2</sub> with reference to the FCCC, the London Dumping Convention and national US legislation. He proposes that the purpose of CCS is significant from a legal perspective and points out that the London Convention will accept CCS in enhanced oil recovery schemes, while CCS for climate change-disposal is more dubious in accordance with the London Dumping Conventions. Furthermore, he discusses three proposed CCS projects in relation to the above mentioned conventions.

Paul Johnson et al, “Ocean Disposal/Sequestration of Carbon Dioxide from Fossil Fuel Production and Use: An overview of Rationale, Techniques and Implications”, (1999) Greenpeace Research Laboratories, Exeter

In an early report on Sub-seabed CCS (and Ocean Storage of CO<sub>2</sub>) the authors from Greenpeace Research Laboratories gives a critical introduction to both technical and legal sides of sub-seabed CCS. The report stresses that geological sequestration of CO<sub>2</sub> is in contravention with both UNCLOS and the London Convention, referring to independent expert commissions on marine environment. The authors raise questions relevant to the discussion on monitoring and long time safety, although with a certain Greenpeace bias. Also, there is a mention on CCS with relation to Kyoto Protocol (not opening for CCS due to precautionary principle and technical uncertainties).

Lenstra, W.J. and van Engelenburg, B.C.W., “Legal and Policy aspects: Impact of the Development of CO<sub>2</sub> Storage”, (2002) The Hague

This paper was prepared for a workshop initiated by the IPCC on CCS as a preparation for the 2005 IPCC Carbon Capture and Storage Report. Both authors worked for the Ministry of the Environment in the Netherlands, and there is a reference to the Ministry under the by-line. The paper is both about CCS and Ocean Storage, and focuses on marine environment. Of the legal issues raised is the relation to EU legislation and the international convention on marine environment. On international law, the paper is rather thin. It does, however, provide interesting discussion on policy and law question pointing out the necessity of public participation and addressing public concerns about CCS. A Dutch 1997 government project drawing on industry, NGOs and local authorities was cancelled after a public debate criticised it heavily. Some of the points might be somewhat outdated.

McLearn, J. and Fahey, James, “Key legal and Regulatory Considerations for the Geosequestration of Carbon Dioxide in Australia”, (2005) 24 Australian Resources & Energy L.J. 46

The authors, both solicitors at Australian Law firm Mallesons Stephen Jaques dealing with energy and natural resources law, goes through CCS from an Australian perspective. They go through domestic legislation and common law-regulation that might be applied to

CCS, and specific CCS legislation. The latter focuses on the Western Australia legislation on the Gorgon project (The Barrow Island Act of 2003). Although the overview is not comprehensive, it is an interesting and practical assessment of the diverse legal questions a CCS project might come in touch with, and thereby gives a more thorough understanding of the field. The chapter on international law regulation of CCS (3.5) is short and of little use compared to other sources.

Minter Ellison, “Carbon Capture and Storage – Report to the Australian Greenhouse Office on Property Rights and Associated Liability Issues, Australian Greenhouse Office”, (2005) Australian Department of Heritage and the Environment, available at <http://www.greenhouse.gov.au/ccs/publications/pubs/ccs.pdf>

Chapter 8 of this report, (written by the law firm of Minter Ellison but commissioned by the Australian Greenhouse Office) deals with international law considerations of CCS. The chapter discusses how international law might be applied to CCS and discusses both law of the sea-issues, the London Convention on Dumping and the climate change framework. The report mainly raises question on international law applied to CCS and does not conclude clearly. One point made is that limitations in the operative conventions must be seen in the light of, and interpreted in accordance with the overriding problem of climate change, i.e. weighing of climate change arguments against other environmental issues (such as ocean dumping of waste)

The Norwegian Ministry of Oil and Energy, “Gassteknologi, miljø og utfordringer”, (2002) Norwegian Government Report NOU 2002:7

This Norwegian government report on use of gas to fuel power plants was written by a corporatively appointed committee of (in principle) independent experts representing industry, environmental NGOs and research organization. Chapter 7 discusses handling of CO<sub>2</sub> from electricity production and more specific sub-seabed CO<sub>2</sub> sequestration. Beside the climate change regime, the London and OSPAR conventions are discussed, but the report does not draw any conclusion on the legal situation. In chapter 14 of the report, the committee recommends further development of incentives and legislative solutions.

Purdy, Ray, “The legal implications of Carbon Capture and Storage Under the Sea”, (2006) Sustainable Dev. L. & Pol’y, Volume 19, page 22

Ray Purdy from the Faculty of Law at the University College of London has provided a short overview of the nature of Carbon Capture and Storage (CCS) under the seabed. Based on existing technology and infrastructure, CCS is a relatively simple way of reducing emissions of CO<sub>2</sub> from large industrial point sources such as power plants. He discusses CCS in relation to marine laws and more thoroughly the London Conventions on dumping, and finds that the existing convention and its protocols currently (2006) does not allow CCS. Thereafter he describes how the parties are in a process of changing

the legal situation by amending the annex to the convention to include CO<sub>2</sub> in the list of substances that are eligible for storage or dumping. He concludes that CCS is not an ideal method of mitigation climate change, but that the realities and its availability make it a feasible solution, and points out the legal challenges regarding CCS with the relation to the Kyoto protocol and the need to develop a regulatory framework on the international and national level.

Reiner, D.M. and Herzog, H.J., “Developing a set of Regulatory Analogues for Carbon Sequestration”, (2004) *Energy* 29. page 1561

The authors, who are from MIT and University of Cambridge, discusses where potential analogues for CCS legislation can be found. For storage and disposal they look to waste disposal, energy storage and energy production legislation. Thereafter they discuss criteria for evaluation of CCS including the nature of the risk, how legislative solution must have environmental credibility, that regulation must match current and future government policy and the need to look beyond purely local issues. They point out that participation and information disclosure are issues that are important especially when storage has international climate regime implications. For my project, the article is interesting as the ideas have a different, though more general angle than most CCS work.

## **2. Literature on International Law**

Kindred, H., Saunders, Phillip M. (eds.), *International Law, Chiefly as Interpreted and Applied in Canada*, (Toronto: Eond Montgomery, 2006), pages 921 - 1012

In this traditional International Law textbook, chapter thirteen deals with the Law of the Sea and provides an overview of ninety page with relevant materials including, jurisdictional questions, boundary issues, resource management and environmental issues. The book fulfills its purpose of being an informative textbook, and to do not claim to be anything else. The use of the book form my thesis is mainly encyclopedic, i.e. to provide basic information and information on further sources. The book is rather comprehensive and is a good starting point for more general international law questions. Also chapter fourteen on international environmental law includes a short and informative rundown of international environmental law principles.

Bastida, E., Walde, T. and Warden-Fernandez, J. (eds.), *International Comparative Mineral Law and Policy: Trends and Prospects* (The Hague: Kluwer Law International, 2004).

The book is collection of articles covering a wide specter of legal questions relevant to international mining law with contributions from scholars in several nations (including Professor Al Lucas of the UoC) Chapter 1.6 of this book is written by Michel W. Lodge from the Office of Legal Affairs in the International Seabed Authority (ISA) and looks at regulations on prospecting and exploration of deep seabed metallic nodules in

international waters by the ISA created under the United Nations Convention on Law of the Sea. The chapter describes an international regulatory regime for use of common resources outside national control through contracts between the ISA and investors in exploration and thereby technology development. Elements of this regime might be discussed in relation to sub-seabed CCS, especially in international waters. The book also has informative chapters (1.9) on Mining and climate change, and of public participation in global mining (1.10).

### 3. Other materials

The Basel Convention website: <http://www.basel.int/>

The OSPAR Convention website: The Convention for the Protection of the Marine Environment of the North-East Atlantic <http://www.ospar.org/eng/html/welcome.html>

The London Dumping Convention website: The "Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972  
[http://www.imo.org/home.asp?topic\\_id=1488](http://www.imo.org/home.asp?topic_id=1488)

Norwegian Pollution Control Authority commentary to London Convention  
[http://www.sft.no/miljoreferanse\\_35821.aspx](http://www.sft.no/miljoreferanse_35821.aspx)

UNCLOS website: <http://www.un.org/Depts/los/index.htm>

Wikipedia commentary on UNCLOS  
[http://en.wikipedia.org/wiki/United\\_Nations\\_Convention\\_on\\_the\\_Law\\_of\\_the\\_Sea](http://en.wikipedia.org/wiki/United_Nations_Convention_on_the_Law_of_the_Sea)

Bibliography on sequestration at <http://sequestration.mit.edu/bibliography/policy.html>

EU zero emissions project, several publications at <http://www.zero-emissionplatform.eu>

IPCC on CCS at [http://arch.rivm.nl/env/int/ipcc/pages\\_media/SRCCS-final/IPCCSpecialReportonCarbondioxideCaptureandStorage.htm](http://arch.rivm.nl/env/int/ipcc/pages_media/SRCCS-final/IPCCSpecialReportonCarbondioxideCaptureandStorage.htm)

Australian government site on CCS at <http://www.greenhouse.gov.au/ccs/>

St.prp. nr. 49 (2006-2007), Samarbeid om håndtering av CO<sub>2</sub> på Mongstad (Norwegian Government report to the Parliament on a CCS project in connection with a new gas fired power plant on the west coast of Norway).

***Beyond the Blame Game:***  
**A Proposal for Efficient, Economic and Effective Risk  
Allocation in Alberta's Upstream Petroleum Industry**

Terra Nicolay

**Annotated Bibliography**

The following is an annotated bibliography for my major paper as an LL.M. candidate at the University of Calgary.

The objective of my major paper is to analytically review upstream risk allocation in Alberta and to consider opportunities for law reform based on approaches to such in other jurisdictions.

***Legislation***

*Indemnity Provisions in Certain Mineral Agreements*, Tex. Civ. Prac. & Rem. Code Ann, Title 6, §127.001 - §127.007 (Vernon 2005).

*Louisiana Oilfield Indemnity Act*, La. Rev. Stat. Ann. §9:2780 (2002).

*New Mexico Oilfield Anti-Indemnity Statute*, N.M. Stat. Ann. § 56-7-2 (2002).

*Outer Continental Shelf Lands Act*, 43 U.S.C. §§ 1331-1356 (2007).

*Wyoming Oilfield Anti-Indemnity Act*, Wyo. Stat. Ann. § 30-1-131 (2002).

***Case Law***

*Brinkerhoff International Inc. v. Numac Energy Inc.*, [1998] 1 W.W.R. 322 (Alta. C.A.).

*Mobil Oil Canada Ltd. v. Beta Well Service Ltd.*, [1974] 3 W.W.R. 273 (Alta. C.A.).

*SaskPower International Inc. v. UMA/B&V Ltd.*, [2007] 6 W.W.R. 277 (Sask. C.A.).

*TransCanada Pipelines Ltd. v. Potter Station Power Ltd. Partnership*, (2003) 226 D.L.R. (4th) 262 (Ont. C.A.).

***Contract Exemplars***

CAPP/CAODC Master Daywork Contract, online: [www.capp.ca](http://www.capp.ca).

Standard Contracts for the UK Offshore Oil & Gas Industry, online: <http://www.logic-oil.com/contracts.cfm>.

***Secondary Materials***

***Books***

**Bankes, Nigel and Bennett Jones Verchere, *Canadian Oil & Gas, 2nd ed.* (LexisNexis Canada Inc.) 1993 - 2007.**

Volume 1 of this excellent loose-leaf service is a textbook on Canadian oil and gas law. It is a concise and comprehensive narrative, with supporting references to legislation and case law. The author is a respected professor at the University of Calgary, Faculty of Law and co-editor of the Journal of Energy and Natural Resources Law.

**Bott, Robert D., *Our Petroleum Challenge: Sustainability into the 21<sup>st</sup> Century*, 7<sup>th</sup> ed. (Calgary: Canadian Centre for Energy Information, 2004).**

This book is an excellent summary of the oil and gas industry in Canada. It contains practical, intelligible descriptions of the upstream sector, from which can be drawn an understanding of the parties who have an interest in risk allocation and the types of risks that could be considered. The book is produced by the Canadian Centre for Energy Information, a non-profit organization created to provide publicly available information on all aspects of the Canadian energy business.

**Elderkin, Cynthia L. and Shin Doi, Julia S., *Behind and Beyond Boilerplate: Drafting Commercial Agreements*, 2<sup>nd</sup> ed. (Thomson Canada Ltd.) 2005.**

This book is a wonderful analysis of the “boilerplate” provisions of commercial agreements, including liability/indemnity clauses and exclusionary clauses. It includes a review and analysis of the case law considering language contained in such clauses. Cynthia Elderkin is a partner at the Ottawa office of a major Canadian law firm. Julia Shin Doi is a lawyer with the Office of the Counsel at York University.

**Worthington, Robert C., *The Purchasing Law Handbook* (LexisNexis Canada Inc.) 2005.**

This book is a thorough look at Canadian contract and purchasing law. It is a very hands-on guide to many aspects of the law that touches the procurement function. In particular, the laws pertaining to competitive bidding and the battle of the forms are well covered. The author is a lawyer and regular lecturer on contract and purchasing law.

### *Articles*

**Adams, Julia M. and Milhollin, Karen K., “Indemnity on the Outer Continental Shelf - A Practical Primer” (2002) 27 Tul. Mar. L.J. 43.**

This article is a “practical primer” regarding outer continental shelf indemnity claims. It is an overview of the applicable legislation and cases, and a good description of how to analyze outer continental shelf indemnity in light of such. Julia Adams is a partner in a Houston law firm. Her practice focuses on the representation of insurers, marine and energy interests, and insurance brokers. Karen Milhollin is a lawyer admitted to practice in Texas, Georgia and Illinois, and represents foreign and domestic insurers.

**Brock Tade, Jeanmarie, “The Texas and Louisiana Anti-Indemnity Statutes as Applied to Oil And Gas Industry Offshore Contracts” (1987) 24 Hous. L. Rev. 665.**

This article discusses both the *Texas Oilfield Anti-Indemnity Act* (“TOAIA”) and *Louisiana Oilfield Indemnity Act* (“LOIA”) and considers how the statutes interplay with the *Outer Continental Shelf Lands Act* (“OCSLA”). The author gives specific recommendations to energy companies regarding the use of use knock-for-knock contractual terms to manage their liability within these statutory regimes. The author is a lawyer with a Houston based firm and writes from the perspective of the owner/operator’s position.

**Bruner, Philip L. and O’Connor, Patrick J., “Anti-indemnity statutes - Agreements to procure insurance and anti-indemnity laws” (2007) 3 Bruner & O’Connor Construction Law § 10:82 (Westlaw).**

The treatise from which this article is drawn is a major work on the significant issues in U.S. construction law. The piece of interest to this student is a good overview of the workings of anti-indemnity laws generally. Philip Bruner and Patrick O’Connor are practicing lawyers in the area of construction law. Both were named in the 2008 edition of *The Best Lawyers in America*, a peer-review publication for the legal profession.

**Davis, Kevin E., “The Role of Nonprofits in the Production of Boilerplate” (2006) 104 Michigan Law Review 1075.**

This article focuses on the role that can be played by not-for-profit organizations, a large grouping that includes charitable organizations and non-charitable organizations (e.g. trade associations), in the production of boilerplate contracts. The author takes a strong position that it makes a difference whether boilerplate is produced by a not-for-profit as opposed to a for-profit venture and that under certain conditions it is socially desirable for not-for-profit

organizations to play a significant role in the production of boilerplate contracts. The author is a professor at New York University School of Law.

**Engerrand, Kenneth G., “Primer of Remedies on the Outer Continental Shelf” (2005) 4 Loy. Mar. L.J. 19 (Westlaw).**

This article explains and critiques the remedies that are available for accidents involving oil and gas operations on the outer continental shelf under the *Outer Continental Shelf Lands Act*. Kenneth Engerrand is a lawyer with a Houston firm who lectures to classes and seminars on issues of maritime law. He was an Adjunct Professor at South Texas College of Law and was Faculty Advisor to the Special Maritime Editions of the South Texas Law Journal.

**Fox, Thomas R., “Return to Certainty in Risk Assessment, Management and Transfer: The Journey of the Texas Oilfield Anti-Indemnity Act” [2001] 1 I.E.L.T.R. 18.**

This article provides an excellent summary of *TOAIA* history and some detail on the background to its enactment in 1973. It then covers both industry and legislative developments since *TOAIA* was enacted. Finally it reviews several cases that interpreted *TOAIA* and how the legislation was changed to respond to those cases. The author is a practicing lawyer in Texas and a former colleague of this student.

**Gerald, Patrick S. and Williams, Holly B., “Injuries to Third Parties Arising From Oil & Gas Operations: An Analytical Framework For Examining Indemnity and Additional Insured Issues” (2000) 15 J. Nat. Resources & Envtl. L. 21.**

This article looks at oilfield service agreements that contain indemnity and insurance clauses compelling contractors (and their insurers) to indemnify the operator for third party losses. There is specific focus on *TOAIA*. In addition, the article sets out a general analytical framework to direct the analysis of an indemnity obligation in any jurisdiction. Both authors are practicing lawyers in Midland, Texas.

**Martin, A. Timothy, “Model Contracts: A Survey of the Global Petroleum Industry” (2004) 22 J. Energy & Nat. Resources L. 281.**

This article describes the development of model contracts within the petroleum industry across the globe. There is a brief historical review of the growth of model contracts and comparison amongst some of the various prevailing models in different jurisdictions. The features important to successful development of an industry accepted model contract are suggested. Timothy Martin is a practicing in-house lawyer in Canada with a large oil and gas company.

**Olyan, Arnie H. and Taylor, John K., “The EPC Contract and the Energy Lawyer” (2007) 44:3 Alta L.R. 539.**

This article looks in detail at the clauses found in a typical engineering, procurement and construction contract, but very distinctively from the energy industry perspective. Although focused on a different sector, the paper is useful in its discussion of the allocation of risks as between the owner and contractor, in particular limitations on liability, in the Alberta energy industry. Both authors are practicing lawyers in Calgary.

**Robertson, David W., “The Outer Continental Shelf Lands Act's Provisions on Jurisdiction, Remedies, and Choice of Law: Correcting the Fifth Circuit's Mistakes” (2007) 38 J. Mar. L. & Com. 487.**

This article includes an interesting discussion of the remedies available under *OSCLA*, from a law reform perspective. The solutions proposed are quite balanced; they do not support wholly the owner/operator side or the contractor side. The author is the W. Page Keeton Chair in Tort Law and University Distinguished Teaching Professor, University of Texas at Austin.

**Sanchez, Larissa, “Charting the Chaotic Offshore Waters: The Validity of Contractual Indemnity Provisions Pertaining to Injuries Sustained Offshore” (2006) 31 Tul. Mar. L.J. 177 (Westlaw).**

This article looks at the approach to indemnities in the U.S. offshore oil and gas industry. Both the *OCSLA* and *LOIA* are detailed. There is a good discussion about some of the pushback by industry members against the offshore mutual indemnity agreements and anti-indemnity statutes,

and an analysis of two important cases on this. The importance of equalizing the bargaining power of owner/operators and contractors is stressed. Larissa Sanchez graduated in 2007 with her J.D. from Tulane University Law School, where she had been managing editor of the Tulane Maritime Law Journal. She practices in Texas.

**Shilliday, Daniel B. et al, “Contractual Risk-Shifting in Offshore Energy Operations” (2007) 81 Tul. L. Rev. 1579 (Westlaw).**

This article is an excellent comparative survey of *OCSLA*, *LOIA* and *TOAIA*. It looks in detail at provisions of these acts regarding indemnification, insurance and “additional insured”, release agreements, consequential damage caps, and liquidated damages. The authors are practicing lawyers with the firm of Vinson & Elkins in Texas.

**Smither, John J., “A Primer on Indemnity” (2004) 41 APR Hous. Law. 26 (Westlaw).**

This article provides basic but useful coverage of the nature of indemnity as it is understood in Texas law. In order to understand *TOAIA*, it is first important to appreciate the nuances of indemnity itself in the jurisdiction. The author is a lawyer in Houston, practicing general civil litigation.

**White, Hunter H., “Winding Your Way Through the Texas Oilfield Anti-Indemnity Statute, the Fair Notice Requirements and Other Indemnity Related Issues” (1996) 37 S. Tex. L. Rev. 161 (Westlaw).**

This article is a meticulous and comprehensive review of the workings of *TOAIA*. It covers the types of agreements that fall under *TOAIA* and those that are excluded. It lists the aspects of an indemnity agreement required under *TOAIA* (e.g. negligence, fair notice) and exceptions to the rules. It then describes types of losses and damages included and excluded under *TOAIA* and under case law. Hunter White is a partner at a Houston law firm where his practice includes oil and gas and commercial transactions.

# TOWARDS A COMPREHENSIVE LEGAL FRAMEWORK FOR THE DECOMMISSIONING OF OFFSHORE OIL AND GAS FACILITIES IN NIGERIA – LESSONS FROM BRENT SPAR CASE

## ANNOTATED BIBLIOGRAPHY

Compiled by Kelani Oluwaseun Solomon

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This annotated bibliography specifies the sources of information for my LL.M. research at the University of Calgary. My research focuses on the need for a comprehensive legal framework for the sustainable decommissioning of offshore oil and gas facilities in Nigeria.

The issue of offshore decommissioning did not attract much attention until the early 90s when the world began to witness the activities of major oil corporations in disposing their offshore facilities in environmentally unsound manners. Its defining moment came with the *Brent Spar case* when Shell Corporation UK, sought and indeed obtained the approval of the UK government to dump the *Brent Spar*-a floating buoy, in the deep atlantic waters at North Fenni Ridge, off the Northwest of Scotland. This event unveiled an emotive public clash among different stakeholders-including host governments, oil companies, environmental pressure groups, the fishing industry, shipping interests, and the general public. Thus, it led to an era of legislative awakening on the need for international regulatory and legal frameworks on decommissioning, leading to evolution of more laws on the subject and the strengthening of already existing ones.

At the national levels, countries like the United Kingdom, United States, and Norway have also come up with comprehensive legal frameworks which regulate the disposal of offshore facilities. Interestingly however, Nigeria, despite its strength as one of the biggest oil producing countries of the world has not done much in this regard. As of today, there is no law in Nigeria on the sustainable disposal of disused oil exploration facilities. In the absence of such laws, Nigeria may be faced with the huge cost of clean ups in the event of a 'Brent Spar' happening within its territorial waters. It is doubted that Nigeria currently has the capacity, technology and resources to cope with the exorbitant cost of such clean ups. Knowing that the dumping of decommissioned offshore oil and gas facilities poses a huge threat to the marine systems and to the marine ecosystems, Nigeria cannot afford to wait until when this happens before it lays down the requisite legal framework which provides for the sustainable disposal of oil and gas facilities.

This thesis thus examines how Nigeria can beforehand; lay down a comprehensive legal framework on the safe disposal of offshore facilities. It examines the legal framework needed in Nigeria to ensure that multinational oil companies operating in Nigeria adopt best practices in the disposal of their disused oil exploration facilities. It looks at the lessons that can be learnt from other resource based countries like the UK, in fashioning out a legal framework on the sustainable disposal of such facilities.

This annotated bibliography is classified into three sections. Each section (except section three) includes a part on monographs, and another, on the relevant articles.

SECTION ONE deals with general works on decommissioning of offshore oil and gas facilities as well as the impacts of unsustainable decommissioning on the environment, most especially the marine environment. These works provide the necessary background information and lay the conceptual foundation for my thesis.

SECTION TWO is devoted to works on offshore decommissioning in United Kingdom and Nigeria. It contains works on offshore decommissioning laws in United Kingdom and the institutional framework existing in United Kingdom on offshore decommissioning. These materials will form the basis for my comparative analysis of the offshore decommissioning regime in United Kingdom and Nigeria.

SECTION THREE contains useful links to other web based sources, containing relevant information on the Offshore decommissioning regime in United Kingdom and Nigeria.

## SECTION ONE

# GENERAL TEXTS ON DECOMMISSIONING OF OFFSHORE OIL AND GAS FACILITIES

## MONOGRAPHS

Ayoade, Morakinyo. *Disused Offshore Installations and Pipelines: Towards Sustainable Decommissioning* (Hague: Kluwer Law International, 2002).

This book examines the existing synergies between decommissioning and sustainable development. It elaborates on how to incorporate the concept of sustainable development into the international and national law of decommissioning. It also shows how the celebrated *Brent Spar* crisis has triggered a creative search for new methods of decommissioning. This book offers a rich exposition of what the author calls a *sustainable decommissioning theory*. It provides sufficient insights on why and how countries can incorporate sustainable development into their national laws for decommissioning.

Corcoran, Mike. *The Abandonment of Offshore Oil and Fields* (Ledbury, England: Oilfield, 1997).

This text presents an overview of regulatory frameworks on decommissioning of offshore oil and gas facilities within an historical context. In this way, it gives the reader the perspective in which to interpret the intent and future development of such regulations for offshore areas. This book is helpful in understanding the historical context of offshore decommissioning of oil and gas facilities.

Gao, Zhiguo. *Environmental Regulation of Oil and Gas* (London: Kluwer Law International, 1998).

This book serves as a compendium of the international, regional and national legal regimes on the environmental aspects of petroleum exploitation and management. It generally highlights the environmental impacts of offshore activities including the removal of offshore platforms in environmentally unsound manners. In contrast, a recent study by Patin cited below shows some measures which, when taken, would minimize the environmental impacts of petroleum exploitation and production.

Gorman, D. & Neilson June, *Decommissioning Offshore Structures* (New York: Springer, 1997).

This book provides a practical strategy for removing and disposing offshore facilities which best meets the demands of all of environmental considerations. It details the various options for offshore decommissioning. This book provides the scientific basis for understanding the environmental side effects of unsustainable decommissioning.

Owen, Paula. *Decommissioning the Brent Spar* (United Kingdom: Taylor & Francis, 1999).

This book chronicles the events of the Greenpeace demonstration against Shell and their plans to dispose redundant oil storage in a Norwegian fjord. It offers a very readable account of the events of the summer of 1995, and examines the many issues with dumping of offshore installations. This book practically demonstrates the roles of environmental activists in ensuring sustainable decommissioning. It is a very useful source for the analyses of the Brent Spar legacy and the legislative activities that followed.

Patin Stanislav, *Environmental impact of the offshore oil and gas industry* (New York: EcoMonitor Publishing, 1999).

This book provides a comprehensive assessment of how oil and gas exploration and production affect marine ecosystem and what measures should be taken to minimize its impacts. Of much relevance is chapter three which examines the environmental effects of offshore decommissioning on the marine ecosystems and organisms and measures to be taken to minimize its impacts. It assists with useful information on the environmental consequences of deep-sea disposal of offshore facilities.

## ARTICLES

Brown, E. "Decommissioning of Offshore Structures: Legal Obligations under International and Municipal Law" (1982) 1 O.P.P.R 23-25.

This article examines states' legal obligations under international law and the need under municipal laws for regulations on sustainable decommissioning of offshore structures.

Ekins, Paul *et al.* "Decommissioning of Offshore oil and gas facilities: A comparative assessment of different scenarios" (2006) 79 J.E.M 420-438.

In this article, a comparative analysis was made of the environmental outcomes of the different scenarios of offshore

decommissioning. The paper concludes that it is not clear that the removal of the topsides and jackets of large steel structures to shore, as currently required by regulations, is environmentally justified. It provides a rich discussion of the sustainable options that can be followed in decommissioning offshore oil and gas facilities.

George, C. "Removal of Offshore Platforms and the Development of International Standards" (2002) 13 *Marine Policy* 249-265.

This article describes the draft Guidelines and Standards on removal of offshore platforms adopted by the Maritime Safety Committee of IMO. It gives a cursory look at international attempts in regulating offshore decommissioning. This material will serve as useful tool in my doctrinal analysis of the international legal frameworks on offshore decommissioning.

Hamzah, B. "International Rules on Decommissioning of Offshore Installations: Some Observations" (2003) 27 *Marine Policy* 339-348.

This paper, which is concerned mainly with international law and practice on the decommissioning of offshore installations, examines the various global and regional instruments, which attempt to regulate decommissioning. In considering the way forward, particularly for Third World countries, it is concluded that there is a need for oil-producing countries to enact comprehensive national legislation on this subject.

Osmundsen Petter & Ragnar Tveteras, "Decommissioning of Petroleum Installations—Major Policy Issues" (2003) 31 *Energy policy* 1579-1588.

This article provides a survey of international economic and regulatory issues pertaining to disposal of petroleum installations. It analyses the unanimous agreement reached by OSPAR countries on disposal of petroleum installations and also considers the implications of disposal decisions for the fishing industry - a central stakeholder. The OSPAR agreement is the foundation on which the United Kingdom's regulatory framework is based.

Richard, Bentham. "The North Sea: Problems of De-commissioning" (2002) 11 *Marine Policy* 313-315.

This article takes a general view of matters relating to offshore decommissioning. The development of oil and gas in the North Sea; what steps to take to decommission the present massive installations when the reserves are depleted; to what extent can the interests of those concerned be reconciled- navigation (surface and submarine), fishing, the environment, the oil industry, governments? Should removal be total or partial? What measures, national and international regulations should apply? The above issues are to be considered in evolving a comprehensive legal framework for offshore decommissioning in Nigeria.

Richard, Dodson. "Meeting Today's Plug & Abandonment/Decommissioning Demands – Legal and Physical Complexities of Abandoning an Offshore Facilities" (2001) *World Oil* 320-325

This article explores how to handle the legal and physical complexities of decommissioning an offshore facility. It also looks at the increased pressures of liability, environmental issues, safety and how plugging the well and decommissioning should be conducted to best serve the industry, the companies involved and the public. This article offers a useful background for the discussions in this thesis.

Woodliffe, John. "Decommissioning of Offshore Oil and Gas Installations in European Waters: the end of a Decade of Indecision" (1999) 14 *I.J.M.C.L.* 101.

This article traces the main stages in the development of current legal regime – OSPAR, for the decommissioning of deep-water offshore installations, including the overhauling and rebuilding of regional and international agreements. It examines the implications of the assertion of interest in this area and also documents the outcome of the Brent Spar saga. This article concludes with an assessment of the OSPAR Decision of 23 July 1998, which appears to provide the long sought international agreement on offshore decommissioning. This work will be a useful summary of the issues that arose at the different stages of the negotiations of OSPAR.

## **SECTION TWO**

### **MONOGRAPHS**

Gao, Zhiguo. *Current Issues of International Law on Offshore Abandonment* (Dundee: C.E.P.M.L.P,1997).

This book offers an up-to-date overview of the recent developments of international law on offshore abandonment. The author scrutinises the current issues and debates on the subject at both international and national levels, with some special reference to the legislation and practice in the UK. By studying the current issues and trends in international law and policy developments, this book undertakes to provide practical considerations as to the possible resolution of some of the prominent problems faced by the international community in general and some member states in particular. Chapter 2 of this book is particularly useful as it discusses the various treaties, multilateral and regional conventions on offshore decommissioning.

Wills John & Ewan C Neilson, *The Technical and Legal guide to the UK Oil and Gas Industry* (Aberdeen: Aberlour Press, 2007).

This book provides a guide to the UK oil and gas industry cutting across its technical and legal aspects. Written by 44 authors, with contributions from 20 companies, institutions and other organisations, the text combines introductions to all activities required to find and produce oil and gas and takes the reader through the general principles of applying for licences in the UK, exploration and production, the subsequent development and operation, and eventual decommissioning. This book gives us a comprehensive guide to the laws on decommissioning in UK.

## ARTICLES

Amakiri, A. "Developing An Offshore Installations Decommissioning Policy In Nigeria" (1997) O.G.L.T.R 11.CFCVF C V

This article examines the challenges faced by policy makers in selecting the best instrument for offshore decommissioning policy in Nigeria. It discusses the environmental aspects of offshore decommissioning and the need for an effective decommissioning policy in Nigeria. It proposes modeling our decommissioning laws after the various international instruments on offshore decommissioning. This work will serve as a useful guide in discussing the challenges of developing a decommissioning framework in Nigeria.

Fayette, Louise. "New Developments in the Disposal of Offshore Installations" (1999) 14 I.J.M.C.L. 523.

This article examines the developments at the OSPAR Commission, at the European Parliament, by the Scientific Group of the London Convention 1972, and in the United Kingdom, which has now implemented the OSPAR decision in its national regulatory regime. This source will help us to examine the developments of UK's regulatory framework for offshore decommissioning.

Kachikwu, E. "Legal Issues in the Oil and Gas Industry" (1989) 2 G.R.B.P.L 33.

This article gives a brC CVFC oad overview of the relevant legal issues in the Nigerian oil and gas sector and the various legislation that relate to them. It also provides a brief historical overview of the legal regime of the oil and gas industry in Nigeria. This material is helpful in understanding the legal regime of oil and gas exploration in Nigeria. In contrast, a recent study by Olawale cited below gives insights into what laws should be put in place for managing environmental impacts of offshore activities in Nigeria.

Olawale Yinka, "The Legal Framework for Oil and Gas Production in Nigeria" (2004) 15 O.S.L.R 73.

This article gives accounts of the necessary legal requirements for oil and gas exploration in Nigeria. It also gives insights into what laws should be put in place for regulating the environmental impacts of offshore activities in Nigeria. This will help this work in its overall objectives of providing suggestions for an effective law against dumping of offshore oil and gas facilities in Nigeria's waters.

Side J., *et al* 'Current Controls for Abandonment and Disposal of Offshore Installations at Sea' (1993) 17 Marine Policy 354-362

The article takes a cursory look at the provisions of international law on the removal of offshore facilities. It recommends an integrated regulatory framework for decommissioning of offshore installations, and disposal of associated residues in the North East Atlantic. While also proposing the enactment of this integrated regulatory framework in UK law, it also suggests that offshore operators should follow a dual approach which considers both the decommissioning requirements of the Petroleum Act and any requirements that may arise from Part II of the Food and Environment Protection Act which deals with sea disposal. This work will be very useful in analyzing international efforts at regulating the deep sea disposal of off shore facilities. It also offers an analysis of the UK decommissioning law and its shortcoming. This will be useful in analyzing the transferable ideas from UK to Nigeria.

## SECTION THREE

### Useful Links.

For an overview of the Second Report of the Scientific Group on Decommissioning Offshore Structures. The environmental impacts of the new disposal options for Brent Spar, online: <http://www.nerc.ac.uk/decommissioning/report2.pdf>

For an overview of the first report by The Scientific Group on Decommissioning (Natural Environment Research Council), 1996, for the Department of Trade and Industry. The task of the Group is to "examine the scientific evidence in relation to the potential environmental impacts of the disposal of large off-shore structures, using the Brent Spar as an example". Online: <http://www.nerc.ac.uk/oilrpt.htm>

For an overview of environmental impacts of the Decommissioning of Oil and Gas Installations in the North Sea by Dr. Alastair Grant, University of East Anglia, UK. Online: <http://www.uea.ac.uk/~e130/cuttings.htm>

For an overview of Nigerian environmental laws, see Laws of the Federation of Nigeria, online: FGN, <http://www.nigeria-law.org/LFNMainPage.htm>