



REPORT

Technical Visit

to

THE SULTANATE OF OMAN

18-20 February 2007

Technical Visits to the Sultanate of Oman
(IHO Work Program 2007, Tasks 2.1.7 and 2.1.10)
18 - 20 February 2007

I.- General Information.

One of the strategic issues identified in the International Hydrographic Organization (IHO) Strategic Plan is Capacity Building, which is essentially the building of effective national organizations where needed or the improvement of existing capabilities. Therefore advisory visits to assess requirements and shortcomings, as well as the promotion and coordination of technical cooperation are very important.

The IHO Program 2 “Capacity Building” addresses principally the requirements for Member States to fulfil their roles. Nevertheless there are still several other States that do not have yet any hydrographic capability, and therefore IHO needs to support and encourage those countries to establish such capability. Raising global awareness of the importance of hydrography and encouraging the establishment of new Hydrographic Offices are vital to achieve a global coverage of effective hydrographic services, which is the role of the IHO.

In this line, Program 2 “Capacity Building” of the IHO Work Program 2007, has included the following Tasks:

a) Task 2.1.7. Carry out visits of Technical Cooperation to the following countries and organizations: ROPME Sea Area Hydrographic Commission (RSAHC) & North Indian Ocean Hydrographic Commission (NIOHC) including Egypt, Sudan and Djibouti and others to be determined (with the participation of the International Hydrographic Bureau (IHB) the IHO Secretariat).

b) Task 2.1.10 Technical Visits to be paid by IHB to the RSAHC and NIOHC Technical visits including Egypt, Sudan, Djibouti, Iran, Kuwait and Qatar. Possible also Saudi Arabia, Eritrea and Yemen (if not executed in 2006) to include contact with PERSGA national representatives and IMO regional representative), first quarter 2007.

The inclusion of these technical visits in the IHO Work Program was due to a decision of the 2nd RSAHC and the approved IHO Capacity Building Work Program for 2007.

In November 2006, the IHB started organizing these Technical Visits. Due to the complexity of the coordination required, the IHB decided to prepare various travel options and after receiving a positive response from the Sultanate of Oman it was planned to undertake the visit from the 18 to 20 February 2007. The IHB was aware that the Sultanate of Oman was seeking ways to improve its facilities and personnel skills, and the visit was programmed with this objective in mind.

II.- Participants and Program

The participants were Capt. Hugo GORZIGLIA, IHB Director, coordinator of the RSAHC and director in charge of Capacity Building (CB) matters and Capt. Federico BERMEJO, IHB Professional Assistant for CB and training matters. The visit program is provided in Annex A.

III.- National Hydrographic Office (Meeting and visit)

III. 1. Status of the Sultanate of Oman

The Sultanate of Oman has been an IHO Member since 31 July 1987.

The National Hydrographic Office (NHO) is part of the Hydrographic Department of the Royal Navy of the Sultanate of Oman (RNO) under the Ministry of Defence and is responsible for the hydrographic surveys undertaken in Omani waters, the production of nautical charts and publications, including Notices

to Mariners (issued monthly). The NHO is responsible for the maintenance of the National Hydrographic Archive and for the tidal, geodetic and oceanographic databases. The NHO also provides advice on hydrographic matters to all other governmental departments, including subjects such as maritime boundaries and specifications and quality control of commercial surveys.

III.2. Organization and staff

Cdr. Mansoor Mohammed AL KHAROUSI is the Head of NHO, and is based at the NHO and Cdr. Richard DOBSON (UK) is the Hydrographer of RNO, and is based at Naval Headquarters. Lt. Cdr. Saleh Mohammed Al Rahbi, Deputy Head of NHO and Mr. Keith Brown, Head of the Cartographic Department also participated in the technical meetings and discussions.

On the 19th of February and before meeting with the national personalities with hydrographic responsibilities, the IHB representatives paid a visit to the NHO facilities, where explanations on their functioning and work were provided. They use modern which is adequate for national requirements. The staff is well trained but reduced in number, making it difficult to comply with all the tasks of national interest in a timely manner and to kept abreast of technological developments. As in other Hydrographic Offices, human skilled resources at the NHO constitute a very vulnerable factor.

III.3. Meeting at the NHO

III.3.1. A meeting with the authorities of the Sultanate of Oman responsible for maritime safety issues was held on 19 February at the premises of the National Hydrographic Office.

As well as the authorities mentioned in paragraph 1.2, the following representatives were present:

Seq.	Name	Authority
Royal Navy of Oman		
1	Mqm Richard Dobson	Hydrographer
2	Mqm Mansoor bin Mohammed Al-Karosi	HNHO
3	Raid Thani bin Harith Al-Mahroqi	SO2 Hydro
4	Raid Juma bin Khalfan Al-Busaidi	Hydro Unit - SBSNB
5	Keith Brown	SO2 Carto - NHO
Ministry of Agriculture and Fisheries		
6	Dr. Lubna bint Humoud Al-Kharousi	Senior marine specialist
7	Salem bin Ali Al-Abri	Director of fishery harbors
8	Nassir bin Salem Al-Habsi	Remote sensing specialist
Ministry of Regional Municipalities Environment and Water Resources		
9	Salim bin Abdullah As Suqri	Head of Marine Environment Pollution Prevention Section
Coast guard Police		
10	Raid Hamoud bin Salim Al Wehaibi	Director of Operations
Ministry of Transport and Communication		
11	Eng. Hamoud bin Suleman al Maskari	Head of Navigation
12	Eng. Mohammed bin Shaban Azidgali	Head of Ship Registration
Omantel		
13	Issa bin Moosa Fakir Al – Balushi	Senior Operator
14	K.U. Kumaran	Maintenance Engineer
Arabian Maritime and Navigation Aids Services		
15	S H G Bennett	Operations and Development Manager

III.3.2. Commander Dobson welcomed the participants and highlighted the importance of the meeting which brought together most of the persons in the country concerned with hydrography. He introduced the Agenda which had been previously prepared (see Annex B) but it was decided that before discussing the items on the agenda, to see the IHB presentation as many of the subjects on the agenda might be included in the presentation.

III.3.3. The IHB presentation covered the following main points:

- Objective of the Technical Visit
- General concepts of Hydrography
- The international scenario related to hydrography
- The IHO
- SOLAS V Regulations 4 and 9 States' general responsibilities
- Challenges and Conclusions
- Discussion



Captain Gorziglia summarized the various hydrographic applications, beginning with the importance of coastal zone management. This includes the Tsunami phenomena which has a devastating impact on the coastal infrastructure and human resources. The advance prediction and monitoring of this phenomena will help in minimizing the catastrophe. Hydrographic data is, without doubt, the main tool authorities need to achieve this. The conclusions of the presentation highlighted the importance of establishing a National Hydrographic Committee or similar body to coordinate the national hydrographic efforts to facilitate Oman's insertion in the regional and worldwide arena. All related national agencies should participate in this body with a national view rather than an agency view. It was also recommended to undertake a study to identify the shortcomings, opportunities, threats and strengths, and the best way forward to improve the present situation, with a systematic approach.

The UN, IHO, and IMO interrelationships were described and some of the UNCLOS and SOLAS regulations related to hydrography. The UN has made many resolutions since 1985 stressing the importance of hydrography in many fields and urging the support of all to the IHO and IMO. Most recently it made resolution 40/30 – 2005 encouraging the production of Electronic Navigation Charts (ENCs) for use in digital navigation onboard ship. All IHO members are committed to follow their obligations under the IHO charter to ensure safe navigation in their waters and this includes the provision of official ENCs.

The presentation generated a very interesting and positive discussion. All participants were given the possibility to express their views from the perspective of their national agencies. In general it was felt that the idea of re-establishing a national hydrographic committee (it was indicated that such body did exist in the past) had unanimous support. It was evident that several participants did not know each other before the meeting and this unique opportunity it was recognized as a “value added” factor.

After the discussion that followed the IHB presentation, Commander Dobson proceeded with the Agenda. The participants in the meeting had proposed the various subjects included on the Agenda, and therefore Commander Dobson decided to offer the floor to each proponent to explain his agenda item. Each topic generated interesting discussion and the IHB representatives provided comments, as appropriate.

A brief summary of the discussion/comments follows each subject:

III.3.3.a) Review of IMO voluntary Regulations / Resolutions.

The main concern expressed was the implementation date of a “mandatory” audit scheme. The IHB indicated that, for the time being, the audit scheme was purely voluntary. The difference in scope between the IMO (regulatory body) and the IHO (consultative body) was explained. Going further it was noted that although some regulations / resolutions are initially of voluntary application, in fact, in the end, are followed by all parties and become mandatory obligatory in practice. Examples were given as regards the use of nautical chart symbols: the use of a cross to represent a rock has been accepted unanimously and its “mandatory” use is tacit. It was also emphasised that audited countries might be seen as a different category of countries from those not audited. There was no doubt that for a maritime country to be audited gave a certain prestige but also probably some considerations of important value, such as influence on insurance costs.

It was clearly understood that attention should be given to the development of this matter and that thoughts should be given as to when it would be appropriate to request the auditing process.

III.3.3. b) ENC current status – production –necessity / Assistance.

It was clear to the participants the importance of ENC production, distribution and maintenance. While production and maintenance are seen as activities that require trained personnel and supportive technology to produce validated products, the question of marketing procedures captured more attention due to its complexity. For production and maintenance there are opportunities to train personnel, the key issue is to be able to keep the trained personnel working at the Hydrographic Office. This seems to be a complex problem that could be confronted with innovative administrative ideas, the application of which probably might depend on existing national regulations. As regards distribution, the solution that the RENCs provide seems to be the best in place, as they have a wide network of distributors.

Reference was made to the planned IHO ENC catalogue which is a world wide folio of official ENCs produced by the publisher nation. He added that the IHO have asked all members (by Circular Letter) to send information about ENCs coverage where they consider essential for vessels to navigate safely in their waters to be included in this catalogue.

III.3.3. c) Requirements for the best inter-governmental organization cooperation in hydrographic business.

This subject was not further discussed as it was covered by the IHB presentation. It is worth repeating the IHB advice in the sense that to achieve good national interagency coordination, a mechanism such as the National Hydrographic Committee should be in place and in operation. Intergovernmental coordination and cooperation can only exist if a proper body exists at a national level that could represent national interests at international level. The existence of the RSAHC is an opportunity to resolve common problems with common and convenient solutions.

III.3.3. d) Capacity Building. Highlights on the extreme usefulness of regional and international meetings and conferences.

This matter was also covered in the IHB presentation. Capacity Building is a concept and should not be considered as a solution on its own. Today there are 78 IHO Member States, which in different ways are providing hydro-cartographic services and products. There is no one recipe that can solve all the problems that Hydrographic Offices face, as they are all different. Nevertheless participation provides opportunities to get valuable experience that can help the decision making process aiming at a more efficient, effective and viable solution to provide hydrographic services.

It was explained that no IHO Member State participates in all IHO bodies, but to be successful MS should be aware of the ongoing development within the various working groups. Participation by correspondence and by e-mail are alternatives that should be explored. The important thing is to flag the technical position in a timely manner for consideration by experts on the various bodies.

The Regional Hydrographic Commission meetings provide a unique opportunity to identify common problems and, as stated before, to seek a mutually acceptable solution.

It was reminded that the hydrographic authority shall submit and discuss its CB priorities within the RHC meeting and obtain the Commission's endorsement to be in a good position to benefit from the CB Fund, aimed at facilitating the improvement of hydrographic capabilities. It was also mentioned that the capacity building inputs were regionally managed by the chairman of RSAHC (at present Pakistan) and it controls all related issues where needs and requirements were listed with their priorities. This list was forwarded to all members of the Commission for their further comments, in order to raise it finally to the IHO for Capacity building committee action

III.3.3. e) Advice on establishment of ship refuge areas and limits of protected areas.

Captain Gorziglia explained that this was a national issue and each country is responsible to establish its own special areas including refuge. IHO responsibility is to provide proper symbols and explanations of those areas when presented in nautical publications. The definition of any particular area is decided by an administrative act, the rationality of which should be supported by basic information, in our case bathymetry and others as well. There are no IHO technical specifications on how these areas are established. It was made clear that the better the decision maker knows the hydrographic characteristics of a region, the better the decision will be. With regard to "ship refuge" the variable factors include, among others, what type of ship will make use of such an area. As regards "protected areas", great influence plays the characteristics of the ecosystem to be protected.

III.3.3. f) Maritime Rescue Coordination Centre (MRCC) regional establishment and international interaction with IMO/IHO

The representative from the Ministry of Transport and Communication (MOTC) informed that the new Maritime Rescue Co-ordination Centre (MRCC), will be soon established and all other associated GMDSS Communications - including a shore based AIS system – and a Command and Control (C&C) system to enable effective and efficient distress alerting in Oman's Search and Rescue Region (SRR) & EEZ. The system is to be managed and operated by the Coast Guard Division of the Royal Oman Police on behalf of the Ministry of Transport & Communications. The ultimate intention is that the Oman MRCC will have integrated systems for SAR, Coastal Surveillance such as (illegal immigrants, smuggling, terrorism, illegal fishing etc.).

This topic was considered to be outside the IHO's domain and competence, and the MRCC was seen as a user of hydro-cartographic products and services to facilitate its operation. Access to hydrographic and other parameters databases in real time should be considered and MRCC should have permanent contacts with the hydrographic office.

During the discussion other subjects were also raised, and the related comments are provided below:

III.3.3. g) Participation of the Sultanate of Oman in other international organizations, such as IOC.

The IHB indicated that IOC works closely with IHO on several projects of common interest, one of which is the Sea Level Observing project. It was recommended to encourage that the National Hydrographic Committee

should include the national representative to the IOC. Finally the IHB offered to take appropriate action with IOC on matters of interest to Oman, provided these subjects were related to the objectives of IHO and were clearly identified.

III.3.3. h) Need for training.

Participants requested information on the status of the International Maritime Academy (IMA) that used to be a good training centre. The IHB reported that IMA, as it has existed was no longer in place as it has ceased all activity, but a new structure, based on IMA, was under study by the Italian Government. The IHB indicated that IMA in fact had been very helpful to the IHO in advancing in hydrographic and nautical cartographic training, and that we were still optimistic, but the possibility of other institutions assuming its function did exist. The establishment of any regional training facility would contribute to improving hydro-cartographic capability. The IHB representatives recalled that at the Second RSAHC meeting, Oman raised the point that training was considered to be an important regional issue and asked the Commission whether it might be possible to establish a regional academy along the lines of IMA. The agreement was to provide the RSAHC Chairman with training information by 31 December 2006 in order to have a document for the next RSAHC meeting and adopt a decision with regard to a regional academy. As regards MSI training, the IHB indicated that the Capacity Building Committee (CBC) in conjunction with the Committee on Promulgation of Radio Navigational Warnings (CPRNW), have started a new series of courses based on a course delivered in Oman several years ago. One of these courses will be delivered in 2009 specifically for the RSAHC. Participants thought that it would be better to advance the delivery of such a course.

III.3.3. i) IHO support to the revision of the Oman Maritime Law, dating from 1981

Participants indicated that the Sultanate of Oman has started a revision process of its Maritime Law, and would like the IHO to support in this process. Not having had an early opportunity to study the subject, the IHB representatives indicated that the IHB would need to access the documents and in particular the special sections in the Maritime Law that could have some relation with the areas of competence of the IHO. If necessary, the IHB could provide advice in terms of putting the Sultanate of Oman in contact with other IHO Member States who are in a position to provide assistance.

At the end of the meeting the IHB delegation provided the National Hydrographic Office with a full collection of the IHO Publications in digital format, as well as some printed versions required by the NHO. These publications were deeply appreciated.

IV. Other visits paid.

IV.1 CRNO Office.

Captain Gorziglia and Captain Bermejo were received by Rear Admiral Salim Bin Abdullah Al Alawi, Commander Royal Navy of Oman, at the Navy Headquarters. The IHB representatives had the opportunity to brief the Admiral about the objectives and outcome of the technical visit to the Sultanate. The Commander of the Royal Navy stressed the importance of hydrography and the sustainable efforts that the Sultanate is making in its support. He expressed special interest in organizing an international Seminar in Muscat, in support of the important matters discussed, the details of which have been mentioned above. The IHB was requested to consider providing advice in the organization of this event, details of which shall be discussed at a later date. The IHB representatives thanked the Commander of the Royal Navy for his strong support and commitment towards the hydrographic activities and assured him that the IHB would remain ready to contribute to this initiative.

IV.2 Ministry of Transport and Ministry of Agriculture and Fisheries.

The IHB representatives visited His Excellency the Under-Secretary for Fisheries at the Ministry of Agriculture and Fisheries, who welcomed the IHO team and stated that Oman, at the moment, was rapidly developing her coastal area. He mentioned a number of major ports and projects currently in progress and that hydrographic information was essential to these projects. The Under-Secretary added that there is good liaising between Ministry of Transport and Communication and The National Hydrographic Office.

The IHB representatives stated that any major ports or harbours, together with the adjacent areas, needs to maintain continually correct updated hydrographic information; otherwise all these projects may face serious economical and environmental risks.

Mr. Hamed Said Al-Oufi requested further details about the technical mission and expressed a special interest in learning more on the outcome of the meeting held at the NHO. Following the presentation made by the IHB representatives, a very positive and constructive discussion took place. It was made absolutely clear that the Minister fully supports the hydrographic activities in progress, and kind expressions of support of the initiatives to improve national capabilities and regional cooperation and collaboration were given.

IV. 3 Ministry of Transport and Communication Under Secretary for Transport

His Excellency the Undersecretary for Transport welcomed IHO team and stated that hydrographic affairs were very well familiar and of interest to him, since long time ago and he had visited the NHO many times . He also stated that he was well aware how important hydrography is in current world maritime developments, which touch on many different fields.

Also added that he is keen to establish an effective National Hydrographic Committee, so that all national hydrographic efforts can be centralized and coordinated. He mentioned that Mo F&A, among others, will support this committee. The IHO team thanked the Under-Secretary for his support and interest for the hydrographic committee and hoped to see it achieve good results.

IV.4 Hydrographic Unit.

The IHB representatives paid a very short visit to RNOV AL SEEB, the only Naval Hydrographic Unit in Port Sultan Qaboos, and was able to see the instruments and equipment used in hydrographic surveys. The specialists provided explanations on the systems on board.



V. Conclusions and Recommendations:

As a result of the discussions, the IHB representatives would like to offer the following conclusions and recommendations to the hydrographic authorities of the Sultanate of Oman.

1.- The Sultanate of Oman has a privileged geographic position and an historic maritime legacy and its hydrographic and related authorities are full aware of the importance of hydrography; nevertheless the Sultanate of Oman is not apparently taking full advantage of being an IHO Member State. It is therefore recommended that Oman considers playing a much more active role within the IHO RSAHC and the IHO technical committees and working groups. As regards the revision of Oman's Maritime Law, it is recommended that the IHB be provided with the relevant text referring to the subjects within IHO competence, if advice is to be sought.

2.- The IHB Technical Visit was very well organized by the NHO, capturing the attention of several national agencies with some relation to hydrography that actively participated in the meeting with IHB representatives. All parties expressed their willingness to reactivate the National Hydrographic Committee, as a coordination body to further progress in the provision of hydro-cartographic services and products. It is therefore recommended to adopt the administrative measures to have an active National Hydrographic Committee (NHC), which shall include representatives of all the agencies present in the meeting, plus others such as the meteorological national component and the national agency representing Oman at the Intergovernmental Oceanographic Organization. One of the first recommended tasks to the NHC would be to carry out a "Strength, Weakness, Threats and Opportunities" analysis, to identify a national program that would improve the national hydrographic capabilities based on the national objectives and real needs.

3.- The availability of skilled human resources at the NHO is a key factor. The new and complex technologies in use by hydrographic offices demand a permanent effort to keep personnel abreast of methodologies, protocols, processes and quality control of the final products, just to mention a few aspects. Main training areas are ENC's, MultiBeam and Marine Safety Information (MSI) matters. It is recommended to consider the opportunities offered by the Capacity Building Committee and to submit projects for consideration by the CBC through the RSAHC Chairman. Another important aspect is to ensure, as far as possible, the permanency of trained personnel at the NHO. In order to do this, it is recommended to consider the adoption of exceptional administrative regulations aiming at protecting the NHO and at preventing the loss of trained personnel.

For the time being the Sultanate of Oman cannot rely on the International Maritime Academy (IMA), for its hydrographic and nautical cartographic training needs, as the Academy has ceased its activities. It is therefore recommended to explore a regional solution as discussed at the second RSAHC Meeting in May 2006. The RSAHC Chairman should be provided with the information on training facilities, in order to have a discussion document at the next RSAHC meeting in 2008, as agreed.

4.- The Royal Navy of the Sultanate of Oman is willing to organize an international seminar to raise awareness of the importance of hydrography. This is an initiative that fully complies with the objectives of the IHO and therefore is supported by the Organization. In order to progress this initiative it is recommended that some clarifications be provided by Oman, such as: scope of the event, objectives, expected attendance and level of participants, venue, dates, etc. It is further recommended to keep the IHB informed of the progress of this initiative in order to jointly come up with a suitable timetable for the preparation of the seminar. If any support is required from the IHO Capacity Building Committee, it is recommended that this initiative be submitted to the CBC for consideration at its meeting in early June (2007), through the Chairman of the RSAHC.

5.- The IMO has established a voluntary audit scheme and there are no indications that this will become mandatory in the near future. This voluntary audit scheme covers matters related to hydrography and nautical cartography. In spite of being a voluntary audit, it is recommended that thoughts be given to this matter in order to identify the best opportunity for Oman to request this audit.

6.- Different national agencies expressed their interest in hydro-cartographic data, information, products and services, as these could assist and facilitate the achievements of their objectives. The importance of using

this information, for example, to define ship refuge areas and protected areas, was unquestioned. It is recommended to consider hydrography as a national strategic objective, and all the data and information generated as a valuable national asset. The establishment of a national data centre to effectively archive this information and to make a much extended use of it is highly recommended.

Monaco, 21 March 2007.



Hugo Gorziglia
Captain – Chilean Navy
IHB Director

Annexes:

- “A” IHB Technical Visit Program.
- “B” IHB Technical Visit Agenda.
- “C” Action List

ANNEX A

IHB TECHNICAL VISIT PROGRAM

Saturday 17 February 2007

Time	Event
2330	Arrive Seeb International Air Port. Transport to Haffa House Hotel, Ruwi.

Sunday 18 February 2007

Time	Event
Morning	Free time
Afternoon	Visit to Fanjah via Wadi Khouthd
Evening	BBQ Lansab Officers' Mess

Monday 19 February 2007

Time	Event
0730-0845	Visit all NHO departments
0900-1200	Meeting in conference room – NSA - with all personnel with hydrographic responsibilities
1215-1330	Discussion NHO/IHO Technical team
1900-2100	Dinner in al Shafaq Club

Tuesday 20 February 2007

Time	Event
0900-1000	Meeting with Director General Operations and Plans
1030-1200	Visit to RNOV AL SEEB in Port Sultan Qaboos
1230	To Seeb International Air Port
1500	Departure

ANNEX B

IHB TECHNICAL VISIT AGENDA

Opening Remarks

- 1.- Opening remarks by the Chairman Mqm Bah / Richard Dobson
- 2.- Address by the IHO visitor

Agenda Items

- 3.- The review of IMO voluntary regulations/Resolutions.
- 4.- ENC Current status – production necessity / Assistance.
- 5.- The requirements for the best inter governmental organization cooperation in hydrographic business.
- 6.- Capacity building – highlights on the extreme usefulness of the regional and international meetings and conferences.
- 7.- Advice on establishment of ship refuge areas and limits of protected areas – in terms of hydrographic requirements.
- 8.- Maritime Rescue Coordination centre (MRCC) regional establishment and internationally interaction with IMO/IHO.
- 9.- Any other business.

Closing Remarks

- 10.- Closing remarks by the Chairman Mqm Bah / Richard Dobson.

ANNEX C

ACTION LIST

	Name	Authority
1	<u>Agenda item(4)</u> ENC's Production process and marketing procedures.	NHO
2	<u>Agenda item(4)</u> information about the coverage of all official ENC's that considered essential for vessels to navigate safely in Omani waters – to be forwarded to IHO.	NHO - MOTC
3	<u>Agenda item(4)</u> Procedure of inspecting visiting vessels to ensure they carry and use only official ENC's and updated Nautical charts and publications.	MOTC
4	<u>Agenda item(5)</u> Reactivation of the National Hydrographic committee (NHC), NHO suggest that the 1 st meeting to be in last week of May 2007 – Exact dates and venue to be confirmed.	ALL
5	<u>Agenda item(6)</u> Inputs and request (proposed ideas) to be discussed and forwarded to the chairman of the regional Hydrographic commission for requirements approval.	ALL