



# Assembly

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## **Report of the Secretary-General of the International Seabed Authority under article 166, paragraph 4, of the United Nations Convention on the Law of the Sea**

### **I. Introduction**

1. The present report of the Secretary-General of the International Seabed Authority is submitted to the Assembly of the Authority under article 166, paragraph 4, of the 1982 United Nations Convention on the Law of the Sea (“the Convention”).
2. The Authority is the organization through which States parties to the Convention, in accordance with Part XI of the Convention, organize and control activities in the Area, particularly with a view to administering the resources of the Area. This is to be done in accordance with the regime for deep seabed mining established in Part XI and other related provisions of the Convention and in the Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982 (the “1994 Agreement”) adopted by the General Assembly of the United Nations under the terms of its resolution 48/263. As provided by resolution 48/263 and the Agreement itself, the provisions of the Agreement and Part XI of the Convention are to be interpreted and applied together as a single instrument. In the event of any inconsistency between the Agreement and Part XI, the provisions of the Agreement prevail.
3. The substantive functions of the Authority derive exclusively from the Convention, particularly Part XI, and the 1994 Agreement. While these functions are broadly defined, in accordance with the 1994 Agreement, an evolutionary approach has been taken to the establishment of the Authority. Pending the approval of the first plan of work for exploitation, the Authority is to concentrate on the 11 areas of work listed in paragraph 5 of section 1 of the annex to the 1994 Agreement. In view of the limited resources available to the Authority, the relative priority to be given to each of these areas of work is dependent on the pace of development of commercial interest in deep seabed mining.
4. The Authority has a number of additional specific responsibilities under other provisions of the Convention, such as the responsibility to distribute to States



parties to the Convention payments or contributions in kind derived from exploitation of the resources of the continental shelf beyond 200 nautical miles, pursuant to article 82, paragraph 4, of the Convention, and the responsibility under articles 145 and 209 of the Convention to establish international rules, regulations and procedures to prevent, reduce and control pollution of the marine environment from activities in the Area, and to protect and conserve the natural resources of the Area and prevent damage to the flora and fauna (that is, the biodiversity) of the marine environment.

5. In addition to its core responsibilities, the Authority has a general responsibility to promote and encourage the conduct of marine scientific research in the Area, and to coordinate and disseminate the results of such research and analysis, when available, with particular emphasis on research related to the environmental impact of activities in the Area. The Authority may carry out marine scientific research relating to the Area and its mineral resources and enter into contracts for that purpose.<sup>1</sup> Furthermore, States parties to the Convention are required by article 143, paragraph 3, of the Convention to promote international cooperation in marine scientific research by, inter alia, participating in international research programmes and ensuring that programmes are developed through the Authority for the benefit of developing States and technologically less developed States, with a view to strengthening their research capabilities, training their personnel and fostering the employment of their qualified personnel.

## **II. Overview of the work of the Authority**

6. Interest in the development of marine minerals in the deep seabed continues to grow and has resulted in a significant increase in the workload of the Authority over the past year. In 2012, five applications for plans of work for exploration were approved by the Council and it is expected that, by the end of 2013, the Authority will have issued 17 exploration contracts. Another five applications for plans of work for exploration had been filed with the secretariat at the time the present report was compiled. Meanwhile, the first exploration contracts issued by the Authority, signed in 2001 and 2002, will come to an end in 2016 and 2017, with the expectation that the contractors will be in a position at that time to proceed to exploitation. This situation creates a number of challenges for the Authority. First, it is apparent that effective management and supervision of the legal and technical aspects of exploration contracts is becoming increasingly complex, time-consuming and demanding in terms of secretariat resources. Second, it is suggested that it is now imperative to make progress on the development of an appropriate fiscal regime that would allow those contractors that are in a position to proceed to exploitation to do so, while at the same time safeguarding the interests of the members of the Authority as a whole; and third, it is imperative to ensure that adequate measures are in place for the protection of the marine environment. A prerequisite for this is the establishment of an environmental baseline against which to assess the impacts of mining on the marine environment.

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<sup>1</sup> Article 143, paragraph 2, of the Convention; Agreement relating to the implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982, annex, section 1(5) (h). Under article 256 of the Convention, all States, irrespective of geographical location, and competent international organizations, are entitled to carry out marine scientific research in the Area.

7. The Authority also faces immense challenges in implementing its many other responsibilities, including those under article 82, paragraph 4, of the Convention, as well as capacity-building and the promotion and encouragement of marine scientific research in the Area. With respect to the latter, as the competent international organization for the Area, it is also important that the Authority be able to engage actively in relevant international processes relating to marine areas beyond national jurisdiction, such as the Ad Hoc Open-ended Informal Working Group of the General Assembly, to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction. It should be noted that since the establishment of the Authority in 1994, the structure of the secretariat has remained unchanged. Given its increased workload, in particular in the areas of contract administration and supervision, as well as the need to acquire further baseline environmental data for the lesser known deposits of polymetallic sulphides and cobalt-rich ferromanganese deposits, including the use of standardized taxonomies, it is anticipated that a proposal will be submitted in 2014 to restructure the secretariat, possibly to include a contracts management unit.

### **III. Membership of the Authority**

8. In accordance with article 156, paragraph 2, of the Convention, all States parties to the Convention are, ipso facto, members of the Authority. As at 31 May 2013, there were 165 members of the Authority (164 States and the European Union). As at the same date, there were 144 parties to the 1994 Agreement. Since the last session of the Authority, Swaziland ratified the Convention (24 September 2012) and Ecuador acceded to it (24 September 2012). Timor-Leste acceded to the Convention on 8 January 2013.

9. Paragraph 1 of article 4 of the 1994 Agreement states that, after the adoption of the Agreement, any instrument of ratification or formal confirmation of or accession to the Convention shall also represent consent to be bound by the Agreement. There still remain 21 members of the Authority (unchanged since 2012) that became parties to the Convention prior to the adoption of the 1994 Agreement but have not yet become parties to that Agreement. They are: Antigua and Barbuda, Bahrain, Bosnia and Herzegovina, Comoros, Democratic Republic of the Congo, Djibouti, Dominica, Egypt, Gambia, Ghana, Guinea-Bissau, Iraq, Mali, Marshall Islands, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Sao Tome and Principe, Somalia, Sudan and Yemen. Although members of the Authority that are not parties to the 1994 Agreement necessarily participate in the work of the Authority under arrangements based on that Agreement, becoming a party to the Agreement would remove an incongruity that currently exists for those States. For that reason, each year since 1998, at the request of the Assembly, the Secretary-General has circulated a letter to all members in that position, urging them to consider becoming parties to the 1994 Agreement. The last such letter was circulated on 13 May 2013. In his letter, the Secretary-General drew the attention of States to operative paragraph 3 of General Assembly resolution 67/78, in which the Assembly called upon all States to become parties to the Convention and the 1994 Agreement in order to achieve the goal of universal participation in the two instruments.

#### **IV. Permanent missions to the Authority**

10. Since the eighteenth session, Bangladesh and Panama established permanent missions to the Authority. As at 31 May 2013, the following 22 States and the European Union maintained permanent missions to the Authority: Argentina, Bangladesh, Belgium, Brazil, Cameroon, Chile, China, Cuba, France, Gabon, Germany, Italy, Jamaica, Japan, Mexico, Nigeria, Panama, Republic of Korea, Saint Kitts and Nevis, South Africa, Spain and Trinidad and Tobago.

11. The Secretary-General welcomes the establishment of permanent missions to the Authority as an essential link between the organization and its member States. At the same time, however, the Secretary-General wishes to remind member States that the notion of a permanent mission to an international organization implies some permanent and functional presence at or near the seat of the organization, even if some of the members of the permanent mission are non-resident in Jamaica. It is for that reason that the headquarters agreement (article 27) provides that a member of the Authority may establish a permanent mission in Jamaica for the purpose of representation of that State to the Authority and that diplomatic privileges and immunities may be accorded to the members of the permanent mission on the conditions specified in the Agreement (articles 29 and 30).

#### **V. Relations with the host Government**

12. The relationship between the Authority and the host country, Jamaica, is dealt with in a headquarters agreement approved by the Assembly in 1999. The permanent headquarters of the Authority, which are the premises formerly occupied by the Kingston Office for the Law of the Sea, are located in Kingston. The terms and conditions under which the Authority occupies the part of the headquarters building allocated to it are set out in a supplementary agreement between the Authority and the Government of Jamaica concerning the use and occupation of the permanent headquarters. In accordance with article 6 of the supplementary agreement, it is the responsibility of the Government to maintain the headquarters building in good condition of repair and maintenance, including elevators, fire protection systems and air conditioning.

13. The Secretary-General had previously reported to the Assembly on long-standing problems relating to the age and poor condition of the air-conditioning units, elevators and windows of the headquarters building. These included frequent malfunctioning and water ingress, causing damage to the Authority's property, as well as health problems. Between August 2011 and March 2012, the Government carried out renovation and repair work to the elevators and the air-conditioning system, which went some way towards ameliorating some of the most serious defects. However, the long-standing problems relating to the inconsistent water supply and the poor performance of the air-conditioning units of the headquarters building remained unresolved as at May 2013.

14. In 2012, the proprietors of the parking garage attached to the headquarters building, the Urban Development Corporation, unexpectedly increased the annual fee charged to the Authority by 103 per cent, ostensibly because of planned renovation projects. To date, no renovation has been undertaken, and poor lighting and the flooding of the parking garage during heavy rain continue to be a major

security and safety concern for the Authority and its staff. The Urban Development Corporation has been approached with a view to resolving those concerns.

15. While the Government of Jamaica is responsible for maintaining the fabric of the headquarters building, the Authority is required to take responsibility for minor internal repairs and for the internal layout and state of decoration of the secretariat offices on the first and second floors of the headquarters building. The secretariat offices were last refurbished in 1999 and are now in a very poor state of decoration and repair. Budgetary constraints prevent the refurbishment of the Authority's office space during the current biennium. A health and safety inspection will be commissioned prior to the next session in order to provide a more complete assessment of the need for refurbishment.

16. At the request of the Tourism Product Development Company of Jamaica, the Authority agreed to participate in a project to erect a number of directional signs bearing the Authority's emblem at strategic points leading to the headquarters building. It is anticipated that the project will be completed in May 2013 and that the directional signs will enable delegates to find their way to the headquarters more easily.

17. Pursuant to the headquarters agreement, the Authority uses the Jamaica Conference Centre for the holding of its annual sessions. The rental cost of the Conference Centre is met from the administrative budget of the Authority, while responsibility for the maintenance and upkeep of the Conference Centre lies with the Government of Jamaica. Over the past several years, the meetings of the Authority have been adversely affected by persistent problems with the audio systems used for interpretation. The problems were especially disruptive during the eighteenth session and the meeting of the Legal and Technical Commission in February 2013.

18. Unlike the situation that exists with many other international organizations, there is no formal mechanism in place for the discussion of issues concerning the relationship between the host country and the Authority.<sup>2</sup> This is a matter which the Assembly may wish to consider in due course, especially given the increase in the number of permanent missions to the Authority and the increasing work of the Authority.

## **VI. Protocol on the Privileges and Immunities of the Authority**

19. The Protocol on the Privileges and Immunities of the International Seabed Authority entered into force on 31 May 2003. Lithuania acceded to the Protocol on 26 September 2012. As at 31 May 2013, the number of parties to the Protocol was 36: Argentina, Austria, Brazil, Bulgaria, Cameroon, Chile, Croatia, Cuba, Czech Republic, Denmark, Egypt, Estonia, Finland, France, Germany, Guyana, India, Ireland, Italy, Jamaica, Lithuania, Mauritius, Mozambique, Netherlands, Nigeria, Norway, Oman, Poland, Portugal, Slovakia, Slovenia, Spain, Togo, Trinidad and Tobago, United Kingdom of Great Britain and Northern Ireland and Uruguay.

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<sup>2</sup> For example, the United Nations Committee on Relations with the Host Country, established by General Assembly resolution 2819 (1971), and the Diplomatic Committee in Geneva.

20. The Secretary-General welcomes and appreciates the efforts made by the aforementioned 36 members of the Authority in becoming parties to the Protocol, which, inter alia, provides essential protection to representatives of members of the Authority who attend meetings of the Authority or who travel to and from those meetings. It also accords to experts on mission for the Authority such privileges and immunities as are necessary for the independent exercise of their functions while on mission and for the time spent on journeys in connection with their mission. The Secretary-General wishes to draw the attention of members of the Authority to operative paragraph 56 of General Assembly resolution 67/78, in which the Assembly called upon States that had not done so to consider ratifying or acceding to the Protocol.

## **VII. Administrative matters**

### **A. Secretariat**

21. The Secretary-General reports with deep regret that, in February 2013, a long-serving member of the secretariat, Vijay Kodagali (India), passed away in India following a long illness. The Secretary-General and the staff of the Authority wish to express their deep condolences to Mr. Kodagali's widow and family and to place on record their appreciation for Mr. Kodagali's dedicated service to the Authority and its member States.

22. During its eighteenth session, the Assembly had approved two additional posts within the Office of Legal Affairs, bringing the total number of active posts to 37 (20 Professional and 17 General Service). A recruitment exercise commenced in October 2012 and the new posts were filled in March and April 2013. At the same time, a recruitment exercise was also undertaken for the position of Senior Legal Officer (P-5) in the light of the retirement of Kening Zhang (China) in February 2013. A qualified candidate was selected for the position, but regrettably, the candidate subsequently declined an offer of appointment, which necessitated the re-advertising of the post.

23. In addition to the loss of Mr. Kodagali, retirements and resignations have led to a number of current vacancies within the secretariat. A recruitment process was ongoing at the time of preparation of the present report, including to recruit staff for the positions of Head of the Office for Resources and Environmental Monitoring, Marine Biologist and Marine Geologist and for a new position of Minerals Economist. Following interviews of highly qualified applicants, Sandor Muslow (Chile) was appointed as Head of the Office for Resources and Environmental Monitoring. It is expected that the Marine Biologist and Marine Geologist positions will be filled shortly. It may be observed that it has been extremely difficult to recruit qualified candidates for many positions in the secretariat. Applications from developing States members of the Authority are few or, with respect to many positions, entirely lacking. Not only are there few applications for several positions, but candidates frequently cite the lack of opportunities for spouse employment as an obstacle to moving to Jamaica. The fact that staff members of the Authority are presently ineligible for G-4 visa status in the United States of America has also proved to be a major impediment to the transfer of staff within the United Nations system, despite the Authority's participation, since 2001, in the inter-organization

agreement concerning transfer, secondment or loan of staff among the organizations applying the United Nations common system of salaries and allowances. Given the limited number of staff members, temporary support is procured to service the annual sessions of the Authority. Translation of official documents is outsourced to the Department for General Assembly and Conference Management of the United Nations Secretariat in New York, which also provides interpreters and conference-servicing staff for the annual session.

## **B. International Civil Service Commission**

24. The Authority is an autonomous international organization, but it applies to its staff the common system of salaries, allowances and other conditions of service of the United Nations and its specialized agencies. In order to complete the Authority's participation in the common system, at its eighteenth session the Assembly had requested the Secretary-General to take the necessary steps on behalf of the Authority to subscribe to the statute of the International Civil Service Commission with effect from 2013. In accordance with that request, the Secretary-General notified the Secretary-General of the United Nations on 6 October 2012 of the Authority's acceptance of the Statute of the Commission. On 6 January 2013, the Authority was duly notified by the International Civil Service Commission that it was a full participant in the United Nations common systems of salaries, allowances and other conditions of service, with all associated benefits and obligations. The Authority participated in the seventy-sixth session of the Commission, held in New York from 25 February to 8 March 2013.

## **C. UN Oceans**

25. The secretariat is a member of UN Oceans and participates in its meetings, in accordance with its mandate. UN Oceans is an inter-agency mechanism that seeks to enhance coordination, coherence and effectiveness of the organizations of the United Nations system with competence in the oceans sector.

## **D. Staff training and professional development**

26. There is minimal provision for staff training and professional development within the regular budget of the Authority. To promote language proficiency, French and Spanish classes were held for staff of the secretariat during 2012. One of the benefits of participation in the International Civil Service Commission is that a range of online training programmes which are mandatory for United Nations staff members will now be available to staff members of the Authority free of charge. Available courses include those on integrity awareness, basic security in the field and prevention of harassment in the workplace. Regrettably, other mandatory and strongly recommended training courses are generally not available in Jamaica and must therefore be held in-house or at United Nations Headquarters. Since no financial resources are available for such training, a review of training requirements will be carried out prior to the next budgetary cycle.

## **E. Cost-saving measures**

27. The secretariat continued to make its best efforts to constrain unnecessary increases in its administrative expenses through implementation of cost-saving and efficiency measures where possible. The measures introduced or under consideration include an electronic publications strategy (see sect. IX) and increased inter-agency cooperation in administrative matters. With respect to the latter, the secretariat is currently working with a number of local United Nations common system agencies and programmes to develop a strategic alliance for the provision of common services which is aimed at reducing costs through streamlining business practices. The proposed common services plan will cover such areas as human resources management, information and communications technology, finance, procurement and common premises.

## **VIII. Budget and finance**

### **A. Budget**

28. At its eighteenth session, the Assembly approved an administrative budget for the 2013/14 financial period in the amount of \$14,312,948 (see ISBA/18/A/7). This represented an increase of 9.9 per cent over the budget for the previous financial period. The increase was mainly attributable to increases in the costs of meetings services, as well as additional staff positions.

### **B. Status of contributions**

29. In accordance with the Convention and the 1994 Agreement, the administrative expenses of the Authority shall be met by assessed contributions of its members until the Authority has sufficient funds from other sources to meet those expenses. The scale of assessments shall be based on the scale used for the regular budget of the United Nations, adjusted for differences in membership. As at 15 May 2013, 60.5 per cent of the value of contributions to the 2013 budget due from member States and the European Community had been received from 40.7 per cent of the Authority's membership.

30. Contributions outstanding from member States for prior periods (1998-2012) amount to \$382,386. Notices are regularly sent to member States reminding them of the arrears. In accordance with article 184 of the Convention and rule 80 of the rules of procedure of the Assembly, a member of the Authority that is in arrears in the payment of its financial contribution shall have no vote if the amount of its arrears equals or exceeds the amount of financial contribution due from it for the preceding two years. As at 15 May 2013, the following 41 members of the Authority were in arrears for a period of two years or more: Antigua and Barbuda, Benin, Botswana, Burkina Faso, Chad, Comoros, Croatia, Djibouti, Dominica, Dominican Republic, Equatorial Guinea, Gabon, Gambia, Grenada, Guinea, Guinea-Bissau, Honduras, Lesotho, Liberia, Maldives, Mali, Marshall Islands, Mauritania, Micronesia (Federated States of), Morocco, Palau, Panama, Paraguay, Saint Lucia, Saint Vincent and the Grenadines, Sao Tome and Principe, Seychelles, Sierra Leone, Solomon Islands, Somalia, Sudan, Togo, Uganda, Vanuatu, Zambia and Zimbabwe.



31. As at 30 April 2013, the balance of the Working Capital Fund stood at \$527,121, against an approved level of \$560,000.

### **C. Voluntary trust fund**

32. The voluntary trust fund for the participation of members of the Finance Committee and the Legal and Technical Commission from developing countries was established in 2002. Provisional terms and conditions for the use of the fund were adopted by the Assembly in 2003 and amended in 2004 (see ISBA/9/A/9, para. 14, and ISBA/9/A/5-ISBA/9/C/5). The voluntary trust fund is made up of voluntary contributions from members of the Authority and others. Over the life of the fund, contributions totalling \$378,939 have been paid into it, with the last contribution being made in October 2012 by Norway in the amount of \$150,000. The total amount paid out of the fund to date is \$433,299.

### **D. Endowment Fund for Marine Scientific Research in the Area**

33. The Assembly established the Endowment Fund for Marine Scientific Research in the Area in 2006 (ISBA/12/A/11). Detailed rules and procedures for its administration and utilization were adopted in 2007 (ISBA/13/A/6). The Endowment Fund aims to promote and encourage the conduct of marine scientific research in the Area for the benefit of humankind as a whole, in particular by supporting the participation of qualified scientists and technical personnel from developing countries in marine scientific research programmes, including through training, technical assistance and scientific cooperation programmes. The Fund is administered by the secretariat. Members of the Authority, other States, relevant international organizations, academic, scientific and technical institutions, philanthropic organizations and private persons may make contributions to the Fund.

34. As at the end of April 2013, the capital of the Fund stood at \$3,387,038. To date, a total of \$398,879 has been disbursed from the interest accrued on the capital in the form of awards for projects. Information on the substantive activities of the Endowment Fund is contained in paragraphs 85 to 89 of the present report.

## **IX. Library, publications, website and outreach**

### **A. Satya N. Nandan Library**

35. The Satya N. Nandan Library is the main information resource for the secretariat and for member States and other individuals and institutions looking for specialist information on seabed resources and legal and political issues relating to the deep sea. The library manages the Authority's specialized collection of reference and research materials focusing on matters relating to the law of the sea, ocean affairs and deep seabed mining. It serves the needs of members of the Authority, permanent missions and researchers interested in information on the law of the sea and ocean affairs, as well as providing essential reference and research assistance to support the work of the staff of the secretariat. The library is also responsible for the archiving and distribution of the official documents and publications of the

Authority. The Satya N. Nandan Library is an active member of the International Association of Aquatic and Marine Science Libraries and Information Centres, which meets annually in one of the member countries, and of the Library and Information Association of Jamaica. During 2012, the Authority participated in the second Biennial Science and Technology Conference and third International Conference Caribbean WELCOME Project, organized as part of Jamaica's fiftieth anniversary of independence celebrations. The theme of the Conference was "Science and technology driving development".

36. The facilities available in the Satya N. Nandan Library include a reading room with access to the collection for reference purposes, computer terminals for e-mail and Internet usage, access to the Library's database, literature searches, handling of queries by telephone, e-mail or via library visits, photocopying, interlibrary lending and the distribution of the official documents and publications of the Authority. The specialized research capability of the existing collection continues to be developed through an acquisitions programme aimed at building upon and strengthening the Library's comprehensive collection of reference material and improving access to information. During 2013, the public access areas of the library will be reorganized and refurbished.

37. The costs of maintaining serials subscriptions and publications continue to escalate<sup>3</sup> and thus it is important to find the most appropriate and cost-effective systems possible to ensure effective delivery of information and library services. Over the past two years, the secretariat has worked closely with the registry of the International Tribunal for the Law of the Sea to identify possible areas for collaboration in the provision of information services, including resource-sharing and joint collections development. One outcome of this collaboration is the implementation of a partnership arrangement under the auspices of the United Nations System Consortium for cost-sharing with respect to online subscription databases. The Authority is also negotiating with its subscription agent, EBSCO,<sup>4</sup> to enhance online access to journals and reference databases.

38. During the reporting period, 110 books and more than 460 journal issues were acquired. A number of donations were received from institutions, libraries, and individuals, including from the Division for Ocean Affairs and the Law of the Sea of the Office of Legal Affairs of the United Nations, the International Tribunal for the Law of the Sea, the United Nations Educational and Scientific Organization, the United Nations Environment Programme, the Food and Agriculture Organization of the United Nations, the United Nations Development Programme, the Intergovernmental Oceanographic Commission, the World Bank, the Tokyo Institute of Technology, the Embassy of the Republic of Korea in Jamaica, the Center for Oceans Law and Policy of the University of Virginia, the Mines and Geology Division of the Ministry of Energy and Mining (Jamaica), the China Institute for Marine Affairs, the State Oceanic Administration, and the United States Institute of Peace. An individual donation was also received from Edwin Egede of Cardiff University in the United Kingdom of Great Britain and Northern Ireland. The Secretary-General is grateful to all who supported the library during this period.

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<sup>3</sup> According to EBSCO, the overall cost of journal subscriptions managed by EBSCO increased by 25 to 30 per cent over the period from 2008 to 2012.

<sup>4</sup> EBSCO ([www.ebsco.com](http://www.ebsco.com)) provides specially designed integrated services to libraries combining subscription management, reference databases, online journals and books.

## **B. Publications**

39. The publications of the Authority are available in both print and electronic formats. The regular publications include an annual compendium of selected decisions and documents of the Authority (hitherto published in English, French and Spanish) and a handbook containing details, inter alia, of the membership of the Assembly and the Council, the names and addresses of permanent representatives and the names of the members of the Legal and Technical Commission and the Finance Committee. The Authority also publishes an increasing number of specialized legal and technical reports. In 2013, the annual compendium has been published for the first time as an electronic publication, in all six official languages of the Authority. In 2014, the intention is to release the handbook, together with additional content, in the form of an application for mobile devices.

40. The cost of publication, storage and distribution of traditional print format publications has increased significantly over the years and is becoming prohibitive. In keeping with trends within the global publishing industry, the secretariat will therefore launch in 2013 a new publications strategy utilizing a combination of print-on-demand and electronic publications technology. By reducing the need to maintain excess inventory and rationalizing the current distribution model, it is expected that the Authority can achieve significant efficiency gains and substantial savings on shipping and printing costs. The new strategy will not only satisfy the increased demand for electronic publications, readable through e-readers, tablets and similar portable devices, but also enable the secretariat to continue to provide high-quality printed materials for free distribution to member States and individuals associated with the Authority at a much lower cost.

## **C. Website**

41. Websites are the virtual face of organizations. How a website looks and is navigated can be a metaphor for the professionalism of the organization. The quantity of information on the Authority's website continues to grow and, as a result, is becoming increasingly difficult to manage. The website was last redesigned in 2007 using *Drupal*, an open-source content management framework, and there is now an urgent need to further reorganize and redesign its underlying architecture to ensure that it can continue to serve the needs of member States in the most efficient way possible. Among the most heavily utilized sections of the website are those containing the official documents and decisions of the organs of the Authority, as well as the interactive geographic information system (GIS) map facility. Recently, popular social media feeds (Twitter, Facebook and Rich Site Summary (RSS)) were added to the website, in order to increase public awareness and better inform those interested in the work of the Authority.

## **D. Sensitization seminars**

42. The Authority's primary means of outreach has been its sensitization seminars. Another possible means of outreach is an ocean mining museum that could be housed on the ground floor of the Authority's headquarters premises. Informal discussions with contractors and other interested parties suggest that the electronic equipment and some of the materials needed for such an undertaking could be

obtained from contractors. It is proposed that a costing for such an undertaking be presented to the Finance Committee at its budget hearings in 2014. The proposal will seek to provide information on the cost of establishing the museum, the sources of material, its uses, and the cost of maintaining it.

43. Since 2007, the Authority has convened six regional sensitization seminars in different parts of the world. The purpose of the seminars is to inform government officials, marine policymakers and scientists at national and regional institutions of the work of the Authority, and to promote the participation of scientists from institutions in developing countries in marine scientific research being undertaken in the Area by international research organizations. Typically, the seminars include presentations by experts on the type of minerals to be found in the Area, resource evaluation, the protection and preservation of the marine environment from activities in the Area, and the process and status of the legal regimes established for recovery of seabed minerals, as well as presentations on relevant regional issues with respect to the law of the sea. Previous seminars have been held in Manado, Indonesia (March 2007); Rio de Janeiro, Brazil (November 2008); Abuja (March 2009); Madrid (February 2010), Kingston (March 2011) and New York (February 2012). Offers to host seminars have been made by Chile, Mexico and the African Union. Those offers will be considered in the context of the budgets for the current biennium and the biennium 2014-2015.

## **X. Previous session of the Authority**

44. The eighteenth session of the Authority was held in Kingston from 16 to 27 July 2012. The Assembly elected Milan J. N. Meetarbhan (Mauritius) as President of the Assembly and the Council elected Alfredo García (Chile) as President of the Council.

45. The Assembly adopted the administrative budget of the Authority and scale of assessments for the 2013/14 financial period and elected one half of the members of the Council for the period 2013-2016. Nii Allotey Odunton (Ghana) was re-elected as Secretary-General for a four-year term. A special one-day session was held to commemorate the thirtieth anniversary of the United Nations Convention on the Law of the Sea of 10 December 1982. The Assembly approved the Regulations on Prospecting and Exploration for Cobalt-rich Ferromanganese Crusts in the Area, as provisionally adopted by the Council (ISBA/18/A/11). In addition, the Assembly decided to increase, with immediate effect, the fee for processing an application for approval of a plan of work for exploration for polymetallic nodules to \$500,000 (ISBA/18/A/7).

46. Noting the persistent problem of poor attendance at meetings of the Authority held in Kingston,<sup>5</sup> the Assembly endorsed a proposal by the Secretary-General to adjust the pattern of meetings for 2013. The objective of the revised pattern of meetings was to improve efficiency by minimizing the overlap between the

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<sup>5</sup> Between 2000 and 2011, the Assembly had a quorum on only two occasions, namely, in 2004 and in 2008. With the exception of those years, however, attendance has been relatively constant at between 57 and 66 members of the Authority (roughly 40 to 45 per cent of the membership). The lowest attendance was in 2007, when only 57 (36 per cent) of the membership of the Authority attended. With 165 members, a quorum of 83 members is required.

meetings of the different organs and holding meetings sequentially as far as possible.

47. The Council, acting on the recommendation of the Legal and Technical Commission, approved applications for plans of work for exploration for polymetallic sulphides submitted by the Government of the Republic of Korea and by the *Institut français de recherche pour l'exploitation de la mer* (IFREMER), sponsored by the Government of France. The Council also approved applications for plans of work for exploration for polymetallic nodules submitted respectively by UK Seabed Resources Ltd., a company sponsored by the Government of the United Kingdom, Marawa Research and Exploration Ltd., a State enterprise sponsored by the Government of the Republic of Kiribati and by G-TEC Sea Mineral Resources NV, a company sponsored by the Government of Belgium.

48. On 26 July 2012, the Council adopted, by consensus, the Regulations on Prospecting and Exploration for Cobalt-rich Ferromanganese Crusts in the Area (ISBA/18/C/23). In its decision, the Council also adopted a special procedure for the resolution of overlapping claims, to have effect for a period of one year following the date of adoption of the Regulations.

49. The Council also adopted a decision relating to an environmental management plan for the Clarion-Clipperton Zone, as recommended by the Legal and Technical Commission (ISBA/18/C/22). In its decision, the Council noted that the implementation of a comprehensive environmental management plan at the regional level was one of the measures appropriate and necessary to ensure effective protection of the marine environment of the Clarion-Clipperton Zone from harmful effects that may arise from activities in the Area. It therefore approved the environmental management plan as recommended by the Legal and Technical Commission (ISBA/17/LTC/7) to be implemented over an initial three-year period, including the designation, on a provisional basis, of a network of nine areas of particular environmental interest, and decided that the plan would be applied in a flexible manner so that it may be improved as more scientific, technical and environmental baseline and resource assessment data were supplied by contractors and other interested bodies. The Council requested the Legal and Technical Commission to make recommendations, where appropriate, to the Council relating to the network of areas of particular environmental interest, on the basis of the results of workshops, with a view to redefining, where necessary, the details of the size, location and number of required areas of particular environmental interest.

50. The Secretary-General circulated the decision of the Council, together with the environmental management plan, to members and observers to the Authority, as well as all relevant international and regional organizations. Information on the environmental management plan was also provided to the intersessional workshops of the Ad Hoc Open-ended Working Group of the General Assembly to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction, held in New York on 2, 3, 6 and 7 May 2013.

## **XI. The Area and the continental shelf**

### **A. Implementation of article 84, paragraph 2, of the Convention**

51. The Area is defined in the Convention as the seabed and subsoil thereof beyond the limits of national jurisdiction. It follows that it is not possible to establish the geographic limits of the Area with any certainty until the limits of national jurisdiction are established, which includes a precise delineation of all areas of continental shelf extending beyond 200 nautical miles from the baseline. In this regard, article 84, paragraph 2, of the Convention requires coastal States to give due publicity to charts or lists of geographical coordinates of the outer limit lines of the continental shelf and, in the case of those extending beyond 200 nautical miles from the baseline, to deposit a copy of such charts or lists with the Secretary-General of the Authority. This is an important provision, which is designed to facilitate the effective administration of the Area for the benefit of all States. It is a requirement which exists in addition to the requirement under article 76, paragraph 9, of the Convention to deposit such charts or lists, as well as other relevant information, with the Secretary-General of the United Nations.

52. To date, the Commission on the Limits of the Continental Shelf has adopted 18 sets of recommendations to coastal States. Four States — Australia, Ireland, Mexico and the Philippines — have thus far deposited charts or relevant information describing the outer limits of their continental shelf, established on the basis of the recommendations of the Commission, with the Secretary-General of the United Nations, pursuant to article 76, paragraph 9, of the Convention. As at the preparation of the present report, three States — Ireland (7 July 2010), Mexico (6 January 2012) and Australia (14 December 2012) — have deposited copies of charts and other relevant information with the Secretary-General of the Authority, in accordance with article 84, paragraph 2, of the Convention. The Secretary-General wishes to take this opportunity to remind and encourage all members of the Authority to deposit such charts or lists of coordinates, pursuant to article 84, paragraph 2, of the Convention, as soon as possible after their outer limits of the continental shelf have been established in accordance with relevant provisions of the Convention.

### **B. Implementation of article 82, paragraph 4, of the Convention**

53. Under article 82 of the Convention, States or individual operators who exploit the non-living resources of the continental shelf extending beyond 200 nautical miles from the baselines of the territorial sea (the “outer continental shelf”) are required to contribute a proportion of the revenues they generate from such exploitation for the benefit of the international community as a whole. Article 82, paragraph 4, gives the Authority responsibility for distributing those revenues “on the basis of equitable sharing criteria, taking into account the interests and needs of developing States, particularly the least developed and the land-locked among them”.

54. Since 2009, the Authority has begun to explore the legal and technical issues associated with the implementation of article 82. Two technical studies of the Authority dealing with the legal and policy issues associated with the implementation of article 82 (International Seabed Authority Technical Study No. 4) and the technical and resource issues associated with exploitation and management

of the outer continental shelf (International Seabed Authority Technical Study No. 5) were published as a result of a seminar convened in February 2009 at the Royal Institute of International Affairs (Chatham House) in the United Kingdom. In November 2012, the Authority, in collaboration with the China Institute for Marine Affairs of the State Oceanic Administration of China, convened in Beijing an international workshop on the theme “Further consideration of the implementation of article 82 of the United Nations Convention on the Law of the Sea”.

55. The workshop was practically oriented, aimed at producing draft proposals for consideration by States with extended continental shelf areas and by the relevant organs of the Authority. The papers and presentations of the workshop are available on the website of the Authority and the report of the workshop has been published as International Seabed Authority Technical Study No. 12 (also available as an e-book). The main recommendations of the workshop, which are presented in detail in the report, are summarized in a separate report under the symbol ISBA/19/A/4.

## **XII. Status of exploration and exploitation in the Area**

56. The contractual nature of the relationship between the Authority and those wishing to conduct activities in the Area is fundamental to the legal regime established by Part XI of the Convention and the 1994 Agreement. Annex III to the Convention, which sets out the “Basic Conditions of Prospecting, Exploration and Exploitation”, also forms an integral part of this legal regime, which is to be further developed in the rules, regulations and procedures adopted by the Authority. Consequently, the administration and supervision of contracts between the Authority and qualified entities wishing to explore for or exploit deep-sea mineral resources lies at the core of the Authority’s functions.

### **A. Status of contracts for exploration**

57. As at April 2013, the Authority had issued 14 exploration contracts, covering approximately one million square kilometres of the seafloor. Of these, 12 cover exploration for polymetallic nodules, and 2 for polymetallic sulphides.

58. Between 2001 and 2010, the Authority concluded eight contracts for exploration for polymetallic nodules with the following qualified applicants: Yuzhmorgeologiya (Russian Federation); the Interoceanmetal Joint Organization (IOM) (Bulgaria, Cuba, Czech Republic, Poland, Russian Federation and Slovakia); the Government of the Republic of Korea; the China Ocean Mineral Resources Research and Development Association (COMRA) (China); Deep Ocean Resources Development Ltd. (DORD) (Japan); IFREMER (France); the Government of India and; the Federal Institute for Geosciences and Natural Resources of Germany (BGR) (Germany).

59. Between 2011 and 2013, the Authority entered into contracts with: Nauru Ocean Resources Inc. (Nauru), signed on 22 July 2011; COMRA (China), signed on 18 November 2011; Tonga Offshore Mining Limited (Tonga), signed on 11 January 2012; the Government of the Russian Federation, signed on 29 October 2012; G-TEC Sea Mineral Resources NV (Belgium), signed on 14 January 2013; and UK Seabed Resources Ltd. (United Kingdom), signed on 8 February 2013. Three

further plans of work for exploration that were approved at the eighteenth session will be issued in the form of contracts with the Authority as soon as the necessary formalities have been concluded, during the second half of 2013. The applicants involved are IFREMER (France), Marawa Research and Exploration Ltd. (Kiribati) and the Government of the Republic of Korea. This would bring the total number of exploration contracts to 17 by the end of 2013 (not including the applications pending for consideration at the nineteenth session).

60. One of the obligations arising out of the contractual relationship between the Authority and the contractors is the timely submission of an annual activity report including progress made on exploration activities, supported by appropriate data and information. This enables the Secretary-General and the Legal and Technical Commission to be in possession of the information necessary to the exercise of their functions, in particular those concerning the effective protection of the marine environment from the harmful effects of activities in the Area. Annual reports are due no later than 31 March of each year. As of April 2013, activity reports for 2012 had been received from all contractors from which reports were due.

## **B. Periodic review of the implementation of the plan of work**

61. The duration of each contract for exploration is a fixed period of 15 years, at the end of which the contractor is expected to be in a position to proceed to exploitation. The plan of work under each contract is divided into three five-year periods. For each five-year period, the contractor is required to provide a detailed programme of activities and an exploration schedule, to be incorporated into the contract. Under the applicable regulations, every five years, the contractor and the Secretary-General shall jointly undertake a review of the implementation of the plan of work for exploration. In the light of the review, the contractor shall indicate its programme of activities for the following five-year period, including a revised schedule of anticipated yearly expenditures, making such adjustments to its previous programme of activities as are necessary. The revised programme of activities is then incorporated into the contract through an exchange of letters.

62. For six of the current contractors (Yuzhmorgeologiya, IOM, the Government of the Republic of Korea, COMRA, DORD and IFREMER, whose contracts were issued in 2001, the second five-year period ended in 2011. In the case of BGR, whose contract was issued in 2006, the first five-year programme of activities expired in 2011. Periodic reviews of the programmes of activities for all these contractors were completed between November 2011 and October 2012 (see ISBA/19/C/9). For the Government of India, in respect of which the contract was issued in 2002, the second five-year period ended in 2012. As at the time of the preparation of the present report, the periodic review of the contract of the Government of India had not been concluded. The Government of India had submitted a proposed programme of activities in April 2012, to which a response had been provided by the Secretary-General on 4 April 2013, taking into account the discussions in the Legal and Technical Commission during the eighteenth session. It is expected that bilateral consultations will take place prior to the nineteenth session, in order that the periodic review process can be concluded.



### **C. Status of applications for approval of plans of work for exploration**

63. The pace of activities in the Area has continued to increase since the eighteenth session. As at April 2013, the following applications for approval of plans of work for exploration had been received in the secretariat:

- (a) COMRA, sponsored by China (cobalt-rich crusts);
- (b) Japan Oil, Gas and Metals National Corporation (JOGMEC), a company sponsored by Japan (cobalt-rich crusts);
- (c) Government of the Russian Federation (cobalt-rich crusts);
- (d) UK Seabed Resources Ltd., a company sponsored by the Government of the United Kingdom (polymetallic nodules);
- (e) Government of India (polymetallic sulphides);
- (f) Ocean Mineral Singapore Pte Ltd., a company sponsored by the Government of Singapore (polymetallic nodules).

It is anticipated that the Legal and Technical Commission will consider the above-listed applications during 2013.

64. Since the eighteenth session, the secretariat also received a proposal from Nautilus Minerals Inc., a company incorporated in Canada, to enter into negotiations to form a joint venture with the Enterprise for the purpose of developing eight of the reserved area blocks in the Clarion-Clipperton Zone. The terms of the proposal by Nautilus are set out in a draft heads of agreement, which is annexed to a document to be submitted for the consideration of the Council at its nineteenth session under the symbol ISBA/19/C/4. To assist the Council in its deliberations, the secretariat has prepared another document setting out some of the legal and practical considerations arising from the proposal (ISBA/19/C/6).

### **D. Costs of administration and supervision of contracts with the Authority**

65. Costs are incurred by the Authority in processing applications for approval of plans of work for exploration and in administering and supervising such contracts. With respect to the fees paid for processing applications, the various sets of regulations make it clear that such fees are to be used to offset the administrative costs incurred by the Authority. The regulations also detail how any unused balance of the fees is to be accounted for. Since the eighteenth session, the secretariat has adopted internal operating procedures to accurately account for expenditure against application fees and for reporting to the Finance Committee.

66. During the eighteenth session, members of the Council noted that, with the rapid increase in activities in the Area over the past three years, more resources would be required to properly administer the contracts. Concern was expressed that the costs of administration and supervision of contracts should not be borne by member States. In its decision ISBA/18/C/29, the Council noted that the Finance Committee had requested a report from the Secretary-General on possible measures to ensure that the cost of administration and supervision of contracts between the Authority and the contractors was not borne by member States. The Council decided

to take up this issue at the nineteenth session, with a view to adopting, as a matter of urgency at that session, measures which were fully consistent with the Convention and the Agreement, and requested the Finance Committee as a first priority to report to the Council on the measures to establish a system of cost recovery which the Finance Committee recommended as a result of the report of the Secretary-General.

### **XIII. Progressive development of the regulatory regime for activities in the Area**

67. The Authority has a fundamental role to play in ensuring that an appropriate regulatory regime is established, in accordance with the Convention and the 1994 Agreement, that provides adequate security of tenure for future exploration for and exploitation of the mineral resources of the Area, while ensuring effective protection for the marine environment. The regulatory regime would ultimately be encapsulated in a Mining Code, which would comprise the whole of the comprehensive set of rules, regulations and procedures issued by the Authority to regulate prospecting, exploration and exploitation of marine minerals in the Area.

#### **A. Prospecting and exploration**

68. The Mining Code currently consists of three sets of regulations covering prospecting and exploration for polymetallic nodules, polymetallic sulphides and cobalt-rich ferromanganese crusts, respectively. The Assembly approved the latter at the eighteenth session. In addition to specifying the process through which contracts may be applied for and granted, the regulations set out the standard terms and conditions, applicable to all entities, of contracts with the Authority. The regulations are supplemented by recommendations for guidance issued by the Legal and Technical Commission. At present, recommendations have been issued on the assessment of possible environmental impacts arising from exploration and on the reporting of financial expenditure under contracts for exploration.<sup>6</sup>

69. On 6 September 2011, pursuant to regulation 4, paragraph 2, of the regulations, the Federal Institute for Geosciences and Natural Resources of Germany notified the Secretary-General of its intention to engage in prospecting for polymetallic sulphides in the area of the Southern Central Indian Ridge and the Northern Southeast Indian Ridge. Prospectors are required to submit an annual report describing the status of prospecting and the results obtained. The first such report is due from the Institute in 2013.

#### **B. Exploitation**

70. During the eighteenth session, the Council considered a report of the Secretary-General on a proposed workplan for the formulation of a regulatory

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<sup>6</sup> Recommendations for the guidance of contractors for the assessment of the possible environmental impacts arising from exploration for marine minerals in the Area (ISBA/19/LTC/8); and recommendations for the guidance of contractors for the reporting of actual and direct exploration expenditure, as required by annex 4, section 10, of the Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area (ISBA/15/LTC/7).

framework for the exploitation of polymetallic nodules in the Area (ISBA/18/C/4). Although some members were of the opinion that the proposed timeline was somewhat optimistic and expressed their concern about whether the Authority would have the human and financial resources to complete the work involved in formulating the regulations by 2016, several delegations endorsed the workplan.

71. As a first step in the implementation of the workplan, the secretariat commissioned a preliminary study which identified the major organizational, fiscal and research priorities that the Authority would need to address over the next three to five years, as part of an overall strategic plan. The draft study was completed by January 2013, and submitted to the Legal and Technical Commission for preliminary review and comment, following which a final report was completed. The study has now been published in English, with an executive summary available in all official languages (ISBA/19/C/5) and will be discussed by the Legal and Technical Commission and by the Council in 2013.<sup>7</sup>

72. One of the most important recommendations in the report is that the Authority develop and put in place a “staged” or “phased” provisional licensing system requiring that, prior to the expiration of an exploration licence, contractors interested in proceeding to the mining phase first apply for a provisional mining licence based upon preparation and submission of a pre-feasibility study and workplans to undertake a detailed bankable feasibility study based upon a pilot mining operation in the contract area. In order for this to be implemented, it will be necessary to reach a clear definitional understanding of pilot mining, pre-feasibility metrics and resource classification techniques specific to deep seabed mining. The report also identifies a strategic workplan showing activities over the next three years, key research priorities and framework studies, and organizational changes that will be necessary as exploitation begins.

### **C. National laws and regulations relating to deep seabed mining**

73. Article 153, paragraph 4, of the Convention states that the obligation of sponsoring States in accordance with article 139 entails taking all necessary measures to ensure compliance by the sponsored contractor. Annex III, article 4, paragraph 4, makes it clear that sponsoring States’ responsibility to ensure compliance applies “within their legal systems”, and therefore requires a sponsoring State to adopt laws and regulations and to take administrative measures which are, within the framework of its legal system, “reasonably appropriate for securing compliance by persons under its jurisdiction”. In this regard also, article 208 of the Convention requires coastal States to adopt laws and regulations to prevent, reduce and control pollution of the marine environment arising from seabed activities within their jurisdiction. Such laws and regulations shall be no less effective than international rules, standards and recommended practices and procedures, including those adopted by the Authority. Article 209 requires States to adopt laws and regulations to prevent, reduce and control pollution of the marine environment from activities in the Area undertaken by vessels, installations, structures and other devices flying their flag or of their registry or operating under their authority. Again,

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<sup>7</sup> Clark, A. et al., *Towards the Development of a Regulatory Framework for Polymetallic Nodule Exploitation in the Area* (International Seabed Authority Technical Study No. 11, Kingston, February 2013).

such laws and regulations shall be no less effective than international rules, standards and recommended practices and procedures established in accordance with Part XI of the Convention.

74. In its advisory opinion on the responsibilities and obligations of States sponsoring persons and entities with respect to activities in the Area, the Seabed Disputes Chamber affirmed that the Convention requires the sponsoring State to adopt, within its legal system, laws and regulations and to take administrative measures that have two distinct functions, namely, to ensure compliance by the contractor with its obligations and to exempt the sponsoring State from liability. While the scope and extent of those laws and regulations and administrative measures depend on the legal system of the sponsoring State, they may include the establishment of enforcement mechanisms for active supervision of the activities of the sponsored contractor and for coordination between the activities of the sponsoring State and those of the Authority. Laws and regulations and administrative measures should be in force at all times that a contract with the Authority is in force. While the existence of such laws and regulations and administrative measures is not a condition for concluding a contract with the Authority, it is a requirement for carrying out the obligation of due diligence of the sponsoring State and for seeking exemption from liability. Particularly as regards the protection of the marine environment, the laws and regulations and administrative measures of the sponsoring State cannot be less stringent than those adopted by the Authority, or less effective than international rules, regulations and procedures.

75. During the eighteenth session, the Secretary-General presented a report to the Council (prepared at the Council's request) on the status of the laws, regulations and administrative measures adopted by sponsoring States and other members of the Authority with respect to the activities in the Area (ISBA/18/C/8 and Add.1). In its decision ISBA/18/C/21, the Council requested the Secretary-General to update, on an annual basis, the study of the laws, regulations and administrative measures adopted by sponsoring States and other members of the Authority with respect to activities in the Area, and to invite, for that purpose, sponsoring States and other members of the Authority to provide texts of relevant national laws, regulations and administrative measures to the secretariat. Accordingly, on 6 February 2013, the secretariat circulated note verbale No. 44/13, inviting sponsoring States and other members of the Authority to submit to the secretariat, by 31 March 2013, texts of their relevant national laws, regulations and administrative measures.

76. As at 31 May 2013, France, the Netherlands, Japan, Oman, New Zealand and the Republic of Korea (in addition to the countries named in document ISBA/18/C/8 and Add.1) had provided such information or texts, as requested. In response to the suggestion made by some delegations during the eighteenth session, information on and, where applicable, texts of such national laws, regulations and administrative measures as submitted by members of the Authority is available and will be kept updated on the Authority's website (<http://www.isa.org.jm/en/mcode/Natleg>).

## **XIV. Other activities**

### **A. Assessment of the economic potential of rare earth elements contained in seafloor mineral deposits**

77. Market prices for rare earth elements have experienced a sharp decline over the past two years, mainly as a result of the global economic situation, as well as material recycling efforts and replacement of the metals in industrial production in reaction to the previous price explosion. While there have been arguments as to whether recent price declines will affect the viability of new rare earth element mines, China — currently the world's main producer — has continued to implement measures to help prevent drastic price fluctuations. In the long term, it is expected that production coming online from other facilities around the world will ultimately stabilize the market with a more robust supply. Demand and price developments vary significantly between the 17 metals of the rare earth elements group, while certain strategic elements, particularly in neodymium, europium and the “heavy” rare earth elements terbium, dysprosium and yttrium, continue to represent potentially valuable by-products in seabed operations.

78. Since the last session, the secretariat has completed the first part of a technical study to determine grades and geographic variations of the abundance of individual rare earth elements in major geographic areas of interest for cobalt-rich crusts and polymetallic nodules, including the Central Pacific Ocean, the Central Indian Ocean and the South Atlantic Ocean. The second part of the technical study, currently under way, addresses the viability of their commercial extraction, including metallurgical factors, ore-processing costs and recovery efficiencies of rare earth elements as by-products of mining seabed deposits. The results from the geochemical part of the technical study are promising and have revealed, for example, that the rare earth element contents in some marine cobalt crust deposits are in the same order as the continental deposits profitably mined in southern China. The total rare earth element concentrations in polymetallic nodules are generally lower with significant geographic variations. However, the commercially interesting “heavy” rare earth elements are particularly enriched in these deposits.

79. Extraction of rare earth elements on land is highly complex and involves a high cost to prevent environmental damage, including the treatment of radioactive components that are absent in marine deposits. The extraction of rare earth elements and their separation from the main products of possible seabed mining — nickel, cobalt and copper — may have additional advantages that are presently examined: targeting such trace elements may not only represent additional profit, but may also help to avoid processing penalties incurred otherwise, simply because of the presence of such trace metals as impurities in the ores or concentrates of the main metals. However, the question of whether rare earth elements in seabed deposits can be considered an economic resource requires detailed examination of practicability and costs of their extraction at different steps of the workflows currently suggested for the processing of cobalt-rich crusts and polymetallic nodules. The second part of the secretariat's technical programme currently focuses on the question of whether it is possible to recover rare earth elements in the very first step of an ore-processing system without impairing the recovery of the main metals. Alternatively, rare earth elements and other trace metals may be enriched in interim products and tailings of processing routes and can possibly be recovered from those products, which,

however, appears by far more complex. It is expected that this work will be completed in 2013 and help the international community to assess the economic potential of rare earth elements contained in seafloor deposits.

## **B. Digital atlas of the South Atlantic Ocean**

80. Since the last session, the secretariat has completed a data and visualization product to support exploration and sustainable use of mineral resources in the understudied South Atlantic Ocean. The completion of the first programme phase with the release of the first edition of the digital atlas was scheduled for mid-2013, while the final editing of the DVD publication was delayed as a result of personnel changes within partner organizations. The project is designed to be a collaborative effort by countries bordering the region and other organizations holding data from various scientific cruises. The project further aims at developing the capacity of member States in GIS methods and resource assessment and sampling techniques for marine mineral resources, particularly by transferring the knowledge and technologies used by the Geological Service of Brazil. While significant datasets have been acquired from different organizations and the public domain, there remains a substantial potential for participation by other entities, particularly national agencies in African countries. Therefore, it is expected that the release of a first edition of the digital atlas would help to encourage member States and other relevant organizations to contribute additional geographic data and identify national experts as part of a collaborative network to determine further steps of a capacity development programme for the benefit of developing States bordering the South Atlantic Ocean.

## **C. Spatial approaches to environmental management and marine planning**

81. The deep ocean is a part of the planet about which we have relatively little data. Collectively, the scientific community is becoming more organized in terms of gathering global datasets, but the sound application of marine spatial planning requires sufficient high quality data to inform decision makers. The Ocean Biogeographic Information System (OBIS),<sup>8</sup> for example, has emerged as a strategic alliance of people and organizations sharing a vision to make marine biogeographic data, from all over the world, freely available over the World Wide Web. OBIS currently integrates 1,125 datasets, including those collected by the Census of Marine Life, serving 33 million geo-referenced species observations of 120,000 marine species, and is by far the largest global database of its kind and the largest open access online repository of spatially-reference marine environmental data. As mentioned in paragraph 60 above, under their licence agreements with the Authority, mining contractors are obliged to undertake environmental baseline studies and report their progress annually in accordance with the recommendations issued by the Legal and Technical Commission. The reports provide a framework for information to be gathered over a 15-year exploration phase. Following the

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<sup>8</sup> OBIS is hosted by the International Oceanographic Commission-United Nations Educational, Scientific and Cultural Organization, under the International Ocean Data and Information Exchange.

January 2012 meeting with contractors, at which an agreement was reached to standardize the taxonomy of three classes of fauna (megafauna, macrofauna and meiofauna) associated with marine minerals, a workshop for contractors' scientists was held at the German Centre for Marine Biodiversity Research from 9 to 16 June 2013 to assist them in standardizing the taxonomy of megafauna associated with the exploration areas. Similar workshops are to be held to standardize macrofauna and meiofauna.

82. The secretariat maintains a GIS that represents the Authority's spatial repository of its area of jurisdiction. A section of GIS holds geographically referenced biological sampling data and other environmental information collected by contractors and submitted to the secretariat in annual activity reports or outside of the regular reporting process. On the basis of these spatial data, other GIS data and the standardized taxonomic data, the secretariat is in the process of establishing an environmental information system in support of the environmental management plan for the Clarion-Clipperton Zone. This regional section of GIS will be used to reveal geographic patterns of species distribution and other biological and physical factors beyond those already available in global databases such as OBIS. The system further contains any available information on local resource potentials, including public and confidential sampling data for nodule abundance and metal grades, as well as the modelling results obtained from the Geological Model project. Ultimately, such a holistic geographic approach should help to balance marine conservation with mineral resource development objectives. Such area-based management approaches aiming at bringing together the various stakeholder interests are reflected in geographic tools such as multi-objective marine spatial planning. These modern GIS-based tools are being successfully applied by an increasing number of national agencies and other organizations. The secretariat is currently assessing the potential of such integrated planning approaches for deep-sea areas, once sufficient data have been made available, as a means of delivering an ecosystem-based approach to future management.

## **XV. Capacity development and training**

83. There are two main ways in which the Authority attempts to implement its responsibilities under articles 143 and 144 of the Convention to promote marine scientific research in the Area and build the capacity of developing States in deep-sea research and technology. These are through the training programmes of contractors pursuant to contracts for exploration in the Area and through the Endowment Fund for Marine Scientific Research. In addition, since 2011 the Authority has been a host institution under the United Nations-Nippon Foundation of Japan Fellowship Programme for Human Resources Development and Advancement of the Legal Order of the World's Oceans, administered by the Division of Ocean Affairs and the Law of the Sea in the Office of Legal Affairs of the United Nations Secretariat.

### **A. Contractor training**

84. Contractors with the Authority have a legal obligation to provide and fund training opportunities for trainees from developing States and the Authority. The

legal basis for this requirement is set out in the standard terms of contracts and stems from the provisions of the Convention and the 1994 Agreement.<sup>9</sup> The purpose of the obligation is to ensure that personnel from developing States are provided with appropriate operational expertise to enable them to participate in deep seabed mining. With the approval of several new plans of work for exploration in the past three years, it is anticipated that more than 20 training opportunities will become available during the 2013 to 2015 period. At the same time, the Legal and Technical Commission has commenced a review of the implementation of training under contracts for exploration, with a view to assessing the effectiveness of training programmes, better understanding the needs and priorities of developing countries with respect to training and providing better guidance to contractors, sponsoring States and the secretariat on the content, structure and implementation of training programmes.

## **B. Endowment Fund for Marine Scientific Research**

85. The Endowment Fund aims to promote and encourage the conduct of marine scientific research in the Area for the benefit of humankind as a whole, in particular by supporting the participation of qualified scientists and technical personnel from developing countries in marine scientific research programmes, including through training, technical assistance and scientific cooperation programmes. Applications for assistance from the Fund may be made by any developing country or by any other country, if the purpose of the grant is to benefit scientists from developing countries. An advisory panel appointed by the Secretary-General evaluates applications for assistance from the Fund and makes recommendations to the Secretary-General. The panel is composed of permanent representatives to the Authority, representatives of educational institutions or international organizations and individuals closely associated with the work of the Authority, and members are appointed with due regard to equitable geographic representation. The Secretary-General appointed the current members of the panel in 2011, whose names are set out in the annex to the present report.

86. It is recalled that applications for assistance from the Fund may be made by any developing country or by any other country, if the purpose is to benefit scientists from developing countries. In administering the Fund, the secretariat of the Authority is required to endeavour to make arrangements with universities, scientific institutions, contractors and other entities for opportunities for scientists from developing countries to participate in marine scientific research activities. Such arrangements may include the reduction or waiver of fees for training. The secretariat has carried out a number of activities designed to draw the attention of the international donor community to the opportunities offered by the Fund and to encourage additional contributions. These activities include issuing press releases and promotional materials, maintaining a specially designed page on the Authority's website (<http://www.isa.org.jm/en/efund>), and establishing a network of cooperating institutions that may be interested in offering places on courses or research opportunities. Members of the network to date include the National Oceanography Centre (United Kingdom); the National Institute of Ocean Technology (India); the

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<sup>9</sup> Specifically, article 144 and annex III, article 15, of the Convention, and section 5 of the annex to the 1994 Agreement.



*Institut français de recherche pour l'exploitation de la mer (IFREMER)*; the Federal Institute for Geosciences and Natural Resources (Germany); the National Institute of Oceanography (India); the Natural History Museum (United Kingdom); Duke University (North Carolina, United States of America); and the International Cooperation in Ridge-crest Studies (InterRidge), an international, non-profit organization promoting interdisciplinary studies of oceanic spreading centres.

87. To date a total of 52 scientists or Government officials from developing countries have been beneficiaries of financial support from the Endowment Fund. The recipients are from Argentina, Bangladesh, Brazil, Cameroon, China, Colombia, Costa Rica, Egypt, Fiji, Guyana, India, Indonesia, Jamaica, Madagascar, Maldives, Malta, Mauritania, Mauritius, Namibia, Nigeria, Palau, Papua New Guinea, Peru, the Philippines, the Russian Federation, Sierra Leone, South Africa, Sri Lanka, Suriname, Thailand, Trinidad and Tobago, Tunisia and Viet Nam.

88. Since the eighteenth session, three awards have been made from the Fund. The first funded six travel bursaries which enabled scientists from six different developing States to attend the thirteenth Deep-Sea Biology Symposium in Wellington, New Zealand from 3 to 7 December 2012. In 2013, an award of \$30,000 was made to the Rhodes Academy of Oceans Law and Policy to help fund a number of fellowships for students from developing States and to expand the Academy's training programme to cover issues relating to deep seabed marine science. The third award, in the sum of \$35,420, went to the Second Institute of Oceanography of the State Ocean Administration of China, in order to conduct an international cooperative study on the hydrothermal system at the ultraslow spreading Southeast Indian Ridge. The award will allow for the participation of two scientists from developing countries in the cooperative study with Chinese scientists, as well as an international academic workshop.

89. The secretariat will continue to take steps to generate interest in the Endowment Fund on the part of potential donors and institutional partners. In this regard, it is noted that in paragraph 15 of its resolution 67/78, the General Assembly called upon States and international financial institutions, including through bilateral, regional and global cooperation programmes and technical partnerships, to continue to strengthen capacity-building activities, in particular in developing countries, in the field of marine scientific research by, inter alia, training personnel to develop and enhance relevant expertise, providing the necessary equipment, facilities and vessels and transferring environmentally sound technologies. The Endowment Fund is one of the key mechanisms for enabling capacity-building in the field of marine scientific research in the deep ocean and the Secretary-General wishes to encourage members of the Authority, other States, relevant international organizations, academic, scientific and technical institutions, philanthropic organizations, corporations and private persons to contribute to the Fund.

## **Annex**

### **Members of the advisory panel for the International Seabed Authority Endowment Fund for Marine Scientific Research in the Area**

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**Lim Kimo**

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