MEDITERRANEAN AND BLACK SEAS HYDROGRAPHIC COMMISSION

Technical Visit to Lebanon
3 – 5 February 2009

REPORT

Origin:	France (SHOM)
References :	a) IHO Work Programme 2008-2012 dated May 2007, Tasks 2.2.1 and 2.3.2 *b)* IHB Letter CBC-WP08 dated 9 April 08 *"MBSHC Technical Visits 2008"* c) Letter from the Army Chief of Staff of the Republic of Lebanon dated 27 October 2008 *d)* Letter N°1 SHOM/DSPRE/REX/NP dated 17 February 2009 to the French Embassy in Lebanon *"Technical cooperation in hydrography and cartography."*

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INTRODUCTION

1. At the15th Meeting of the Mediterranean and Black Seas Hydrographic Commission (MBSHC), held in October 2007, it was decided to undertake technical visits to those countries (including Lebanon) where hydrographic surveying, charting and nautical information had been identified as being inadequate, and who wished to receive a team of experts mandated by the International Hydrographic Organization.

2. The IHO *Capacity Building Committee* (CBC) agreed at its 5th Meeting in June 2007 to finance this visit.

3. Visiting team. The Hydrographic and Oceanographic Service of the French Navy [*Service hydrographique et Océanographique de la Marine* (SHOM)] offered to provide experts to undertake this technical visit to Lebanon. The members of the team were as follows:

- Captain Jean-Christophe LONG, *Chargé de Mission* for the Mediterranean and Black Seas within the SHOM Department of Strategy, Planning and External Relations.

- ICETA Olivier Parvillers, Head of Cartography, in the SHOM Operations Department;

- Ing. Philippe Pellaé-Arthaud (contracted), Head of Europe and Mediterranean Sector, Documents and Nautical Information Section in the SHOM Operations Department.

The detailed terms of reference for the team are provided in Annex 1.

4. Preparation of the visit. The Defence Attaché at the French Embassy in Beirut, the Commander of the Lebanese Navy and the Director of Geographic Affairs of the Lebanese Army actively participated in drawing up the programme. Captain Federico Bermejo (Spain) from the International Hydrographic Bureau (Monaco) also provided assistance.

The programme of the visit is provided in Annex 2.

Visits undertaken

The visiting team was able to meet with officials at the following institutions and ministries:

Beirut :

- Lebanese Armed Forces: Directorate of Geographic Affairs of the Army and Navy;
- Ministry of Transport and Infrastructure;
- Ministry of Finance (Customs) ;
- National Council for Scientific Research;
- Director / Harbour Masters of Beirut Port ;
- Lebanese Shipowners' Association;
- Ministry of Energy and Water;
- Prime Minister's Office;
- Delegation of the European Commission to the Republic of Lebanon.

NB : The Ministry of the Environment did not wish to take part in the discussions, probably due to a lack of a department within the ministry capable of centralizing the relevant information.

Tripoli :

- Harbour Master's Office;
- President and Director of the port.

A summary of the meetings is provided in Annex 3.

GEOGRAPHICAL FACTORS

1. Lebanon has a coast line of 225 km between Syria and Israel. Its total surface area is 10,400 km² and it has a population of 3.9 million (July 2008 figures).

Lebanon has fixed the limit of its territorial waters at 12 nautical miles. With regard to the EEZ, Lebanon's claim covers an area of approximately 44,000 Nm² (151,000 Km2). An agreement was reached with Cyprus in 2004 to determine its western limit. The southern limit of its territorial waters, and consequently of its EEZ, is contested by Israel.

Illustration N°1- chart of Lebanon

2. Offshore Resources : Lebanon does not produce any hydrocarbons.

Alerted by the recent discoveries made by the Nobel Energy Oil Company in January 2009 off Jaffa, the Lebanese wish to assert their rights on the natural resources.

The matter of the maritime boundary delimitation with Israel was repeatedly brought up during discussions.

3. The political stability since the signing of the Doha Agreement in May 2008 has encouraged investments and tourism, particularly along the seafront. The coastline has been modified in several places taking into account the numerous land reclaims and new installations.

4. Maritime Transport. Lebanon has two large commercial ports: one in Tripoli (in 2005 : 574 ships, 4.2 million tons) and one in Beirut (in 2007 : 3000 ships or 6 million tons, 600 to 900.000 TEU, an increase of 143% / 2004). The extension of the ports of Beirut and Tripoli represents a major economic interest.

The Merchant Navy has 33 ships sailing under the Lebanese flag and 55 registered under foreign flags, providing a regular service to Mediterranean ports.

5. As regards the environmental situation, Lebanon has some major problems: deforestation, ground erosion, and desertification; air pollution in Beirut (road traffic and incineration of industrial waste), pollution of coastal waters due to maritime pollution (the latest was opposite the Jiyyé power station in July 2006).

6. Lebanon has been a member of IMO since 1966, is a signatory to the SOLAS Convention, but is not a member of the IHO. It has Observer status within the MBSHC.

HYDROGRAPHIC STATUS IN LEBANON

1. Inventory. Our task departed from the fact that Lebanon does not adequately meet its international obligations as regards safety at sea (SOLAS Convention *"Safety of Life at Sea"* - Chapter V), whereas France (through SHOM) has in fact taken over the charting responsibilities of the Lebanese waters since the end of the protectorate, without actually having access to the appropriate information. The efforts to raise awareness during the visit enabled the need for a real maritime policy to be underlined, taking into account the oil/gas interests at stake and the economic interest in developing the ports and tourism; the persons we met showed that they were aware of the problem and demonstrated the utmost transparency.

2. The *means available in* Lebanon. Lebanon does not have a hydrographic service nor any dedicated capability. Competence in the scientific, technical and administrative domains exists, albeit limited, and is spread out amongst various bodies without any proper coordination:

- Directorate of Geographic Affairs (DAG) : The DAG has cartographers, topographers, an efficient *geographical* information system and printer presently used for land mapping. The DAG works for other ministries, in particular for the Ministry of Finance and the Ministry of the Interior as well as for local government (Cadastral and Tax authorities, regional development). The DAG could recruit future "nautical" cartographers and have them trained in France.

- Lebanese Navy : does not have any hydrographic capability but does have an interministerial capability for the monitoring of maritime traffic (joint maritime operations centre). It could become the national coordinator for nautical information, and is prepared to establish a hydrographic service with staff recruited from within the Navy.

- National Council for Scientific Research (CNRS): has acquired, since December 2008, an old trawler «le Cana » handed over by Italy as part of a convention with the Italian Agronomic Institute. For information, CNRS worked with IFREMER (SHALIMAR 2003 campaign) and has a sound level of expertise in geoscience and remote sensing, as well as experience with a data base of the marine environment (2D and 3D).

- Directorate General of Land and Maritime Transport: this is the point of contact for the IMO and IHO (according to the Yearbook), but it does not have any capability nor any expertise of its own to handle hydrography and cartography. It occasionally sends information to the UKHO[1] via its agent in Beirut (for dissemination in the English NTM[2]). This body oversees the harbour masters' offices, including the one in Beirut which manages a part of the relevant information for maritime safety and keeps SHOM informed of any modernization work undertaken. The roles of France and Spain were noted as regards Maritime Safety Information.

3. Nautical Information. The collection and dissemination of nautical information (Notices to Mariners and Maritime Safety information) are very limited. There is no NAVTEX and the NAVAREA III coordinator is unknown in Lebanon.

4. Hydrographic Surveys The Lebanese waters have not been surveyed to modern standards, except for the odd survey of the coastline and a survey carried out in 2003 by multibeam echo sounder by IFREMER on behalf of CNRS (Shalimar campaign), of practically all of the depths of more than 200m (chart in Annex 6).

There is a real need for hydrography for the 0-200m depths band giving priority to port approaches and maritime installations which are dotted along the Lebanese coast. For the coastal waters there are lead-line surveys or surveys carried out before 1970. For the ports and approaches there are a few post-1990 surveys.

5. Nautical Charts

a. Paper charts: the Lebanese coasts are currently covered by 4 French charts belonging to the international portfolio (Annex 7). The Lebanese charting scheme is to be improved with the addition of large scale charts for access to the still uncharted maritime infrastructures or terminals. The production of a series of charts covering the entire Lebanese coastline at approximately scale 1:75 000 must be planned.

b. Electronic Charts: The Lebanese coasts are covered by 6 ENCs (Annex 8).

[1] UKHO: United Kingdom Hydrographic Office
[2] NTM: Notices to Mariners

RECOMMENDATIONS

Following the various visits and meetings as well as the round-table discussions organised by the Navy Commander for all the persons in charge of the relevant sectors, the following first three recommendations were submitted to the Prime Minister's Office:

1. Creation of a National Hydrographic Committee. The visiting team identified some common hydrographic concerns which can be dealt with through the creation of a National Hydrographic Committee reporting to the Prime Minister. This NHC (chaired by an authority to be designated by the Lebanese Government) will facilitate the team work between the Lebanese institutions in particular the Navy, the Geographic Affairs Directorate, the CNRS (National Scientific and Research Council) and the Directorate General of Land and Maritime Transport. It would be sensible to include the Customs Authorities, the ports of Beirut and Tripoli, and the Ministry of the Environment.

Possible actions for the setting up of the NHC would be:

(2009) Lebanese Government decision to create the NHC;
(2009) Assistance from France to set up the Committee in Beirut (SHOM);
(2010) Support from the IHO/CBSC for Lebanon to hold a seminar on this theme;
(2011) Participation of Lebanon in the seminar on National Hydrographic Committees (ref. a).

2. Lebanon and IHO membership. Steps need to be taken rapidly in order to begin Lebanon's application process for full IHO membership, so that the country can benefit from the Organization's support and experience. The following actions should be planned:

- MBSHC Chairman: Invite Lebanon to participate in the next MBSHC Meeting in Odessa in September 2009.
- Lebanese Government: send an official application to join the Organization (IHO).

3. Bilateral Cooperation. It is highly recommended that a bilateral agreement be signed between France and Lebanon, fixing the responsibilities of the two signatory parties within the framework of SOLAS, and setting objectives in terms of cooperation, assistance and advice, on the understanding that financing will be found outside of SHOM. A draft was provided to the Navy during the visit.

4. Maritime Safety Information. The objective is to obtain a connection from Lebanon to the Worldwide Navigational Warning Service and the updating of nautical documents covering Lebanese waters, through Spain (Navarea III located in Cadiz) and France (SHOM).

The first priority is for Lebanon to designate a single coordinator, probably someone from the Lebanese Naval staff.

The second priority is connecting Lebanon to the worldwide navigational warning service (Safety Net - NAVAREA III in Cadiz).

The third task consists of setting up an updating capability of nautical documents covering Lebanese waters (possible assistance from SHOM).

The establishment of a NAVTEX station was not discussed; the coastal zone could be covered in part by Safety Net following the example of other maritime regions.

5. Updating of nautical charts in SHOM's portfolio.

The shortcomings of the present charts are due to the age of the surveys and to the inaccurate depiction of the coastline. To remedy this problem:

- The bathymetric data collected during the SHALIMAR survey in 2003 should be incorporated in the existing charts (SHOM has applied to CNRS - owner of the data) ;
- The coastline data at scale 1:20 000 produced by the DAG should be incorporated. (Request for provision of data to be included in the future bilateral cooperation agreement.)

6. Training. In the medium term, training for the future staff of a Lebanese hydrographic service could be provided at SHOM and at ENSIETA – *Ecole nationale supérieure d'ingénieurs* (National Engineering School). All training opportunities proposed by the IHO/CBSC should be seized, such as the MSI training course in Accra in 2009.

7. Hydrographic Surveys. The updating of old surveys must be urgently concentrated on waters of depths of less than 200m, which were not surveyed during the last SHALIMAR surveying campaign in 2003 (Suroît). The 200 m line is less than 5 nautical miles from the coast.

Whilst waiting for the funding which will enable Lebanon to build a hydrographic survey capacity (Lebanon Hydro project), SHOM could carry out "opportunity" surveys in priority zones, which are to be identified, using its own means (e.g. the Beautemps Beaupré in 2010).

Cooperation with the CNRS must allow for the joint use of the ship CANA, as soon as this ship is equipped with a multibeam echo sounder. In the short term, the CNRS is planning to install a permanent tide gauge in Beirut.

8. Financing

European Union : As regards seeking funding for the whole project, from the meeting held with the head of cooperation within the European Commission delegation in Lebanon, Lebanon's problem concerning maritime safety and the knowledge of the marine environment is clearly pertinent. This project could be included in the European Union's "European Neighbourhood Policy".

SHOM was requested to provide a first draft outline of the « Hydro-Lebanon » Project, as part of the budget programming for post-2011 : setting up of a Naval cartographic unit within the DGA, equipment for the vessel "CANA", support for the initial survey campaigns, training, creation of a hydrographic service.

This project should then be endorsed by the Lebanese part in order to be validated by the European bodies.

IHO/CBSC : to be defined.

CONCLUSIONS

1. This visit was very enriching due to the many points of view expressed by the professional staff of 8 different bodies and it underlined the need for a real maritime policy, particularly taking into account the oil / gas interests at stake and the interest of developing the ports and tourism.

2. Cooperation must intensify over the next few months with France and the IHO/CBSC in order to address and to remedy the problems identified.

SIGNATURE

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Annex 1

MANDAT DU GROUPE D'EXPERTS DE LA CHMMN
POUR LA COOPERATION TECHNIQUE EN HYDROGRAPHIE GROUPE D'EXPERTS

1- But de la visite technique

La visite technique est l'un des moyens utilisé par l'OHI pour établir un programme de développement capacitaire (*Capacity Building Programme*) au profit du pays visité.

Pour ce qui concerne le Liban, la visite a pour but de produire un rapport destiné à l'OHI contenant la description de la situation dans le pays en ce qui concerne les levés hydrographiques, l'établissement des cartes et le recueil et la diffusion de l'information maritime indispensable à la sécurité de la navigation.

2- Actions à mener

- Prendre contact avec les autorités qualifiées et établir des relations techniques avec les responsables compétents afin de souligner l'importance de l'hydrographie et des obligations contenues dans le chapitre V de la Convention SOLAS (Règles V2/2 et V/9) pour les Etats côtiers et, par voie de conséquence, la nécessité d'inclure l'hydrographie et la cartographie marine dans la planification de ces Etats.
- Actualiser les informations disponibles sur l'état des capacités nationales pour réaliser la collecte et le traitement des informations nautiques.
- Identifier les besoins prioritaires du Liban en matière de développement de capacités hydrographiques, afin de les soumettre aux comités et commissions idoines de l'OHI.
- Examiner les possibilités à court terme pour des visites en France et des formations à l'Ecole du SHOM et à l'ENSIETA.
- Envisager conjointement avec le Liban les étapes d'une coopération ultérieure en matière de levés hydrographiques et de cartographie, au travers par exemple d'un arrangement administratif bilatéral avec la France.
- Transmettre l'évaluation et les propositions correspondantes au Président et aux membres de la CHMMN, au bureau hydrographique international (BHI), et aux Etats membres concernés.

Annexe 2

PROGRAMME DE LA VISITE

Lundi 2 février	
15h45	arrivée à Beirut.
20H00	Diner Centre ville
Mardi 3 février	
08h00 – 10h30	entretien avec général Maroun Khreich et son successeur le général Boukhos Boukhos ; visite locaux Direction des affaires géographiques
11h00 – 11h30	entretien contre-amiral (2S)Ghanem, directeur général des douanes
11h45 – 14h30	Entretien puis déjeuner avec contre- amiral Ali El Moallem, commandant la marine libanaise.
16h00 – 17h30	entretien avec Mohammed Nahle, Amer Beydali et Ali Masri, à la direction générale du transport terrestre et maritime du Ministère des travaux publics et des transports
20:00	Soirée libre
Mercredi 4	
07H00-08H30	Transit vers Tripoli
08H30- 09H15	Entretien avec Atef Tabboush Capitaine du Port de Tripoli
09H30- 10H30	Entretien avec Mr Fadlallah, Président du Port et Ahmad Tamer, directeur général du port de Tripoli
10H30- 12H00	Transit retour vers Beirut
12H15- 14H00	Entretien au CNRS avec Monsieur Mouin Hamzé, secrétaire général et ses collaborateurs (notamment Mr Alexandre Sursock, directeur du centre de recherche géophysiques)
16H00- 17H30	Entretien avec Joseph Fahrat , Directeur adjoint chargé des études au port de Beirut et Maroun El-Khoury capitaine du port de Beirut.
20H00	Soirée libre
Jeudi 5	
09h00 – 09h30 :	entretien avec - Anwar Ghazzaoui, président de l'Association des armateurs libanais - Hassan Tawil, secrétaire de l'Association et ancien conseiller auprès du Premier Ministre
10h00 – 10h30	entretien avec monsieur Jussi Närvi, chef de section coopération à la Délégation de la Commission européenne au Liban
11H00- 1400	Séance plénière à l'Etat major de la Base navale : • Débriefing de la visite technique • Elaboration des recommandations
14H00- 14H30	Visite du navire « CANA », ex-navire de pêche au thon rouge italien et don de l'Italie au profit du CNRS.
16h00-16H30	entretien au cabinet du Premier Ministre avec le général Sais Eid, secrétaire général du haut conseil de défense
17H15- 17H45	Entretien avec Alain Tabourian , ministre de l'énergie et Sarkis Hales, Directeur général du pétrole
Vendredi 6 février	
06.00	Transfert vers Aéroport International de Beirut
08H20	Départ de Beirut.

Annex 3

SUMMARY OF DISCUSSIONS / MEETINGS

1. Ministry of Defence

General Khreich and his successor General Houkhos, Director of Geographic Affairs (DGA)
(Point of contact : Colonel Elie El KIK)

General Khreich briefly described his activities (Annex 4): has a real land mapping capability and wishes to develop the capability to produce nautical charts.

He has the necessary information to update the depiction of the coastline at a large scale (1:20,000) and the land topography.

On the maritime side, he belongs to a commission determining territorial waters.

DGA works for other ministries; its director is assisted by a technical advisory board, comprising representatives from 11 ministries concerned by the DGA's work, in order to fix priorities.

Rear Admiral Ali Moallem, Chief of Naval Staff
(Point of contact : Captain Nicolas Jebrayel)

The Lebanese Navy has very little means in the nautical information domain (few charts available, no ENCs)

The Chief of Naval Staff wishes to create a hydrographic service which would involve the ad hoc training of staff (engineers and technicians, hydrographers and cartographers), the acquisition of measuring equipment and a boat for undertaking hydrographic work.

The Lebanese coast has undergone a lot of changes and SHOM's charts are not up to date through the lack of an appropriate body in Lebanon to relay the information.

There is no Ministry of the Sea nor any interministerial coordination for any matters connected with the sea. The Navy could be the National Coordinator for Nautical Information as the Navy monitors the commercial shipping (via the Joint Chamber of Maritime Coordination), where it has a representative for the concerned agencies: customs, internal security, transport and environment.

2. Ministry of Transport and Infrastructure

Mr Kayssi, Director General of Land and Maritime Transport: - the official IHO point of contact.

As he was away that week and was represented by his deputies, Mr Mohammed Nahle (*Head of Lighthouse section*), Mr. Amer Beydali, (*Head of navigational department*) and Mr.Ali Masri, (*Chief of Maritime Trade Affairs Section*).

This Ministry Department is well informed of its SOLAS obligations and is also familiar with the IHO membership procedure. However, it was essential to explain the importance of properly monitoring nautical information and to explain the potential advantages for Lebanon. The Department has some connections with the UK Hydrographic Service (UKHO), but did not know SHOM, the charting authority for Lebanon.

The Harbour Masters' Offices of the two big ports (Beirut and Tripoli) are placed under the authority of this Ministry.

3. Ministry of Finance (Customs)

Rear Admiral Ghanem, Director General of Customs

The Customs Authorities carry out coastal patrols in the territorial waters, and undertake ship inspections and port surveillance. They require detailed charts (1:50,000) of the Lebanese coasts and ports. The boats use unofficial electronic charts, GARMIN Blue Charts.

The Customs Authorities work with support from the Navy in determining the patrol's objectives.

4. National Council for Scientific Research

Mouin Hamzé, CNRS Secretary General and his collaborators, including Mr. Alexandre Sursock, Director of the Geophysical Research Centre.

The CNRS is placed under the direct authority of the Prime Minister, which allows it a certain freedom of action.

It is composed of 4 specialized research centers : geophysics (including seismic), marine research (including pollution and marine biology), geographic (including remote sensing) and nuclear analysis.

Illustration N°2
« Le Cana » carrying out work in the Naval Base in Beirut (Feb 09)

As from December 2008, the CNRS has "Le Cana", a 28 metre long vessel, 155 tons, ex-trawler handed over by Italy. CNRS wishes to make the ship's trips cost-effective by a multidisciplinary use. The vessel is currently moored at the Naval Base in Beirut, with the Navy providing support. The three permanent crew members come from the Navy. The scientific equipment is currently limited to marine biology. The vessel does not have a bathymetric sounder. There is an ROV onboard. CNRS has an exclusive 3-year contract with Italian manufacturers. Italy provides financial support for 4 programmes: Coastal Bathymetry, Hydrology and Hydrobiology, Marine Resources, Coastal pollution.

The CNRS participates in the work of the Intergovernmental Oceanographic Commission (IOC), for the installation of tsunami alert networks. A request for information was submitted concerning tide gauges installed by SHOM in view of a rapid installation, as Lebanon no longer has a permanent tide observatory.

The CNRS holds the data from the SHALIMAR survey carried out in the Lebanese waters in 2003 (depths of more than 200m). An official letter is requested for the provision of data in order to update the nautical charts.

A project for the installation of a Jason satellite monitoring station was to be submitted on 13 February 2009 in cooperation with France, Greece, Libya and Egypt. The magnetic observatory located in Lebanon is currently broken down.

The CNRS suggests that the Lebanese Development and Reconstruction Committee (CDR) run the National Hydrographic Committee.

The CNRS wishes to participate in the future National Hydrographic Committee (HC), the creation of which is recommended by the IHO.

5. Director / Harbour Master of Beirut Port

Mr.Joseph Fahrat, Deputy Director of Beirut Port and Maroun El-Khoury, Harbour Master of Beirut Port.

The Port Authority of Beirut handles 85% of Lebanon's commercial traffic. There is no consultation for the development of the ports between Beirut and Tripoli. Extensions are programmed in the next 5 years (lengthening of quay N°16, land reclaiming, dredging, and development of the container terminal by filling in basin n°4). The development of the port is limited due to its situation enclosed in the town of Beirut. An extension towards Jounié is planned in the longer term. These developments are facilitated by a very dynamic private set-up. The ports are particularly specialized in containers, livestock and grain (large silos).

The Harbour Master's office is well aware of the dissemination of nautical information. It has already communicated information to SHOM. The present Harbour Master has worked at the port of Marseilles and is very familiar with SHOM documents.

The VTS which was put into service in 2006 was destroyed during the war in July 2006. There only remain the monitoring screens in the surveillance tower. A European programme is in hand to equip the port with a new radar antenna. Until that is installed, the VHF is the only means that the port has to monitor ship movements.

6. Director / Harbour Master of the Port of Tripoli

Mr Atef Tabboush, Harbour Master, Tripoli

Mr George Fdalallah, President of the Port and Hamad Tamer, Director General

The Harbour Master is in contact with the Joint Chamber in Beirut for urgent maritime information. No grounding incidents have been recorded recently. Communications between the vessels rely on the use of VHF. Around 1500 fishing boats are based in the port of Tripoli. The latest work carried out was in part financed through European aid (2 big jetties).

The Port Directorate is quite aware of the importance of nautical information and has requested a hydrographic survey of the port's entrance following some dredging. The limits of the dredged zones indicated on the nautical chart, edited by SHOM, are correct.

7 Lebanese Shipowners' Association

Mr. Anwar Ghazzaoui, President of the Lebanese Shipowners' Association and Mr. Hassan Tawil, Secretary of the Association and former advisor to the Prime Minister.

They have a very good vision of the maritime situation and the needs of the country with regards to the marine environment. They wish to be involved in the work undertaken as part of the technical visit.

8 Ministry of Energy and Water

Alain Tabourian, Minister of Energy and Sarkis Hales, Director General of Petroleum

The meeting discussed the limits of the Lebanese EEZ, taking into consideration the discovery of gas reserves deep offshore in the Israeli EEZ.

The Lebanese would like to assert their rights with regard to the natural resources and would like to call upon France's expertise to help them accurately delimit their territorial waters and EEZ. The delegation invited the Lebanese to make an official application along those lines through diplomatic channels.

9 Prime Minister's Office

General Sais Eid, Secretary General of the High Defence Council

The General noted the 3 main recommendations made by the IHO delegation.

He nominated Mr. Wissam Zahabi (Head of Political Affairs of the Prime Minister's Office) to follow the dossier. (wzahabi@pcm.gov.lb / tel : 00961 3-231085)

10 Delegation of the European Commission to the Republic of Lebanon

Mr Jussi Närvi, Head of the Cooperation Section of the European Commission's delegation in Lebanon

The problem which Lebanon is facing concerning maritime safety and knowledge of the marine environment is very pertinent. This project could therefore be included in the "European Neighbourhood Policy". A request for support from the EU should be made as part of the preparation of the next EU programming cycle 2011-2013.

SHOM was requested to provide a first draft outline of the project. This project should then be endorsed by the Lebanese part in order to be validated by the European bodies.

Annexe 4

LA DIRECTION DES AFFAIRES GEOGRAPHIQUES

MISSIONS

Réalisation des cartes générales du Liban aux échelles 1/20 000 et 1/50 000, réalisation de cartes jusqu'aux échelles 1/5 000 000 ;
Entretien du cadastre au 1/500 et au 1/5 000 ;
Réalisation de travaux à la demande pour répondre à divers besoins (urbanisation, irrigation …) ;
Entretien d'une photothèque et d'une cartothèque ;
Assure des formations ;
Réalisation de travaux pour les municipalités (plans, cartes).

ORGANISATION

La DAG comprend :
- un service Géodésie (réalise les mesures et traite)
- un service Photogrammétrie
- un service Cartographie (échelle de base au 1/20 000 pour le Liban et 1/5 000 pour les villes et villages)
- une imprimerie
- un Centre National d'Information Géographique (CNIG) depuis 2005 pour l'entretien de bases de données topographiques (échelle 1/5 000, 1/20 000 et 1/2 000 000) et géodésique (nouveau réseau géodésique depuis 2002) mettant en œuvre des outils logiciels ARCGIS (ArcMap, ArcInfo et ArcGIS Server)

MOYENS

Récepteurs GPS
Restituteurs photogrammétriques
Stations de traitement avec suite ARCGIS
Imprimerie
8 officiers ingénieurs en cartographie

Annexe 5 bis

STATUS OF HYDROGRAPHY (féb 09)

Comment from SHOM :

Considering current status of hydrography and cartography and on going administrative arrangements in Lebanon, some information contained in this annex are ***provisional****, especially those related to future equipment and training needs.*
These infos have been estimated by the visiting team (SHOM). They are underlined in yellow in the text.
An updating is expected from Lebanon.

1. Collection and Promulgation of Nautical Information (Notices to Mariners – Maritime Safety Information):

Organization responsible: Ministry of Public Works and Transport, Directorate General of Land & Maritime Transport – Immeuble Starco BP 14/6461- Beyrouth

MSI organization and GMDSS implementation are summarized in the table below:

Local Warnings :			Nil		
Coastal Warnings :			Nil		
Navarea Warnings :			Nil		
Information on Ports and Harbours :			VHF		
GMDSS Implementation					
Master Plan	A1 Area [3]	A2 Area [4]	A3 Area [5]	NAVTEX	SafetyNET
Nil	100%*	Nil	Nil	Nil	Nil

Notes: .Spain, as Navarea III Coordinator,

2.Hydrographic Surveying

Organization responsible: None. It has to be determined by Lebanon.

2.1 status of Hydrographic Surveys (See also Annex 6)

Within the area of the EEZ (151.000 sq km, for a length of coastline of 245 km), status is as follows:

	% surveyed adequately for present requirements	% requiring re-survey at larger scale or to modern standards	% never systematically surveyed.
Ports and Port Approaches :	0%	10%	90%
Area with depths of less than 50 m :	0%	0%	100%
Adjacent area with depths of less than 200 m :	0%	0%	100%
Area with depths greater than 200 m:	80%	0%	20%

3 Sea Area A1 is within range of at least one VHF coast station (out to about 30 miles).

4 Sea Area A2 is within the coverage of MF/HF coast station (about 200 miles).

5 Sea Area A3 is within the coverage of an Inmarsat geostationary satellite.

Note: Considering current situation of hydro surveys, SHOM estimate is of a minimum of 90 days of surveys at sea (Hydrographic vessel or boat with multibeam echo sounder) for an appropriate updating of coastal, port approaches and ports.

2.2 Resources available

2.2.1 Staff

	Number	Training Needs (Number)	Comments
Hydrographic Surveying Specialists:	nil	1	
Technical Assistants to Specialists:	nil	5	
Other professional staff:	nil	/	
Computer specialists:	nil	to be determined	
Other specialised staff (Elec-tronics, communications, etc.):	unknown	/	Port staff (harbour masters and their staffs)

Note:
- A private hydrographic company, chaired by Patrick Slieman operates in lebanon coastal areas,.
- harbour masters'offices are under tutelage of Directorate General of Land & Maritime Transport

2.2.2 Platforms:

1 Hydrographic Survey Vessel Cana			
Length Displacement	Crew	Status O= operational R= repairing C= in construction	Organization (H.O., Navy, Port Authority, Coast Guard etc.)
28 m / 155 tonnes	4	R	CNRS

Note: This Vessel is not yet equipped for hydrography and should therefore be fitted with multibeam echo sounder.

2.2.3 Equipment / Software

NIL

Hydrographic Surveying		
Type	Equipment / Software	Needs
Single beam E.S.:	No	1 (on board Cana)
Multibeam E.S.:	No	1 (on board Cana)
Positioning		
Method	Equipment / Software	Needs
Long-range (more than 40 kms):		

Medium range (5-40 kms) (includes over the horizon systems):		
Short-range (inshore work):		
GPS / GLONASS or DGPS:		YES
Data Management		
	Equipment / Software	Needs
Data management, processing and analysis:		YES-
Topography / Photogrammetry [6]		
	Equipment / Software	Needs
Equipment:		YES-

3 Nautical Charting

Organization responsible: SHOM (France)

3.1 Status of Nautical Charting (See also Annexes 7 and 8)

Paper Charts			
	Schemed		Published
Smaller scale than 1:300,000:	0		0
1:101,000 - 1:300,000:	0		2
1:25,000 - 1:100,000:	0		4
Larger than 1:25,000:	0		3
Total :	0		9
Electronic Navigational Charts (ENCs)			
	Schemed	Completed	Published
Overview / General:			
Coastal:			2
Approaches:			1
Harbour / Berthing:	1		3
Total :	1		6
Comment: One Harbour cell is scheduled for the coverage of Tripoli in 2011.			

3.2 Resources available

3.2.1 Staff

	Number	Training Needs (Number)
Cartographers:	nil	1 officer + 5 technicians (Specific training for nautical charts production)
Computer specialists:	Nil	1

[6] Support provided to MHD by the Military Topographic Directorate of the Ministry of Defence

Other professional staff (land mapping) Cartography Photogrammetry Geodesy Computer	Engineers and technicians	Current DAG staffs are dedicated to land mapping

Note :
Current staff for nautical charting is embedded in SHOM (France)

3.2.2 Equipment / Software

Cartographic Facilities		
	Equipment / Software	Needs
Chart compilation equipment:	DAG has equipment and software used for land mapping	Specific software for nautical charting
Automation, hardware, software etc.:	DAG has some photogrammetry and teledetection capabilities	specific software for nautical chart production
ENC production capabilities:	Nil	YES
Printing		
	Equipment	Needs
Scribing, preparation of negatives, printing plates:	DAG has some printing equipment	To be determined
Offset equipment: Black and white press: Colour press:		To be determined

4 Miscellaneous

4.1 Tides / Oceanography

4.1.1 Tides / Water Level

Organization responsible: CNRS

	Yes / No	Equipment	Comments / Needs
Tides / water level measurements:	No	no permanent tide-gauges	YES
Tide tables :	No	No tide tables	YES

Note: , involvement of CNRS in the Tsunami prevention program

4.1.2 Oceanography

Organization responsible : CNRS

	Yes / No	Equipment	Comments / Needs
Oceanographic measurements:	No	Nil-	to be determined

4.2 Beacons and Lighthouses

Organization responsible : Ministry of Public Works and Transport, Directorate General of Land&Maritime Transport

Equipment	Automated Yes / No	Source energy	Comments / Needs
Fixed lights: Floating lights: Radionavigation facilities:	Yes Yes /		- - -

a. Geodesy

Organization responsible : Direction des Affaires Géographiques

National datum	Equipment	Documentation available	Comments / Needs
WGS - 84	To be determined	TBD-	-

2. Ships Reporting System

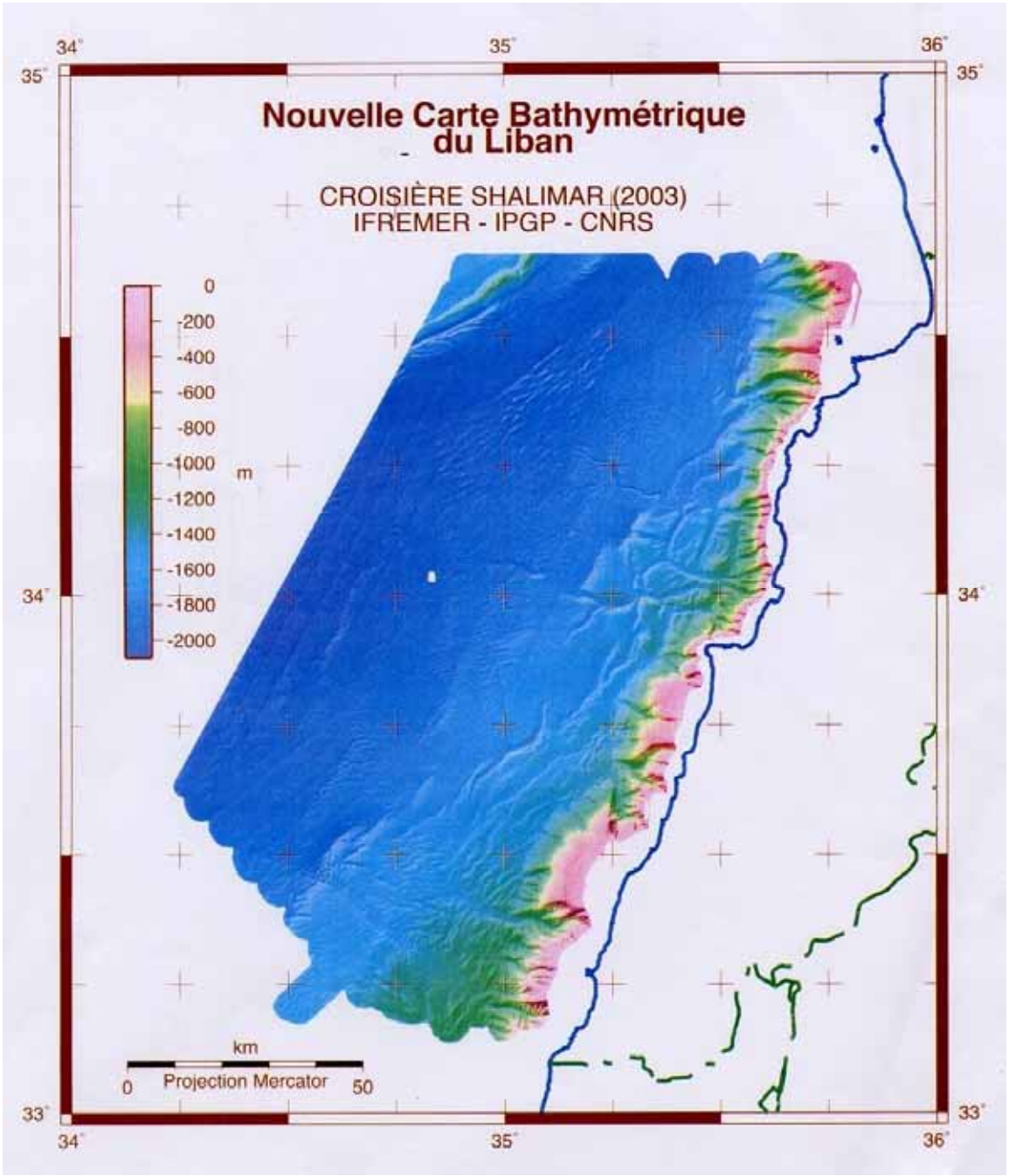
The status of ships reporting system has not been established during the visit

	Yes / No	Is there a mandatory reporting requirement ? Yes / No	Are statistics about vessel traffic kept ? Yes / No	Is there an annual report ? Yes / No
Has any of the country's ports land-based Radar + Communication with vessels entering or leaving ports ?				
Has your country a VTS ? Brief description including use or not of electronic charts.				
Has your country a communication (VHF) vessel traffic reporting system ?				
Does your country use Radar to monitoring vessel traffic ?				
Has your country a Pilotage System ?				
Is there any use of Automatic Identification Systems (AIS) in your country ?				
Are there any other Ship Reporting Systems ?				

Nota : Port of Beirut VTS is not available (radar out of order)

Annex 6

HYDROGRAPHIC SURVEYS CARRIED OUT IN RECENT YEARS
(SHALIMAR – SHOM)



Annex 7

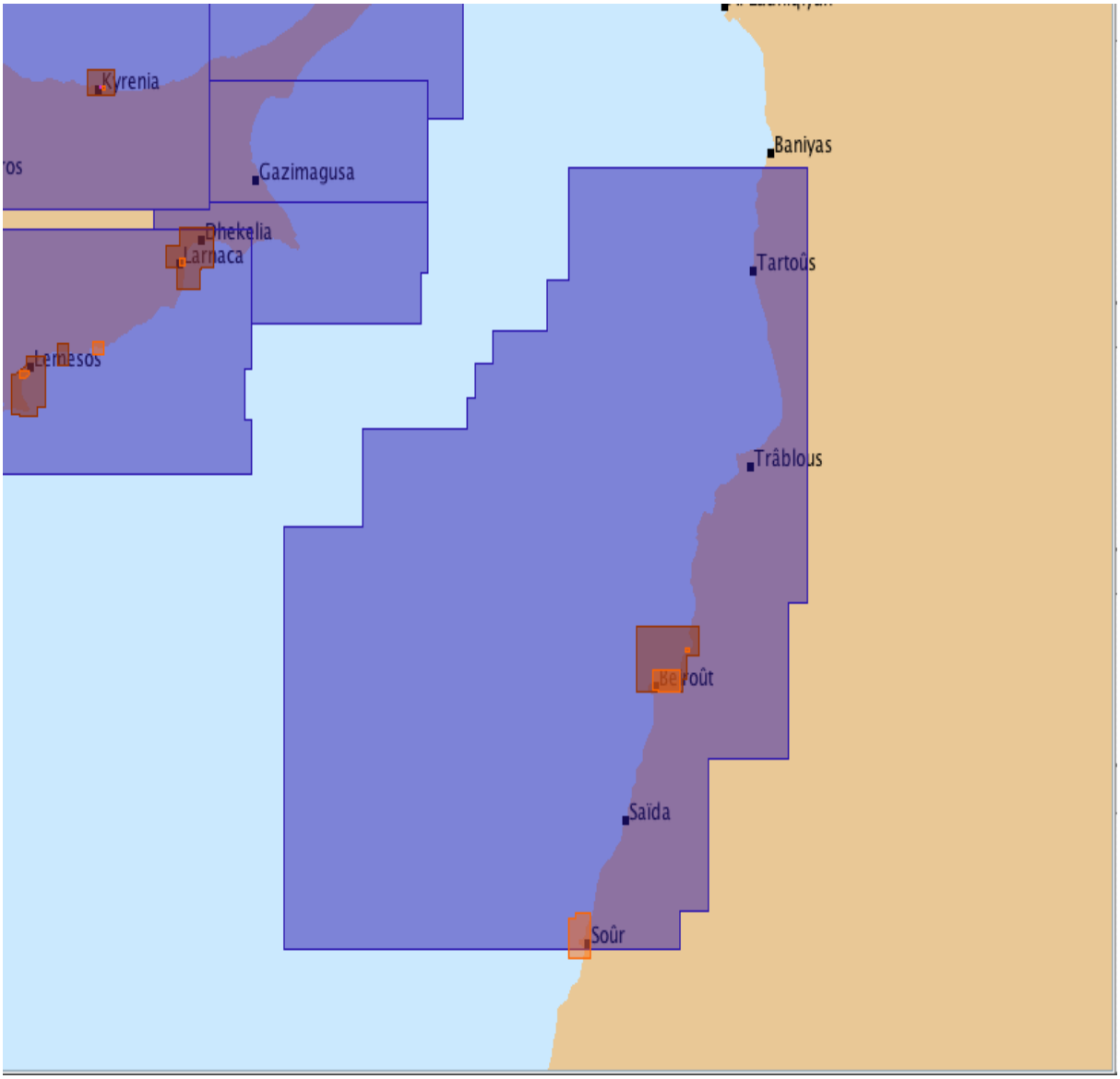
NAUTICAL CHART SCHEMING (PAPER)

- carte FR7255 – INT3606 au 1/250 000
- carte FR7256 – INT 3608 au 1/250 000
- carte FR7348 – INT 3670 : Approches de Beirut au 1/30 000 – Port de Beirut 1/12 500 et Port de Djounié au 1/10 000
- carte FR7514 – INT 3671 : Abords de Tripoli au 1/25 000 – Abords de Ra's Selaata au 1/20 000 – Abords de Tyr au 1/25 000 – Abords de Saïda au 1/25 000

Annex 8

ENC SCHEMING

Lebanon is covered by 6 ENCs
:
- FR311010 : small scale, from Sour to Baniyas
- GB302634 : South Liban – Israël (not reported on this scheme)
- FR 411010 : Beirut aproaches
- FR511010 : Port of Beirut
- FR57348B : Port of Jounié
- FR57514C : Port of Tyr



S-55 UPDATE

IHO S-55 Lebanon

Updated : feb 09 (by SHOM)° INT Region: F

Status of hydrographic survey

A1/A2=% which is adequately surveyed 0-200m/>200m
B1/B2=% requiring re-survey at larger scale or to modern standards 0-200/>200m
C1/C2=% which has never been systematically surveyed 0-200m/>200m

A1	A2	B1	B2	C1	C2
0	90	100	10	TBD	TBD

Status of Nautical Charting

A=% covered by INT Charts; **B**=% covered by Raster Navigational Charts (RNCs) ; **C**%= covered by ENCs

Purpose/Scale	A	B	C
Offshore passage/Small	100	0	80
Landfall and Coastal passage/Medium	100	0	0
Approaches and Ports/Large	50	0	50

Status of Maritime Safety Information

SERVICE	Status
LOCAL WARNINGS	Nil
COASTAL WARNINGS	Nil
NAVAREA WARNINGS	Nil
PORT INFORMATION	By port authorities

GMDSS IMPLEMENTATION

SERVICE	Status
Master Plan	Nil
A1 Area	Naval control by the Lebanese Navy
A2 Area	Nil
A3 Area	Nil
NAVTEX	Nil
SafetyNET	Nil