

HEALTH SERVICES SYSTEM FOR SEAFARERS AND FISHERMEN IN IRAN

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ABSTRACT

The maritime health services system is presented in this review article.

The national Iranian shipping line IRISL owns the largest commercial fleet in the Middle East and it operates 137 ships. This company and several other national shipping companies employ over 5 900 seafarers. There are 11 000 fishing ships and boats and the number of Iranian fishermen reaches 124 000. Seafarers and fishermen are regularly medically examined and issued health certificates, according to the national regulations. The health services system for them is linked to the port authorities throughout the country. Observations, data and relevant statistics on the health problems of the national maritime workers have been regularly collected.

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INTRODUCTION

Transportation of goods by sea and fishing are activities which provide employment for millions of people all over the world. Iranians have enjoyed this advantage as their country has a long coastline in the north and south of the territory of the country. Iran has the largest commercial fleet in the Middle East. Fishery plays a vital role in the national economy by providing massive employment in Small and Medium-scale Enterprises (SMEs).

Addressing health issues of seafarers and fishermen is considered as a government responsibility, therefore Iranian Ports and Shipping Organization (PSO) is authorized to provide regulatory requirements, facilities and expertise to shipping companies and other entities organizing health services for seafarers and fishermen.

According to the available information, the number of people engaged in sea-related occupations is increasing steadily, especially in the fishing industry, which is more labor intensive than the merchant fleet, as in 2004 about 54.4% of ships registered in the country were fishing boats.

Such information confirms the necessity of maintaining efficient health services system, with the active participation of ship owners all over the country.

The sea has always played a crucial role in the life of Iranians. For centuries, knowing the sea routes and having experience in seafaring, they sailed to other continents mainly for commercial purposes. During the Achaemenian dynasty rule, the world's largest naval fleet belonged to the Persian Empire. In the ancient Persian calendar, 1st August was dedicated to celebrate "Maritime Day", which marked the beginning of the new year of the sea (1).

The Iran's coastlines are very long, 2 440 kilometers on the Persian Gulf and Gulf of Oman and 740 kilometers on the Caspian Sea, and they link the national economy to the sea. The national economy to a great extent depends on the sea and this dependency has always been increasing from past to the present. The transportation of commodities in the national and international trade, and the employment of fishermen and the fish processing workers in the Small and Medium Scale Enterprises (SMEs), are just two examples.

Long shorelines of Iran make the maritime transportation dominant in the national overseas trade. Statistics indicated that in 2004, about 95.5% of the imported and 84% of the exported goods were transported by sea, and carried by ships of either national or foreign shipping companies. The share of State-owned and private Iranian companies in this business has been higher than the foreign ship owners (2).

IRANIAN SHIPPING COMPANIES AND THE CREWS OF SHIPS

As it was mentioned above, several shipping companies are engaged in carrying passengers, raw materials and manufactured products to and from the country. The Islamic Republic of Iran Shipping Lines (IRISL) and its four affiliated Shipping Companies: the National Iranian Tanker Company (NITC), IranoHind Shipping Company (IHSC), Khazar Shipping Company (KSC), and Valfajre-8 Shipping Co. (VSC) along with Bonyad Shipping Company (BOSCO) play a major role in maritime transportation. IRISL owns the largest commercial fleet in the Middle East.

In Table 1, the information about the Iranian shipping companies, and the number, class, type and flag of their ships is indicated.

Table 1 – Major Iranian Shipping Lines and their vessels. Data in 2005

Shipping company	Number of vessels	Classification society	Type of vessels	Register country / countries
IRISL	137	LRS, GL, DNV	bulk carrier, container, general cargo, multi purpose	Unknown
VSC	17	I.B.S, Lloyds, DNV, B.V.	Crew boat, RoRo Pax, Catamaran Pax, general cargo, container	Iran
IHSC	6	DNV	Oil tanker, barge carrier, general cargo, container	Iran, Malta
NITC	58	DNV	Oil tanker	Unknown
KSC	6	DNV	general cargo, bulk carrier,	Unknown
BOSCO	9	Rina, DNV, Lloyd's	General cargo, bulk carrier	Malta, Belize

Source: Data compiled from companies' official websites and information provided by the Seafarers' Standards, Training & Certification General Directorate (SSTCGD) of the Port and Shipping Organization (PSO).

In Iran, like in many other countries, registration of ships under flags of convenience (FOC) is a common practice, usually for the purposes of cost reduction or avoiding the national government regulations. This is the usual practice in case when the shipping line is not State-owned such as BOSCO or it is a Joint Venture Company like IHSC. It is estimated that less than 10 percent of Iranian merchant ships are registered under flags of convenience.

In Table 2, data are presented on the number of crews employed on Iranian ships.

Table 2. – The number of seafarers working in Iranian Shipping Companies and their nationalities in October 2005

Shipping company	Number of seafarers	
	Iranian	Foreign
IRISL	2970	Not available
VSC	240	0
IHSC	247	65
NITC	2314	0
KSC	175	0
BOSCO	50	200
Total	5996	Unknown

Source: Data compiled from companies' official websites and information provided by the Seafarers' Standards, Training & Certification General Directorate (SSTCGD) of the PSO.

Shipping companies have different employment pattern based on their size, type, or area of activity. In respect to size, in a small company work the national seafarers. This is for instance the case in Valfajr Shipping Company (VSH) and Khazar Shipping Company (KSC) that employed only Iranian seafarers.

The large National Iranian Tanker Company (NITC) participates in crude oil and petrochemical products transportation, and it has recruited Iranian seafarers. Other shipping lines, which take part in international trade, for instance IRISL or those that are not state-owned like BOSCO and IHSC, employ seafarers of other nationalities as well. These foreign seafarers mainly come from Pakistan, India, Ghana, Ukraine, Nigeria, Bulgaria, and Poland.

IRANIAN FISHING COMPANY (SHILAT)

Iran has a long tradition of fishing in the Caspian Sea, Persian Gulf, and in inland rivers. Self employed fishermen registered as small enterprises (SMEs) undertake most of the actual fishing. With more than 3100 km long coastline and with excellent

reserves of fish, there is the opportunity to increase employment of the national workforce in a variety of jobs related to fishery, and consequently to help developing the local and national economy.

According to a report prepared by the Iranian Fisheries Company (Shilat), vessels ranging from small boats with outboard engines to large traditionally built wooden dhows dominate the fisheries in terms of catches. Fishing operations take place both in the Iranian economic zone as well as in distant waters of the Indian Ocean (3).

In October 2004, the total number of Iranian fishery vessels including small boats was 11 000, and fishermen was 124 000. This information is based on statistics prepared by the Seafarers' Standards, Training & Certification General Directorate of PSO.

Due to some development programmes, the numbers of vessels and subsequently fishermen are rising gradually.

THE NUMBER OF VESSELS IN IRAN

For the sake of easy understanding, data has been categorized from 16 different vessel types into their three main categories: cargo, passenger and fishing ships. The first category includes tanker ships, container vessels, motorized cargo dhows, supply vessels, etc. The second category relates to passenger vessels, including ferry boats, cruise ships, motorized dhow passenger vessels all together. The last category comprise large fishing vessels including motor dhow vessels. There are more those large fishing vessels registered than ships in the two other categories (4).

Table 3. The number of ships registered in Iran by their type, in 2004

Vessel category	Total number of ships	Percentage (%)
Cargo	98	20.2
Fishing ships	264	54,4
Passenger	123	25.4
Total	485	100

Source: Annual report of the Iranian Ports and Shipping Organization (PSO), 2004

THE PORTS AND SHIPPING ORGANIZATION IN IRAN

The Iranian Ports and Shipping Organization (PSO) has a leading role in protecting and promoting the health of seafarers and fishermen, and care for their well-being, in collaboration with shipping companies and other related organizations. PSO is the national port authority responsible for a series of activities, which are mainly aimed at the reduction of the total cost of operating ships and turnaround time of ship and cargo in ports, in the Free Trade Zones, and also attraction of investment. It plays an important role in the Supply Chain Management (SCM) and the organization of logistics in the maritime industry at the national and international level.

The maritime transport and shipping is an international activity and operations are conducted in accordance with international conventions and regulations. So far, the Iranian parliament has approved several International Maritime Organization (IMO) maritime conventions.

Taking into account the importance of the maritime workforce among other production factors, PSO has stated that one of its main functions is “Granting technical certificates of competency to seamen and vessels according to related regulations” (5).

On behalf of the government, PSO is implementing the STCW95 Convention.

MEDICAL EXAMINATIONS OF SEAFARERS AND THEIR MEDICAL FITNESS CERTIFICATES

Once someone decided to work at sea, either on a large commercial ship or a small fishing boat, regardless of any criteria such as rank or ship type, obtaining the Medical Certificate for Service at Sea is the first thing to do.

It is an essential document for issuance of any type of certificate of competency, which is required as a permission to work on board a ship. At the moment, there are about 19 different certificates of competency for seafarers, listed in Table 6. The Medical Certificate for Service at Sea is issued principally according to procedures described in the STCW95 Convention and other related regulations and recommendations. However, there are no restrictions if any change is needed to improve the effectiveness, efficiency and quality of services.

There are seven stages for obtaining a Medical Certificate for Service at Sea for an applicant. The system of issuing certificates involves the port authority, a supervisor medical doctor and selected medical doctors (designated doctors) in Tehran and in ports throughout the country. The port authority has the role of the organizer and administrator, it selects supervisors and designated doctors, defines examination criteria, monitors doctors' performance, analyses applicants' medical files. The supervisor doctor

regularly controls medical documents of designated doctors to evaluate their compliance with the examination criteria approved by PSO.

First, an applicant is directed to the Port Authority for primary evaluation, and then he/she visits one of the designated medical doctors (DMD) and shows a valid identification document, for instance a passport or a national identification card. Later, the “Seafarers’ Medical Examination Form” is filled and given to the DMD. The doctor's aim and responsibility is to find out any physical or mental problems, which may indicate that the applicant is either unfit for service at sea or fit with some condition for a particular job. This is decided by the DMD after completing the medical examination: evaluation of general condition, vision, hearing, laboratory examinations, and additional tests if necessary.

In Table 4, all the tests are listed of the medical examination for a seafarer (3rd stage of the application).

Table 4. Tests made in the course of the medical examination of a seafarer before the Health Certificate is issued by the designated medical doctor (DMD)

Subject	Items to check
General condition	Height, weight, BP(mm.Hg), PR(P/min), Temp (C), BMI (kg/m2)
Vision	Visual Acuity, Colour vision, Night vision, Close vision, Diplopia
Hearing	Speech, Whisper, Fork, PTA
Medical examination	General, Skin, Head, Eye, ENT, Lungs and Chest, Cardiovascular, Gastro-Intestinal, Genitourinary, Musculoskeletal, Neurologic, Psychiatric

In the 4th stage, the medical doctor considers the necessity of further test or examination as audiometry, spirometry, vaccination, referral to specialist, etc. Later, the DMD may recommend activities to promote applicant’s health, or he defines any condition which the applicant needs to be aware.

The next stage is aimed at defining the applicant's medical status into one of four different categories shown at Table 5.

The instruction about minimum medical requirements for seafarers is comprehensive and conditions are well defined. Nevertheless, the designated doctor compares applicant’s test result with the standard level, and then will decide on his/her fitness for work at sea.

Table 5. Four levels of medical status of an applicant for a job at sea, and related conditions

Group	Medical status	Condition / Restriction
1	Fit for voyage	No condition
2	Conditionally Fit for voyage	With condition (should be mentioned)
3	Temporarily Unfit for voyage	Re-examination in needed at a time in future
4	Permanently Unfit for voyage	Clear Condition

Conditions may vary based on job responsibilities, longevity of ship's voyage, and other factors. For instance, conditions related to a job could be as such; "Alone watch keeping not allowed" or "Only fit for watch keeping during daylight hours", etc. "Near the coast only", "Non-tropical waters only" are examples of such conditions.

Other conditions could be: "Unfit if weight exceeds X kg", "Special needs in emergencies" or "Monthly surveillance is required".

Finally, according to findings from previous stages, Medical Certificate for Service at Sea will be issued by designated doctor and subsequently delivered to applicant.

COMPETENCE AND MEDICAL CERTIFICATES ISSUED TO IRANIAN SEAFARERS

Regardless of job and type of vessel, applicants who are willing to work at sea should have a valid medical certificate. This is true for fishermen also. The fundamental effects of the shipping industry and fishery on the national economy are important. Providing jobs, earning foreign currency, promoting economy at local and national level and helping international trade are some of these effects. Such goals cannot be achieved without proper planning, supervision and implementing appropriate guidelines and recommendations for workforce.

Companies, which employ healthy seafarers have competitive advantages over the others. In order to gain such advantage, the Iranian Ports and Shipping Organization helps national shipping companies to employ healthy and fit seafarers.

The Directorate General of Standards, Training & Maritime Certificates (DGSTMC) is in charge of monitoring proper implementation of STCW95 by port authorities, organise and monitor their medical examinations.

In Table 6, various types and numbers of Certificates of competence are listed which were issued in 2004 (4).

Table 6. Number of Near the coast navigation Vessel (NCV) Certificates of Competence issued in 2004

Type of certificate	Number of issued certificates
Second officer NCV, GT<500	92
Commander NCV, GT<500	85
Second officer dhow NCV, GT<500	278
Commander dhow NCV, GT<500	248
Third engineer NCV, KW<750	39
Second officer NCV, KW<3000	27
Chief engineer NCV, KW<3000	44
Maritime engine operator KW<750	261
Ordinary sailor	7325
Ship master (less than 23m- limited water)	351
Ship master (less than 12m- limited water)	10
Ship master (less than 12m- coastal water)	939
Master assistant (less than 23m- limited water)	181
Fishing vessel first sailor	919
Fishing vessel second sailor	3193
Marine engine operator first grade	21
Marine engine operator second grade	58
V.H.F. operator	13
Fishing vessel second sailor	527
Total	13850

Source: Annual report of the Iranian Ports and Shipping Organization (PSO), 2004,

Other type of certificates issued in 2004 are mainly related to the ocean going vessels i.e. officers and ratings that account for 3770, approximately one fourth of issued NCV certificates.

All these seafarers previously obtained their Health Certificates.

HEALTH PROBLEMS OF SEAFARERS

To assess seafarers' health status, the PSO headquarter in Tehran and offices in ports across the country, on a regular basis conduct medical examinations and issue health certificates to the applicants.

In Table 7, diseases and other health problems of the examined seafarers are listed in their groups defined as “fit” or “not fit for service at sea”.

Table 7. Different levels of medical status and related reasons for applicants from March 2004 to September 2005

Identified health problems	Medical Status Group			
	Group 1	Group 2	Group 3	Group 4
Infections	0	47	0	0
Cancers	0	3	1	1
Metabolism disorders	0	305	21	1
Blood disorders	0	114	4	1
Psychiatric	0	16	0	0
Neurologic	0	25	1	5
Cardiovascular	0	219	4	7
Lung & chest	0	15	0	0
Gastrointestinal	0	23	0	0
Genitourinary	0	153	25	1
Pregnancy	0	0	0	0
Skin	0	16	0	0
Musculoskeletal	0	121	2	5
Vision	0	1711	23	2
Hearing	0	103	1	1
Speech	0	29	0	0
Others	0	204	10	0
Total	21,752	3432	93	24

Source: Data provided on by the Seafarers' Standards, Training & Certification General Directorate (SSTCGD) of PSO.

Table 7 clearly shows that about 86 % of applicants were fit for sea voyage without any condition, whereas in 13.5 % of examined subjects some diseases were diagnosed which restricted their ability to work on ships. Applicants who due to their medical problems were temporarily unfit and needed re-examination later on, accounted for 0.4% of seafarers. There were also 0.1% unfit applicants. Among identified reasons for unfitness, common problem was poor vision, 1736 cases, followed by metabolism disorders and cardiovascular diseases, 327 and 230 cases respectively. There were also 5 cases of cancer diagnosed, among 25 308 examined subjects.

CONCLUSIONS

Marine related activities with a long practice in Iran play an important role in several aspects of the national economy. Range of such activities varies from international trade and supply chain (SCM) in one side and small enterprises (SMEs) on the other side.

The Iranian Ports and Shipping Organization (PSO) have a leadership role in the organization and administration of medical and health services for the national seafarers and fishermen. It is responsible for their education in health matters and for the transfer of the latest national or international recommendations, conventions, and guidelines by any means, such as workshops, seminars, or preparation and distribution of printed documents.

It cooperates with the international organizations and non-government agencies. As an example, the first meeting on maritime health issues was held in Teheran in June 2005, with the participation of the International Maritime Health Association (IMHA). The general managers of seafarers' affairs of the national shipping lines joined it, and they were briefed on the subject. The PSO mainly arranges pre-employment examinations of seafarers, and the shipping lines have their own system of health services for their employees. Periodical check up is done frequently either by related department in the shipping companies or by other centres. Complementary actions to improve health and well being of seafarers are taken by shipping lines, or other related companies: examples are vaccinations of seafarers (6600 person were vaccinated against yellow fever and 3300 against hepatitis type B), distribution of anti-malaria drugs, routine surveillance of health situation on board ships and so on.

To conclude, the work at sea expose seafarers and fishermen to many health risks, and preventive interventions are essential, and they are arranged in Iran for the population of the national maritime workers.

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