Sea cucumber fisheries of Qeshm Island, Persian Gulf

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Qeshm Island (Fig. 1) is the largest Island in the Persian Gulf's Strait of Hormuz. It has an area of 149 km^2 and is three times the size of Singapore. Fishing is a major occupation that is practiced by many of the island's inhabitants.

Information on the exploitation, fishing techniques, and processing and trading of sea cucumbers at Qeshm Island was obtained through direct field observations[5] and through a questionnaire that was given during interviews with fishermen and local authorities. More than 15 people answered the questionnaire. Data were collected from local fishermen who actively fished for sea cucumbers from 2004 to 2006.

The most harvested sea cucumber species in Iran is the sandfish, *Holothuria scabra* (*khiar daryaei* in the local language, meaning "sea cucumber"). Sandfish fishing at Qeshm Island began in 2004 — in response to offers made by Indian and Bangladeshi traders — and lasted until 2006. It involved five to six diving groups (with at least four to five experienced skin-divers in each group), and was composed exclusively of men (Table 1). Fresh sea cucumbers were sold to foreign buyers at USD 0.3–0.4 per specimen in 2004 and for USD 0.9–1.0 in 2006. Foreigners processed sea cucumbers into beche-de-mer and sent the product by air to the United Arab Emirates from where they were transferred to international markets. There were seven main *H. scabra* fishing grounds at Qeshm Island: Hamoon, Kovei, Hormoz, Tolla, Ramchah, Massen and Hengam (Fig. 1).

The estimated number of fishers increased from 150 in 2004 to 200 in 2006. The average number of fishing hours per fisher per working day was five to six, with an average collection of 150 to 200 live sandfish per fishing trip. Men involved in this fishery had no other income-generating activities. All of the processing steps were carried out by the traders. Customs inspectors at the border checkpoint (airport) were not familiar with sea cucumbers, especially dried ones, and so the product was exported without proper identification. Fortunately, local fishing operations were stopped by authorities in 2006. The sea cucumbers sampled in 2010 were over 20 cm long and the estimated abundance was more than 30 ind. ha^{-1}.

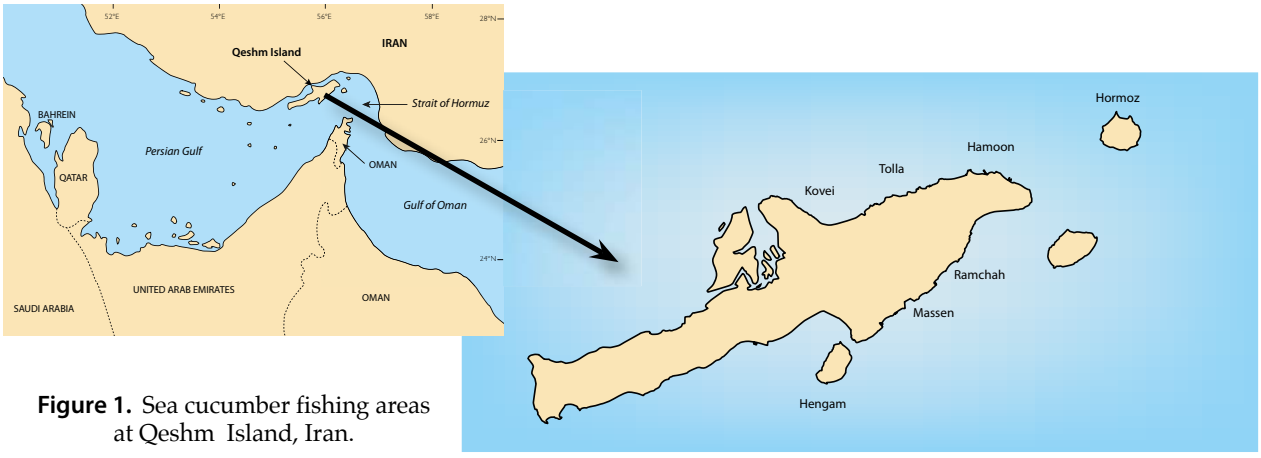

Figure 1. Sea cucumber fishing areas at Qeshm Island, Iran.

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[5] Samplings were carried out in the summer and autumn of 2011 on the north coast of Qeshm Island between Hamoon jetty and Laft Port in depths of 5–12 m.

Table1. Comparison of sea cucumber fishery indicators between Oman and Iran (2004–2008).

Indicators*	2004–2005 (Iran)	2004–2005 (Oman)	2007–2008 (Oman)
Targeted size (cm)	>20	>25	All sizes (including <15cm)
Abundance in 2010 (ind. ha^{-1})	>30	25	<
Price to fisher (USD)	0.4–0.9	0.3–0.7	3.5–5
Targeted species	*H. scabra*	*H. scabra*	*H. scabra, H. atra* and *H. leucospilata*
Number of fishing areas	7 recorded in Qeshm Island	6 recorded in Mahut Bay	7 recorded grounds in Mahout Bay + 2recorded in Marish strait
% of women and children among fishers	0%	50%	15%
Fishing methods	Skin diving (100%)	Low tide collection by hand	Low tide collection by hand (70%) and skin diving (30%)

Information comes for Oman comes from Al-Rashdi et al. 2007a, b., and Iranian indicators come from information given by fishermen who collected sea cucumbers during the years 2004–2005 (except for data collected in 2010).

The abundance of *H. scabra* reported from Qeshm Island in 2010 is similar to that observed in Oman in 2005 (Al-Rashdi et al. 2007b) (see Table 1). It seems that the area of Qeshm Island still has adequate reserves. From the above observations, several suggestions concerning management could be proposed.

- Plan research projects so that they identify species, and describe the density and distribution of sea cucumber species, especially those at Qeshm Island.
- Ban sea cucumber fishing until a stock assessment has been conducted.
- Only allow harvesting to provide broodstock for hatchery centers.
- Establish programmes (e.g. trainings, study tours, participation in national and international meetings and workshops) on sea cucumbers. These should be conducted and supported by government organisations.
- Protect natural habitats of *H. scabra* — such as Qeshm Island — in order to supply broodstock to other parts of the country.

References

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