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**Land Based Sources of Marine Pollution Control in Japan:
A Legal Analysis**

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Land Based Sources of Marine Pollution Control in Japan: A Legal Analysis

Daud Hassan*

Abstract

This paper evaluates the strengths, weaknesses and opportunities for LBSMP control in Japan. It highlights the key pollutants of LBSMP in Japan and reviews national arrangements on the protection of LBSMP in Japan. Implementation of international instruments, national legislation, national policies and programs, marine environmental education and public participation are examined and evaluated in this respect.

Introduction

Land based sources of marine pollution (hereinafter LBSMP) have become the dominant threat to the protection of the world's marine environment.¹ They enter the marine waters through various pathways and affect the marine environment. Therefore, use of marine resources in a sustainable manner and prevention and control of pollution effectively are prerequisite to ensure the protection of the marine environment and to improve the health of oceans.²

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¹ For details see Hassan D, *Protecting the Marine Environment from Land Based Sources of Pollution Towards Effective International Cooperation* (Ashgate, 2006) at 11-35. Various instruments have defined the concept of LBSMP. The Montreal Guidelines, for example, define this type of pollution as follows:

Land-based sources means:

- (i) Municipal, industrial or agricultural sources, both fixed and mobile, on land, discharges from which reach the marine environment, in particular: From the coast, including from outfalls discharging directly into the marine environment and through run-off; and through rivers, canals or other water-courses, including underground water courses; and via the atmosphere.
- (ii) Sources of marine pollution from activities conducted on offshore fixed or mobile facilities within the limits of national jurisdiction, save to the extent that these sources are governed by appropriate international agreements. (The 1985 Montreal Guidelines for the Protection of the Marine Environment from Land Based Sources of Marine Pollution (UNEP, 'Protection of the Marine Environment against Pollution from Land-based Sources' 14(2-3) Environmental Policy and Law 1985 at 77, UNEP/WG 120/3 part IV.)

² Sustainable development is: ... development that meets the needs of the present without compromising the ability of future generations to meet their own needs World Commission on Environment and Development, *Our Common Future*, (NY: OUP, 1987) (the 'Brundtland Report') at 8. Sustainable development relates to improved control of wastes and the development of contingency plans for dealing with accidents harmful to the marine and coastal environment.

The severe environmental consequences of LBSMP can be demonstrated in a number of areas including public health, food resources, marine species integrity and health and survival.³ According to the survey conducted by the Environmental Agency of Japan the concentration of various types of hazardous substances including land based sources of pollutants in seas adjacent to Japan are heavy.⁴ Although a number legal and policy initiatives have been undertaken to control LBSMP questions remain as to how effective the present arrangements are.⁵

The objective of this paper is to identify the strengths, weaknesses and opportunities for LBSMP control in Japan. With this view, it identifies the sources of LBSMP in this area and reviews legal and institutional arrangements and mechanisms in Japan.

This paper highlights the key pollutants of LBSMP in Japan and presents international instruments on LBSMP control. National activities on LBSMP control in Japan are analysed next. Implementation of international instruments, national legislation, national policies and programs, marine environmental education and public participation are highlighted and evaluated in this respect.

Land Based Sources of Marine Pollution in Japan

Although marine pollution in Japan began before industrial revolution pollution loads into the coastal waters have been significantly increased due to the growth of industrial revolution after WW II and high density of population in coastal areas.⁶ In the 1960s, rapid economic development and heavy industries concentrating along Japanese coastal lines caused severe pollution of sea waters.⁷ Excessive land

³ Hassan D *supra* note 1 at 11. In this context, the Minimatta pollution incident in 1960s is notable. The Minimatta fishing community in Japan received mercury (one of the sources of LBSMP) dosages by eating mercury contaminated fish. About 2,000 people were affected. 43 people died and more than 700 were permanently disabled. (Lenssen N, 'The Ocean Blues' in Wells Jr RN (ed) *Law, Values and the Environment* (The Scarecrow Press Inc, London, 1996) at 73.

⁴ Ministry of the Environment, Government of Japan, <http://www.wnv.go.jp/en/earth/marine/conservation.html> (assessed 2 November 2010). The Environment Agency, Japan has been conducting this survey since 1975.

⁵ Effectiveness refers firstly, to the mechanisms set forth in the treaty to ensure its implementation and compliance and whether, and to what extent, these measures ensure the achievement of the treaty objectives, and secondly, it refers to whether the obligations are written in such concrete terms that they actually can be put into effect domestically. (Nordic Council of Ministers, *The Effectiveness of Multimedia Environmental Agreements-A Report from a Nordic Project*, Tema Nord 1996:513 at 5-6).

⁶ Kuroshio Current Large Marine Ecosystem (http://www.eoearth.org/article/Kuroshio_Current_large-marine_ecosystem) at 2.

⁷ The Encyclopedia of Earth, 'Sea of Japan Large Marine Ecosystem' (http://www.eoearth.org/article/Sea_of_Japan_large_marine_ecosystem) at 2.

reclamation and coastal development have led to the destruction of mangrove areas and damaged coral reefs in the south of the Japan Sea's large marine ecosystem (LME).⁸

The Sea of Japan is bounded by Japan on the east and the Korean peninsula on the west and the Pacific coast of Russia on the north.⁹ This large marine ecosystem (LME) is a semi-enclosed sea with an area of approximately 978,000 square kilometers (km²), a volume of 1,713,000 cubic kilometers (km³), and a mean depth of 1,350 meters (m).¹⁰

The Sea of Japan



Source:<http://www.google.com.au/search?hl=en&q=the+sea+of+japan&aq=0&aqi=g4&aql=t&oq=the+sea+of+j>

A huge amount of industrial and domestic wastes are discharged in various sites in Japan. These include: plastic litter, heavy metals, nutrients, sedimentation and radioactive wastes. These wastes are finally introduced into the sea through canal and rivers and pollute the sea waters of Japan.¹¹ For example, approximately 31.06 million

⁸ The Encyclopedia of Earth, *ibid* at 2.

⁹ Mizukami C, A Framework for Cooperation for the Protection of the Marine Environment in the Sea of Japan, in *Experiencing Maritime Cooperation in Northeast Asia –Possibility and Prospects* (Seal Press 1993) at 79.

¹⁰ The Encyclopedia of Earth, *supra* note 6 at 2. Article 122 of the 1982 *United Nations Convention on the Law of the Sea* defines enclosed or semi enclosed sea as ‘a gulf, basin or sea surrounded by two or more States and connected to another Sea or the ocean by a narrow outlet or consisting entirely or primarily of the territorial seas and exclusive economic zones of two or more coastal states’.

¹¹ Cadmium contamination of the water of Jinzu River in Toyama by cadmium resulted in a disease called Itai-itai is notable here. (The Encyclopedia of Earth, *supra* note 7 at2)

tons of wastes were discharged in to the sea around Japan.¹² A survey conducted by Maritime safety Agency, Japan has revealed the high concentration of mercury (Hg) in the Sea of Japan.¹³ Eutrophication, sewage pollution and non-biodegradable pollutants are still significant problem to the effective preservation of the marine environment of Japan.¹⁴ Coastal erosion which is one of the major causes of sedimentation is also severe in Japan.

Since LBSMP is one of the serious issues in Japan effective national arrangements for the protection of the marine environment from LBSMP are needed. Participation in various activities and efforts to deal with the problem in good faith with littoral States of Japan Sea are also important in this respect.¹⁵

International Instruments to Control BSMP

At global level the 1982 United Nations Convention on the Law of the Sea (hereinafter LOSC) is the most important hard law to deal with LBSMP.¹⁶ At present the LOSC is the only global treaty with specific provisions on LBSMP. Article 207 of the LOSC provides:

1. *States shall adopt laws and regulations to prevent, reduce and control pollution of the marine environment from land-based sources, including rivers, estuaries, pipelines and outfall structures, taking into account internationally agreed rules, standards and recommended practices and procedures.*
2. *States shall take other measures as may be necessary to prevent, reduce and control such pollution.*
3. *States shall endeavour to harmonize their policies in this connection at the appropriate regional level.*
4. *States, acting especially through competent international organizations, or diplomatic conference, shall endeavour to establish global and regional*

¹² Japanese Maritime Safety Agency, *Annual Report on Maritime Safety*, 1998 ed. at 45

¹³ Japanese Maritime Safety Agency, *Report on Maritime Safety*, 1997 cited in State of the Environment and policy Retrospective : 1972-2002, Coastal and Marine Areas : Asia and the Pacific, 2002.

¹⁴ Kuroshio Current Large Marine Ecosystem, *supra* note 6 at 2.

¹⁵ Symonides J, 'The Legal Status of the Enclosed and Semi-enclosed Seas' (1984) 27 *German Yearbook of International Law* 327.

¹⁶ *United Nations Convention on the Law of the Sea*, adopted by the Third United Nations Conference on the Law of the Sea (UNCLOS III). Montago Bay, 10 December 1982. 21 ILM 1261, 1833 UNTS 3 and 1835 UNTS 261 (Final Act) (in force 16 November 1994).

The *Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matters* (11 ILM (1972) 1291 is also relevant as most marine dumping is of land generated industrial waste or land dredged silt (UNEP, Marine Pollution from Land Based Sources, UNEP Industry and Environment, June 1992 at 3)

The *1996 Protocol to the 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matters* (36 ILM 1997) can also be noted in this respect as this Protocol broadens the definition of dumping to include any storage of wastes or other matter in the seabed and subsoils, from vessels, aircraft, platform or other man-made structures at sea...(article 4 of the 1996 Protocol).

rules, standards and recommended practices and procedures to prevent, reduce and control pollution of the marine environment from land-based sources, taking into account characteristic regional features, the economic capacity of the developing states and their need for economic development. Such rules, standards and recommended practices and procedures shall be re examined from time to time as necessary.

5. Laws, regulations, measures, rules, standards and recommended practices and procedures referred to in paragraphs 1, 2 and 4 shall include those designed to minimize, to the fullest extent possible, the release of toxic, harmful or noxious substances, especially those which are persistent, into the marine environment.

Through this article the LOSC obliges States to do the following: take into account internationally agreed rules, standards and recommended practices and procedures; endeavor to harmonise their policies at the appropriate regional level; and, act through the competent international organisations or diplomatic conferences to establish rules to control LBSMP.¹⁷ LOSC emphasises cooperation on a global and regional basis.¹⁸ It also emphasises cooperation with respect to the protection of enclosed and semi-enclosed seas.¹⁹

The following soft laws are important as far as LBSMP control is concerned: the 1972 *United Nations Conference on the Human Environment* (Stockholm Conference 1972), the 1985 *Montreal Guidelines on the Protection of the Marine Environment from Land Based Sources* (Montreal Guidelines 1985), *Agenda 21 of the United Nations Conference on Environment and Development* (Agenda 21 1992) and the *Global Programme of Action for the Protection of the Marine Environment from Land Based Activities* (GPA 1995) .

The Stockholm Conference 1972 could be regarded as the start of international marine environmental law of pollution as it represents a strong sense of dedication by States to establish basic rules of international marine environmental law.²⁰ The Conference addressed all aspects of human environment through the adoption of a Declaration of the United Nations Conference on the Human Environment (the Stockholm Declaration)²¹ and an Action Plan²². For the first time the urgent necessity

¹⁷ Hassan D, *supra* note 1 at 82

¹⁸ Article 197 of LOSC

¹⁹ Articles 122 and 123 of LOSC, see *supra* note 10.

²⁰ Birnie PW and Boyle AE, *Basic Documents on International Law and the Environment* (Clarendon Press, Oxford, 1995) at 1

²¹ 11 ILM (1972) 1416

²² 11 ILM (1972) 1421

for control of LBSMP was explicitly recognized in this soft law.²³ Following the Stockholm Conference 1972 international attention became focused on more prescriptive standards for LBSMP control.²⁴ As an initiative of the Governing Council of the United Nations Environment Programme (UNEP), the Montreal Guidelines were adopted in 1985 with a view to assist governments in the process of developing appropriate bilateral, regional and multilateral agreements and in particular, national legislation for the protection of the marine environment from land based pollutants. These Guidelines provide a checklist of provisions which governments may select, adopt or elaborate, as appropriate, to meet the needs of specific regions to control LBSMP.²⁵ As the first global instrument directed exclusively at LBSMP the Montreal Guidelines set out responsibilities to protect and preserve the marine environment; prevent trans-boundary pollution; adopt measures against pollution from LBS; cooperate on a global, regional and bilateral basis; prevent transfer or transformation of pollution from LBS; establish marine sanctuaries and reserves, engage in scientific and technological cooperation; and assist developing countries for the purpose of improving their capacities to prevent, reduce and control LBSMP.²⁶

On the 20th anniversary of the Stockholm Conference 1972 an Earth summit²⁷ was held in Rio de Janeiro in 1992 which gave the opportunity of the international community to establish new environmental priorities. Although a number of soft law instruments such as the Rio Declaration, Agenda 21 and the Forest Principles were adopted in this summit the Agenda 21 is the most relevant one to LBSMP. Chapter 17 of Agenda 21 titled ‘Protection of the Oceans, all Kinds of Seas, Including Enclosed and Semi-enclosed Seas and Coastal Areas, and the Protection, Rational Use and Development of their Living Resources’ is devoted to the protection and preservation of world’s marine environment. Chapter 17 of Agenda 21 makes a number of useful recommendations to prevent, reduce, and control LBSMP. These include: the application of preventive, precautionary and anticipatory approaches to avoid degradation of the marine environment; prior assessment of activities which have significant impacts upon marine environment; the integrated protection of the marine

²³ Principle 7 of the Stockholm Declaration

²⁴ Hassan D, *supra* note 1 at 89

²⁵ UNEP, ‘Protection of the Marine Environment from Land Based Sources’ (Montreal Guidelines) 14 *Environmental Policy and Law*, 1985 at 77.

²⁶ Montreal Guidelines 2-9; UNEP/WG 120/3 (Part IV). These guidelines are almost identical to the provisions of LOSC Articles 192-203.

²⁷ 31 ILM (1992) at 876

environment; and the development of economic incentives to apply clean technologies; and application of the polluter pays principle.²⁸ Chapter 17 of Agenda 21 also prescribes the specific actions that are needed to prevent, reduce and control LBSMP. In this context, the document prescribes that States should: take action at the national levels to control LBSMP and take into account Montreal Guidelines in this respect;²⁹ consider updating, strengthening and extending the Montreal Guidelines, as appropriate; assess the effectiveness of existing regional agreements and action plans, where appropriate; develop policy guidance for relevant global funding mechanisms;³⁰ convene, as soon as practicable, an inter-governmental meeting on the protection of the marine environment from LBS;³¹ give priority to sewage discharge and establish regulatory and monitoring programs to control effluents' discharges;³² eliminate the discharge of organohalogen compounds, reduce use of synthetic organic compounds, control inputs of nitrogen and phosphorus into the sea water, promote the use of less harmful pesticides and fertilizers and undertake new initiatives at national, subregional and regional levels for controlling the input of non point source

²⁸ Hassan D, *supra* note 1 at 93. All these advocate strategies and programs for the protection of the marine environment from pollution. For example, environmental impact assessment (EIA) is an important tool to ensure proper environmental development activities and an evaluation of environmental effects (EIA, *UNEP Regional Seas Reports and Studies No. 130*, UNEP, 1990, at 1). Briefly stated, the precautionary principle ensures that a substance or activity posing a threat to the environment is prevented from adversely affecting the environment, even if there is no scientific proof linking that particular substance or activity to environmental damage.(Cameron J, 'The Precautionary Principle : A Fundamental Principle of Law and Policy for the Protection of the Global Environment', *Boston College International and Comparative Law Review*, Vol. XIV, No. 1, 1991at 2). As a tool of minimising international competitive distortions arising from LBSMP, the polluter pays principle advocates that the costs of environmental pollution should be internalised. In the international context, it is an attempt to shift the burden of pollution prevention and clean up costs to states or other groups or bodies involved in polluting activities, rather than permitting that burden to continue to be imposed on international society as a whole. As a management tool, the cleaner production principle offers an effective solution for tackling LBSMP problems by providing the opportunity to conserve and clean up coastal waters, and ensuring environmentally sustainable use of resources by firms and industries in marine and coastal areas (efficient resource utilisation). It also provides an effective solution for protecting the marine and coastal environment from the negative impacts of human activities (reducing waste disposal charges). Integrated management relates to the management of the coastal zone as a whole in relation to local, regional, national and international environmental goals. It imposes a particular focus on the interaction between the various activities that occur in the coastal zone and between coastal zone activities and activities in other regions (OECD Environmental Directorate, Environment Committee (1991), *Report on Coastal Zone Management: Integrated Policies and Draft Recommendation of the Council on Integrated Coastal Zone Management*, Paris, drafted 16 October, 1991 at 37). This integration in coastal management may embrace a number of dimensions: intergovernmental, geographical (land-water interface), intersectional and interdisciplinary.

²⁹ Chapter 17.24.

³⁰ Chapter 17.25.

³¹ Chapter 17.26. Agenda 21 requested the governing council of the UNEP to make more concrete measures, and to implement its recommendations and directives related to LBSMP.

³² Chapter 17.27.

pollutants³³ control; and prevent coastal erosion and siltation due to anthropogenic factors related to, *inter alia*, land use and construction techniques and practices.³⁴

In direct response to the recommendations made in Chapter 17 of Agenda 21 the Conference on the Protection of the Marine Environment from LBSMP was held in Washington in 1995 (Washington Conference 1995). The Washington Conference was convened and coordinated by UNEP, in close cooperation with intergovernmental and non-governmental organisations (NGOs).³⁵ The aim of this Conference was to develop a Global Programme of Action to prevent, reduce and control LBSMP which was unanimously adopted by the participants of the Conference.

The GPA provides valuable insights as to what is needed to deal more effectively with the LBSMP problem and how states might be persuaded, encouraged or assisted.³⁶ It provides certain criteria to ensure successful implementations of its program, such as, establishing and strengthening regional and global networks; encouraging and facilitating interregional cooperation and establishing and supporting the necessary Secretariat services for regional cooperative arrangements.³⁷ The GPA has initiated and proposed a coherent strategy and methodology to develop programmes of action at national, regional and international levels and has established the programmatic links between various GPA activities and integrated legal, economic and technological policies.³⁸ To promote the implementation of the GPA at regional levels, a UNEP coordinating office for the GPA was established in November 1997, becoming fully operational in 1999, in *The Hague*.

UNEP's Hague Coordination Office for the GPA has put in place various mechanisms as part of the process of implementing the GPA. It has conducted a series of regional technical workshops, for the program of 'regional implementation'.³⁹ The main objectives of these workshops were to finalise regional overviews of land-based activities; agree on the development of regional components of the Clearing-House

³³ Chapter 17.28.

³⁴ Chapter 17.29.

³⁵ The Conference was attended by over 100 states, 17 global and regional international organizations and 27 non-governmental organizations, UNEP Report, Rio Follow up Marine Environment 26 *Environmental Policy and Law*, (1996) at 11.

³⁶ Hassan D, *supra* note 1 at 96

³⁷ Basiron N, 'The Global Program of Action for the Protection of the Marine Environment from Land-based Activities' 3(3) *MIMA Bulletin*, 1996 at 3.

³⁸ Hassan D, *supra* note 1 at 98

³⁹ UNEP, *Institutional Arrangements for Implementation of the Global Program of Action for the Protection of the Marine Environment from Land-based Activities*, (UNEP/GC.19/INF.4, 8 November 1996) at 19.

mechanism; and to develop regional programs of action to address impacts of land-based activities in the marine environment.⁴⁰

The GPA is generally being implemented under UNEP Regional Seas Programme (RSP).⁴¹ The RSP is a global programme implemented through regional components. Each RSP includes an action plan. These action plans are formulated according to the practical needs of the region, as perceived by governments concerned. They serve to coordinate the efforts of national institutions, identify their capabilities and needs,⁴² and provide generic support to control LBSMP.

The 2002 World Summit on Sustainable Development (WSSD) held in Johannesburg, South Africa put emphasis on the implementation of GPA. The WSSD urged for coordinated international action for LBSMP control. It calls on legislators and governments to commit to the implementation of the GPA effectively.

National Activities on LBSMP Control in Japan

National initiatives undertaken by Japan are generally related to the overall protection of the marine environmental protection rather than very specific to LBSMP control. However, in many cases, explicitly or implicitly, these activities promote LBSMP control. Those activities are surveyed here, organised into the following categories:

Commitments under International Instruments

National legislation

National policies and programs

Marine environmental education

Public participation

Japan participated in various international hard and soft law arrangements related to marine environmental protection from land based sources. These arrangements are

⁴⁰ UNEP, Leaflet from UNEP/GPA Coordination Office of the Global Program of Action for the Protection of the Marine Environment from Land-based Activities, 1999 at 6.

⁴¹ The Regional Sea Programme (RSP) is the centerpiece of the oceans program. In 1985 the name of UNEP's Regional Seas Programme was changed to the Ocean and Coastal Areas Program (OCA) and its headquarters or the Program Activity Centre (PAC), moved from Geneva to Nairobi (Caldwell LK, *International Environmental Policy*, (2nd ed, Duke University Press, London, 1990) at 151-153). Nevertheless the program is still commonly called the Regional Seas Program as it was originally known. At present the RSP includes 16 regions. They are: Black Sea, Caribbean, East-Asian Seas, Eastern Africa, Kuwait region, Mediterranean, North-West Pacific, Red Sea and Gulf of Aden, South-Asian Seas, South-East Pacific, South Pacific, South-West Atlantic, West and Central Africa, Arctic, Baltic and North East Atlantic.

⁴² Neuman LD 'The United Nations Regional Seas Program' *The United Nations Regional Seas Program*, 19 *Marine Technology Society Journal* at 49.

embodied on instruments entailing legal and political commitments to control LBSMP, using the best practicable means at their disposal and in accordance with their capabilities.⁴³ The list of these hard and soft law⁴⁴ is as follows:

Signatories to International Instruments Related to LBSMP
Control by Japan

Treaty Ratification	<p>United Nations Convention on the Law of the Sea 1982 (ratified by Japan on 20 June 1996).</p> <p>On October 15, 1980 Japan accede to the London Dumping Convention 1972. It also ratified London Dumping Convention in 1980.</p>
Soft Law Adoption	<p>United nations Conference on the Human Environment (the Stockholm Declaration) 1972</p> <p>Montreal Guidelines on the Protection on the Protection of the Marine Environment from Land Based Sources (the Montreal Guidelines) 1985</p> <p>Chap 17 of Agenda 21 of the United Nations on the Conference on the Environment and Development (UNCED) 1992</p> <p>The Global Programme of Action for the Protection of the Marine Environment from Land Based Sources (the GPA) 1995</p>

Japan has been actively participating in various activities and programmes undertaken by UNEP. Japan's involvement in the adoption of the *Action Plan for the Protection and Management and Development of the Marine and Coastal Environment of the North West Pacific Region* (hereinafter NOWPAP) is an example in this respect.

In its fifteenth session in May 1989, the Governing Council of the UNEP decided for the adoption an action plan for the North West Pacific region with the objective of preserving the marine environment of the Sea of Japan and the Yellow Sea. Then, the UNEP Governing Council requested the Executive Director of the UNEP to enter into consultations with the concerned states of the North West Pacific to ascertain their

⁴³ For details see Hassan D, *supra* note 1 at 78-98.

⁴⁴ Hard law is Treaty. Soft laws are non-binding declarations and guidelines, which may serve as 'quasi legal guide post', (Brubaker D, *Marine Pollution and International Law*, Belhaven Press: London and Florida, 1993) at 287. Soft law instruments are a relatively recent phenomenon in respect of the growing body of international agreements between states. They offer strategies, impose obligations in an imprecise and flexible way and are shaped by normative guidelines rather than constrained by precise rules (Abbott KW and Snidal D, 'Hard and Soft Law in International Governance', 53(3) *International Organization*, 2000 at 443).

views regarding development of a regional programme in the region. In May 1991 a meeting was convened by the Coastal Areas Program Activity Centre (OCA) of the UNEP in Nairobi. After three years of negotiation the NOWPAP was formally adopted in 1994, under the auspices of the UNEP⁴⁵. This Action Plan was designed to develop financial and institutional mechanisms for the protection of the marine and coastal environment from different activities, including LBSMP. It also identified various priority areas for the protection of the marine environment which include LBSMP control.

To give effect to the GPA in the North West Pacific and the East Asian Seas regions, as well as to the existing regional action plans, a regional workshop on LBSMP was held in Toyama, Japan, 24-28 September, 2001. It was attended by the representatives of ten governments: Japan, China, Cambodia, Indonesia, Philippines, Republic of Korea, Malaysia, Australia, Thailand and Viet Nam, two United Nations agencies (WHO and IAEA), one UN Inter-Agency Program (GCRMN) and representatives from UNEP Regional Office, Bangkok and its GPA Branch, The Hague.

All these regional endeavours were a means of strengthening national capabilities for LBSMP control by identifying problems and barriers in Japan. These activities indicate that progress has been made towards implementation of the GPA in Japan. This progress in the region has seen in exchange of information, problem identification, planning of programs on land-based activities and in development of soft law frameworks. Legally binding regional instrument to control LBSMP is still absent due to lack of political will to facilitate the consultation process for the adoption of this legally binding framework.

National Legislation

Legislation directly or indirectly related to marine and coastal environment protection from pollution is to be found in Japan. *Water Pollution Control Act 1978* was enacted to control the quality of waste water discharged from factories which was amended to control the discharge of toxic substances such as mercury (hg) and

⁴⁵ The States participated in the meeting are China, Republic of Korea, North Korea, Japan and the USSR (Russia).

cadmium (cd) in to the water.⁴⁶ With a view to minimize the environmental risk from the use chemical substances the *Law Concerning Reporting etc. of the Releases into the Environment of Specific Chemical Substances and Promoting Improvements in their Management* (PRTR Act) was enacted in 1999. This law provides that all chemicals to be manufactured or imported must be analysed to establish their biodegradability, bio-accumulation and carcinogenicity. It also provides that the manufacture, use or import chemical substances that exhibit a slow rate of degradation, bio-accumulate or are known carcinogens may be restricted.

Complying with the Provisions of the *International Convention for the Prevention of Pollution from Ships 1973* (MARPOL 73/78) legislation have been enacted in Japan. For example, *Marine Pollution Prevention Law 1970* which was amended to include provisions regarding the prevention of maritime disasters and retitled as the *Law relating to the Prevention of Marine Pollution and Maritime Disaster* (LPMP) in 1976. This law was further amended in 1983 to implement the provisions of the 1978 *Protocol Relating to the International Convention for the Prevention of Pollution from Ships, 1973* (MARPOL 73/78) which was acceded by Japan on the 9th June 1983. With few exceptions the 1983 amendment of this legislation prohibits the discharge of oils or oily mixtures, noxious liquid substances or wastes from vessels at sea.⁴⁷

In order to comprehensively and systematically promote the policies for environmental conservation the *Basic Environment Law* was enacted in 1993. This Basic Act includes the basic principles of Japan for environmental policy, defines the responsibilities of each actor within the society, and prescribes various policy instruments to protect the environment.⁴⁸ With regard to environmental conservation this Act emphasizes to establish a basic environment plan⁴⁹ and environmental quality Standards to control pollution.⁵⁰ This Act also encourages environmental impact assessment, economic assistance or subsidies, environmental education, technological

⁴⁶ This legislation was amended in 1989 to prevent underground water pollution through toxic chemicals. It was further amended in 1996. This amendment incorporates the provision of purification of polluted and contaminated ground water.

⁴⁷ All these amendments stipulate that regulations must be applied to various kind of pollutants including all kinds of liquid hazardous substance in bulks and harmful substances in packaged form and sewerage. [Ministry of the Environment, Government of Japan, <http://www.wnv.go.jp/en/earth/marine/conservation.html> (assessed 2 November 2010)]

⁴⁸ UNEP, 'Related Legal Instruments on Marine Litter Activity in the NOWPAP Region' at 2 (http://dinrac.nowpap.org/MALITA_legal_instruments.htm (accessed on 3 November 2010))

⁴⁹ Article 15, *The Basic Environment Law 1993* (Law no. 91).

⁵⁰ Article 16 *ibid.*

support and cooperation to protect the environment from pollution. Establishment of environmental council within the environmental Agency and at prefectural levels was also prescribed in this legislation. With a view to assess proposed development activities on the environment *Environmental Assessment Act* was enacted in 1997.

There are other important legislation relating to marine environmental management which include the following: *Waste management and Public Cleansing Law* 1970,⁵¹ *Coast Act* 1956 to protect the coastal area from disaster,⁵² *Port and Harbor Act* 1950 for construction and maintenance of Harbours⁵³, The *Fishery Port Act* for making plans for fishery port systems⁵⁴ and construction and maintenance of Fishery ports and the *River Act*⁵⁵ for flood control and irrigation. The *Law Concerning Special Measures for Conservation of the Environment of the Seto Inland Sea* 1978 and the *Law Concerning Special Measures for Conservation of Lake Water Quality* are also notable in this respect as they relate to improve the water quality by preventing eutrophication in enclosed water bodies.

In general, a legal framework for pollution control and environmental management exist. However, they are not sufficient to devise appropriate measures to control LBSMP. Question remains as to their implementation due to inadequate legal provisions and lack of institutional arrangements. There are doubts about the efficacy of these attempts to protect the marine environment from LBSMP. There is a lack of specific framework for LBSMP control and comprehensive information to manage the LBSMP, particularly non-point sources of marine pollution. For example, monitoring process is not fully operative as a marine environmental monitoring plan for coastal Japan is yet to be finalised.⁵⁶ The applications of coastal zone related legislation are limited rather than extensive⁵⁷. They are not integrated.⁵⁸ To properly transform the information in to the community and to actively involve the community for the protection of the marine and coastal environment environmental information need to be promoted through proper system.

⁵¹ Amended in 2006

⁵² Amended in 1999 to apply all coastal areas rather than limited areas. Further amended in 2004

⁵³ Amended in 2000 and 2006 for environmental conversation purposes.

⁵⁴ Amended in 2000 for environmental conversation purposes.

⁵⁵ Amended in 1997 to introduce public coastal zone system

⁵⁶ Kuroshio Current Large Marine Ecosystem, *supra* note 6 at 2.

⁵⁷ Ebara A, 'Coastal management System and Ecological Preservation in Japan' Paper presented in *EMECs Conference* 1999 held in Thailand at 1.

⁵⁸ *Ibid*

Nation Policy

Based on existing capacity and institution Japan has adopted programs of action which include strategic action plan of municipal waste water and program on physical alteration and destruction of habitats. As an attempt to protect and conserve the environment the Basic Environment plan was formulated by the Environment Agency. As a future policy to conserve the marine environment and an attempt to stop LBSMP this plan states the following: ‘investigative surveys shall be performed to better understand the total burden being imposed on the ocean from land (e.g. discharged by rivers). Appropriate measures shall be introduced’.⁵⁹ This plan also emphasizes an effective monitoring system to fully understand the state of the marine environment and to implement conservation measures.⁶⁰ With a view to apply an integrated system in all coastal areas in Japan the National Land Agency adopted the Guidelines for the Integrated Coastal management Plan in March 2000. This guideline provides guidance to local governments regarding integrated management of coastal zone.⁶¹ In order to implement measures on marine issues in comprehensive and planned manner the Basic Act of Japan on Ocean Policy was adopted in 2007.

Although the applications of these plans and policies are broad and not very specific to one particular type of marine pollution problem they encompass issues of marine environmental protection from pollution, and thus can be expected to beneficially impact on the control of LBSMP. There are a number of Ministries involved in implementing these plans and policies. The vagueness and overlapping responsibilities in determining the authority over the marine pollution control are acting as a bar in implementing these plans and policies effectively.

Marine Environmental Education and Research

A series of studies and seminars directed at marine environmental education has been conducted in countries of this sub-region. For example, in 1990, a movement known as the Environmental Management of Enclosed Coastal Seas (EMECS) was established in Kobe, Japan with the aim of preserving the environment of enclosed coastal seas including Seto Inland Sea and gradually evolved into an international and

⁵⁹ Part III, section 2(4) of the Basic Environment Plan, Environment Agency, Government of Japan, 1994.

⁶⁰ Part III, section 2(5), *ibid.*

⁶¹ See *supra* note 28.

regional network of personals involved in issues pertaining to the environmental management of enclosed coastal seas in various parts of the world. Since its establishment five international conferences have been organized by the EMECS⁶². These conferences have created scope of exchange of knowledge and perspectives for the common goals of marine environmental protection from pollution in a sustainable and harmonious manner.

Various national institutions and organisations are also engaged in marine environmental research, monitoring, and enforcement. For example, Marine Environment Agency has been conducting an annual survey of marine pollution in seas adjacent to Japan since 1975. Towards the studies of the effects of pollution on marine organisms another research program has been initiated by the Environment Agency in 1995. Realising the strategic importance of coastal and marine and coastal ecosystem Japan has strengthened its interest in the national programme of action, investments for specific projects and awareness of the wide range of impacts of LBSMP. To overcome pollution problem, Environment Agency which was established in 1971 to deal with environmental issues has developed EQS and uniform effluent standards for nitrogen (N) and phosphorous (PH) prevent and control eutrophication. It also promoted and new anti-pollution technologies such as clean production and extended fiscal, taxation and financial support to corporations to facilitate the implementation of advanced technologies.⁶³ Japan has established Maritime Safety Agency with the responsibility for surveillance and control of marine and coastal pollution in Japan.⁶⁴

A number of universities in Japan work on marine environmental pollution studies and offer courses and conduct research work in this field. For example, in Japan, institutions engaged in environmental research, monitoring and enforcement include the Ministry of Environment and Forest, the Ministry of Agriculture, the Ministry of Fisheries and Ministry of land and Transportation.

Under various bilateral agreements there are signs of joint study programme on marine pollution in the Sea of Japan. The 1995 Japan- Russia joint study programme

⁶² EMECS Newsletter, no 22 (International EMECS Centre, 2003) at 1.

⁶³ Shinji F, Japan's Policy for Sustainable Development, (1992) 24(34) *The Columbia Journal of World Business* 98

⁶⁴ There are four regional headquarters for the Maritime safety agency in Japan. They are in : Otaru, Hokkaido, Niigata, Niigata prefecture, Maizuru, Kyoto Prefecture and Moji, Fukuoka prefecture (See Maritime Safety Agency Annual Report 1998)

is an example in this respect.⁶⁵ A joint movement of central government, local government, NGO's and the public has begun in relation to the degradation of marine environment from pollution in Japan.⁶⁶ Various representatives from government and non-government organisations, and representatives from public community interested in environmental issues are participating in these movements.

Although all these research and education are not specifically directed to study the threats of LBSMP they could have an impact on broader awareness building. By promoting awareness on marine environmental issues these activities could help to bring people together and could provide a basis for LBSMP control. However, issues and efforts that are required for LBSMP control include extensive consultation, massive education of the public in terms of pollution control measures, conservation of marine resources in a sustainable manner and development of specific scientific program to study LBSMP problems. All these are still insufficient in Japan.

Public Participation

Marine environmental pollution is a matter of public concern⁶⁷. Community-based initiatives facilitate the involvement of local communities in marine and coastal pollution control and management. Since LBSMP originates locally, local people can conveniently identify the relevant pollutants that need to be controlled. People involved in this process can establish a network, taking into account the local social, and marine environmental conditions. This network can also provide local information in keeping a project on the right track, and to reduce the risk of LBSMP.

There are signs of public participation through legal process in Japan to protect the environment from water pollution. Under pollution prevention programs Japan has improved sewage treatment systems.⁶⁸ Reduction of the disposal of industrial and some domestic wastes in to municipals systems have contributed to improve the water

⁶⁵ Ministry of the Environment, Government of Japan, <http://www.wnv.go.jp/en/earth/marine/conservation.html> (assessed 2 November 2010).

⁶⁶ There are two tiers of local governments- prefectures and municipalities in Japan. There are 47 prefectures in Japan which include Tokyo-to, Hokkaido, Kyoto-fu, Osaka-fu and Okayama-ken.

⁶⁷ Bentil J K, "Environmental Pollution Control and Liability in Penal Laws", *Journal of Planning and Environmental Law*, 1986 at 271.

⁶⁸ According to Article 19 of the Basic Law for Environmental Pollution Control 1972 pollution control programs were formulated by the governors of prefectures with serious pollution problems at the direction of the Prime Minister. The term of the programs were expired in 1977 and reviewed, therefore, pollution prevention programs are still in force.

quality. To tackle this problem Japan has undertaken a challenge to establish the recycling based society.

No doubt these initiatives are encouraging trends to control LBSMP. However, there is no specific provision in the present legal and policy framework in Japan to encourage public participation to control coastal pollution. Because of the ‘*Kobutsu* doctrine’ administrative agencies enjoy wide discretion to manage coastal environment.⁶⁹ People who use the coastal area for beneficial purposes such as swimming, sailing and fishing do not have the standing to sue reclamation permission.

There is a lack of economic incentive for the public and polluting industries, located in coastal areas, to use its resources in a sustainable manner, or to take preventive or precautionary measures.

Conclusion

NOWPAP, Toyama Workshop and various legislative and policy schemes are positive signs for the protection of the marine environment of Japan from LBSMP. With the adoption of these instruments commitments and compliance have been developed in Japan. Capacity building, public awareness and infrastructural projects and use of clean technology activities for LBSMP are contributing to LBSMP control. In spite of these initiatives marine pollution in the Sea of Japan has continued to worsen. Although pollution control in public water areas are well managed and improved the current status of LBSMP is not still satisfactory in Japan.

Various legal and policy initiatives have been undertaken to implement the GPA. However, the implementation of the GPA has fallen short of expectations in Japan. Management measures/tools for coastal zone protection as well as control LBSMP are not up to the mark. Progress of implementation has been slow because of economic infeasibility and social and political implications. Systematic analysis of the root causes of LBSMP, identification of legal opportunities, potential economic, fiscal and investment strategies at the national level are inadequate. Battle against LBSMP control in Japan is continuing due to legal and institutional and strategic weaknesses.

All these indicate a new and improved process and mechanism is required to the effective control LBSMP in Japan. These include greater efforts to ensue the

⁶⁹ The *Kobutsu* means, properties, institutions, facilities and goods for public use (such as, roads, urban parks, rivers, national parks and coastal areas) are to be constructed and maintained by Administrative authorities. Public has the right to use *Kobutsu* but they do not have the right to sue the decision of the administrative authorities regarding *Kobutsu*.

implementation of existing programs. Harmonisation of national policies and legislation with international instruments including LOSC and the GPA are important in this respect. This means proper utilization of international and regional legal frameworks to solve the problem. Substantial behavioural changes at the domestic and regional levels to control LBSMP are notable in this context.

More consensus, more dialogue, and further development of cooperative programs and measures including supreme environmental effort and significant capital expenditure for marine environmental practices is imperative. Political and economic complexities need to be reduced to improve national administrative and legislative infrastructure for the effective control of LBSMP in Japan.