The Relevance of Hydrography to UNCLOS; an Indonesian Perspective

By:

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As I understand it, the theme of this 6th ABLOS Conference 2010 is "Contentious Issues in UNCLOS- surely not?". As I understand it, there are a lot of issues in UNCLOS that could be contentious on which ABLOS could play a role in clarifying them, and look into the relevance of hydrography to UNCLOS.

1. Under the Law of the Sea there are usually different meaning between **hydrography, hydrographic survey, and marine scientific research. Hydrography** generally means **knowledge with regard to the bodies of water,** generally relating to: (1) **depth of water, configuration and the nature of the seabed; (2) directions and force of current; (3) heights and times of tides and water stages; (4) location of topographic features and fix objects for survey and navigation purposes.**

2. **Hydrographic survey** means a survey of the bodies of water **directed for specific purposes**, such as; (1) for the purposes of **safety of navigation**, (2) for **construction of artificial islands, structures and installation at sea**, and even for (3) the purposes of **making and constructing port and post installation.**

3. On the other hand, **Marine Scientific Research (MSR)** means activities undertaken in the marine environment to **enhance scientific knowledge regarding the nature and natural processes of the seas and oceans, the seabed and subsoil thereof.**

4. UNCLOS 1982 contains some provisions regarding **the hydrographic survey and marine scientific research.** For instance **Article 21 (1)** stipulates that **coastal states "may adopt laws and regulations,** in conformity with the provisions of this Convention and other rules of International Law, relating to **innocent passage** through the territorial sea, in respect of all or any of the following: (a) **the safety of navigation and the regulation of marine traffic……** (g) **marine scientific research and hydrographic surveys."**

5. In addition, **Article 40** of UNCLOS stated that during **transit passage** through **straits used for international navigation, "foreign ships**, including marine scientific research and hydrographic survey ships **may not carry out any research or survey activities without the prior authorization of the states bordering straits".**

6. It should also be noted that the prohibition to the conduct marine scientific research and hydrographic survey without prior authorization of the coastal state is also applicable in the **archipelagic waters** in accordance with **Article 54** of the UNCLOS 1982.

7. The problem of marine scientific research and hydrographic survey **in the EEZ** may create some problems. On the one hand, **Article 56 (1)** indicated that **in the EEZ, the coastal state has sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources**, whether living or non living of the EEZ and with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from the waters and wind. In Addition, **Article 56** also stated that the **coastal states has jurisdiction with regard to, among others marine scientific research.**

8. On the other hand, **Article 58** of UNCLOS indicated that the **freedoms of the sea as indicated in Article 87 also applied to the EEZ** as far as **navigation** and **over flights (and others) are concerned.**

9. Therefore there has been **some confusion** with regard to the **regime of hydrographic survey in the EEZ** whether it would be under the freedoms of the sea, or under the jurisdiction of the coastal states. One argument would say that hydrographic survey is not directly related to exploring, conserving and managing the natural resources of the EEZ, and therefore should be free for all states.

10. On the other hand**, many coastal states would argue that they have jurisdiction with regard to regulating and authorizing marine scientific research in the EEZ**. Although hydrographic survey was not clearly stated within the jurisdiction of the coastal state as stipulated in **Article 56(1) (d), the coastal states considered that hydrographic survey have direct relations to their security.**

11. In view of this , a certain group of experts on the Law of the Sea, the so called **Group of 21** consisting of Law of the Sea experts from **Japan, Australia, Indonesia, Malaysia, the Philippines, China , Republic of Korea, India, Russia, the United States**, International Tribunal for the Law of the Sea, and others have carried out several meetings, such as in Bali (June 2002), Tokyo (February 2003), Honolulu (2 December 2003), Shanghai (October 2004), and Tokyo (September 2005) under the sponsorship of the Ocean Policy Research Foundation (OPRF) of Japan, and co-sponsored by the Center for Southeast Asian studies In Jakarta, The East West Center in Honolulu, and the School of International and Public Affair at Shanghai Jiao-Tong University, have formulated certain Guidelines for the navigation and overflight in the EEZ.

12. As far as hydrographic surveying in the EEZ is concerned, the Guidelines stated as follows:

    a. Hydrographic surveying should only be conducted **in the EEZ** of another state with the **consent** of the coastal state. This does not apply to the **collection of navigational data by a ship required for safe navigation during the ship's passage through an EEZ.**

    b. Coastal State **consent** for hydrographic surveying **should normally be granted** unless the surveys fall within one of the consent categories in Article 246(5) of the 1982 UNCLOS, such as having direct significance for the exploration and exploitation of natural resources, whether living or non-living.

    c. The Guidelines in Articles VIII and IX also apply to **aircraft, autonomous underwater vehicles (AUVs), remotely operated vehicles (ROVs) and other remotely operated devices** of a state conducting research or collecting data in EEZ.

13. Hydrography is also very closely related to UNCLOS 1982 and is very crucial in implementing its provisions. For instance, it is very crucial in **determining the baselines** for measuring territorial sea, contiguous zones, EEZ, and continental shelf. There are many kinds of baselines. According to **Article 5** of UNCLOS 1982, the **normal baselines** for measuring the breadth of the territorial sea **is the low water line along the coasts** as marked on large scale charts officially recognized by the coastal states. Hydrographic knowledge is crucial in determining the location of the "low water line" along the coast.

14. Equally, hydrography is very important to determine the **seaward low water line of the reefs** as shown by the appropriate symbol on chart officially recognized by the coastal states, because **those low water lines could be used as baselines for measuring the breadth of the territorial sea as stipulated in Article 6.**

15. The role of hydrography is also significance **in determining straight baselines** where the **coastline is deeply indented or cut into**, or if there is a **fringe of islands** along the coast **in its immediate vicinity** as stated in **Article 7 (1).** Also to select appropriate points along the **furthest seaward extent of the low water line of a delta, as stipulated in Article 7 (2).**

16. Similar hydrographic roles would also be important **in determining straight baselines across the mouth of the river** between points on the low water line of its banks as stipulated in **Article 9** or **across a bay** as indicated in **Article 10.**

17. Another significant role of hydrography would be **in determining a low tide elevation,** primarily because the location of that low tide elevation could influence the extent of straight baselines for measuring the territorial sea.

18. All these indicate the significant role of hydrography **in determining and measuring the location of the various features at sea,** such as the reefs, the coastline deeply indented and cut into, the fringe of islands along the coast, the mouth of rivers, bays, ports, roadsteads, and low tide elevations.

19. The role of hydrography is also important **in the delimitation process of the territorial seas between states with opposite or adjacent coast**. In such a case, according to **Article 15**, failing agreement to the contrary, neither of the two states can extend its territorial sea **"beyond the median line every points of which is equidistant from the nearest points on the baselines** from which the breadth of the territorial seas of each of the two states is measured". **Only hydrographic research that could determine those median line** for the delimitation between the two states and to show them on charts or provide a list of geographical coordinates of points, specifying the geodetic datum as stipulated in **Article 16.**

20. The hydrographic activities are also essential **to determine "the outermost points of the outermost islands and drying reefs of archipelago"** as stated in **Article 47 (1)** which are essential as basis for drawing "**straight archipelagic baselines".** In this context, it should be noted that there is no specific length of "straight baselines" for normal territorial sea, but there is a specific rule for the length of "straight archipelagic baselines" as stipulated in Article 47 (2) of UNCLOS, namely 100 miles with the exception that not more than 3 % of the number of the baselines could be up to 125 miles.

21. Needless to say that **hydrographic knowledge is important to determine the various base points, the connecting baselines, the 12 miles extent of the territorial seas from the baselines, the 24 miles extent of the contiguous zone** from the territorial sea baselines and **the 200 miles EEZ** boundaries, also from the territorial sea baselines. In addition, hydrographic knowledge is also **crucial in determining the outer edge of the continental margin** beyond the 200 mile limits, particularly the determination of the existence of **submarine ridges, plateau , rises, caps, banks, and spurs** which are part of the continental margin. Hydrographic survey and knowledge is extremely significant **in determining 2500 meters isobaths** as the possible basis to start counting possible limit of 100 miles for measuring the outer limit of the continental margin (Article 76 (5) of UNCLOS) as the limit of the continental shelf beyond the distance of 200 miles from the baselines as stipulated in **Article 76 of UNCLOS**. **The determination of the thickness of sedimentary rocks from the foot of the continental slope also** requires scientific contribution from hydrography (as well as from geology and geomorphology). In fact, hydrography, together with other disciplines, also play significant **roles in determining the foot of the continental slope** from which the continental margin could be measured, namely not more than 60 miles from the foot of the slope as stated in Article 76 (4 (a) (ii))

22. Equally, the role of hydrography is also important to define continental margin beyond 200 miles from the baselines, particularly to determine "the thickness of sedimentary rocks and to measure their distances from the foot of the continental slope, to determine the point of 60 miles from the foot of continental slope, as well as the points of 100 miles from the 2500 meter isobath, and the maximum of 350 miles from the baselines as the limit the continental margin for limiting the outer limit of the continental shelves as stated in Article 76 (5) of UNCLOS.

23. The problems would be more difficult, however, with regard to the delimitation between states of EEZ and continental shelf. If for the delimitation of territorial sea the rule of "median line" seems to be clear, the dominant rule for the delimitation of EEZ and continental shelf, however, is "to achieve an equitable solution" (Article 74 (1) and Article 83 (1)). There is no clear guidelines as to what is "an equitable solution", except that it should be achieved "by agreement" between the parties.

24. For the purpose of **safety of navigation, hydrographic survey is crucially important to identify and map out those features and characteristic of each body of waters.** It is extremely significant in the area of traffic density, such as in the straits of **Malacca and Singapore** and in other straits of Indonesia which are heavily navigated, either by national or foreign shipping entities. The hydrography survey is also very significant for **underwater navigation,** particularly in the deeper waters of Indonesia in the eastern provinces.

25. Hydrographic survey is also significant with regard to the **possible exploration and exploitation of the seabed area and its subsoil**. Such activities would depend a great deal on the development of technology, and more countries are developing technologies for exploration and exploitation of ocean resources deeper and deeper from the surface of the sea. Hydrographic knowledge with regard to **bottom topography** as well as **bottom currents and other oceanographic and geological knowledge** are very significant and influential in these endeavors.

26. In these contexts, it is also important to note the provisions of Article 121 of UNCLOS with regard to the **differentiation between "islands" and "rocks"**. An island is defined as "a naturally formed area of land, surrounded by water, which is above water at high tide". An island can have territorial sea, the contiguous zone, EEZ, as well as continental shelve/continental margin. On the other hand, Article 121 (3) apparently differentiates between rocks which can **"sustain human habitation or economic life of their own"** and those rocks which can not. Rocks which can not sustain human habitation or economic life of their own, can not be considered "islands", and therefore they can not have economic zone or continental shelve. It is not clear whether there is a rock that can sustain human habitation or economic life of their own. Artificial islands "or" rocks

which have been modified by artificial human intervention, such as by land reclamation or technique, it seems to me, would be difficult to classify as "naturally formed area of land" and therefore, like installations and structures**, can not be used to claim territorial sea, contiguous zone, EEZ, or continental shelf**. Artificial islands do not have the status of island. Therefore they can not have territorial sea of their own.

27. **The problems of rock in the middle of the seas and oceans are now major issues, particularly in the Pacific Ocean and the South China Sea** which have the tendency to develop into conflicts between states. I wonder whether ABLOS could find some solutions to those issues including the issues of land reclamation in determining baselines. **Hydrography and other technical scientific disciplines could play significant role in differentiating between rocks and island and in what way a rock can sustain human habitation or economic life of their own** so that it can have the territorial sea, EEZ, and continental shelve, thus could become "an island".

28. In my views, in order to be able to "sustain human habitation or economic life of their own, the rocks must have sufficient fresh water, suitable vegetation to produce food, sufficient materials to construct shelters and accommodation, and to support the survival and proliferation of certain limited community of people. The situation may also be different with regard **to rocks which could be regarded as a part of the coastal area** which could be regarded as the outermost points of the outermost islands which could be used as base points to start measuring the baseline of a coastal state.

29. Finally, I wonder whether hydrography could also helped to solve **the problems of "special circumstances"** or the problems of **"historic title"** as stated in Article 15 of UNCLOS that would enable the delimitation of territorial sea between state with opposite or adjacent coasts to deviate from the general principles of median line. Do the "special circumstances" **relate to the location of a feature or the size of the feature** or perhaps to other situations. Similarly what would constitute "historic title". The uncertainty with regard to the meaning of this criteria has created a lot of confusions and potential conflicts in the South China Sea, mainly because some claimants in the area are claiming their rights on the basis of the undefined "historic title" and in some cases controversial "historic title"

30. **To conclude, hydrographic survey is very relevance to the implementation of UNCLOS.** It is therefore essential to increase knowledge and understanding of hydrography for ocean and maritime management, not only for the purpose of **navigation** but also for the purposes of exploration and management of the **marine resources and their environment**. **It is however important for hydrography to coordinate and synergize their activities with other relevant disciplines such as oceanography, geology, metrology and others** in order to maximize its benefits and contribution.

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