

Rock lobsters have been known to exist in the Aden Gulf since 1962, but the commercial catches of this valuable resource began in 1975. Rock lobsters known locally as 'shrook' (*Panulirus homarus*), are being harvested by the co-operatives as well as coastal Yemen Fishing Corporation, both of which use small boats locally called *smbuks* or *huri*. The coastal waters of the People's Democratic Republic of Yemen (PDYR) contain a total stock size of about 2,000 tonnes of rock lobsters, yielding an annual supply of about 200-250 t. If we compare the annual catch of the PDYR (see table) with that figure, it will be seen that rock lobsters are almost fully exploited.

Rock lobsters are generally found in shallow waters of 2 to 90 m depth; they are exploited with bottom nets and traps. High catches per unit effort have been realized from November to April.

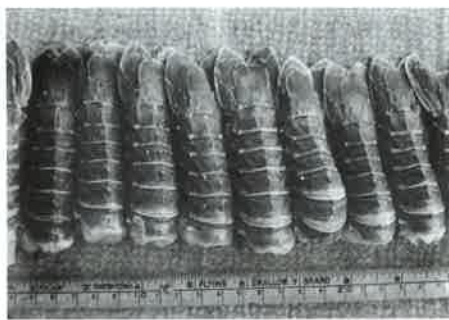
Rock Lobster in Democratic Yemen

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Ministry of Fish Wealth

Aden

People's Democratic Republic of Yemen



Tails of Yemen rock lobsters ready for packing.

The average length and weight of rock lobsters landed from PDYR waters are 24 cm and 900 g. The total export of rock lobsters (tails) in the past eight years (1975-1982) was 450 t totalling US\$5 million. There is an ever-increasing demand from foreign markets for Democratic Yemen rock lobster.

Total catch of rock lobsters in Democratic Yemen during 1975-1982.

Year	Total catch (t)
1975	240
1976	282
1977	161
1978	205
1979	102
1980	231
1981	109
1982	200

Aquatic Weeds: Both Harmful and Beneficial

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Aquatic weeds pose a world problem according to the Report of a Panel of the Advisory Committee on Technology Innovation, Board of Science and Technology for International Development, US National Academy of Sciences.

These plants block irrigation and drainage canals, interfere with fishing and hydroelectricity production, hinder boat traffic, waste water during the evapotranspiration process of the weeds, increase waterborne pests and diseases, clog rivers, brooks, creeks and other canals so that flooding results, and also compete with the light requirements of some crops.

In India, large irrigation projects have been rendered useless by plants that block canals, reducing water flow by as much as four-fifths. Subsistence farmers in the wet lowlands of Bangladesh annually face disaster when rafts of water hyacinth

of up to 300 t/ha float over rice paddies during floods; as the floods recede, the weeds remain and kill the germinating rice. The Panama Canal would be impassable within three years without continuous control of the aquatic weeds. As aquatic weeds spread, they disperse the snails that cause schistosomiasis. In addition, aquatic plants foster malaria, encephalitis, and other mosquito-borne diseases.

Scientists are beginning to look into the economic values of these plants which require no tillage, fertilizer, seeds, cultivation, maintenance or pest control measures. Some can be used for animal feeds, soil additives, fuel production, or even human food. The common reeds, cattails and papyrus are good raw materials for pulp, paper and fiber.

Species like duckweed and water hyacinth contain 25-35% protein (dry weight) while others are rich in carotenes and xanthophylls which are important ingredients in poultry rations. Aquatic weeds can also be converted into fertilizers either by composting or using as green manures. Aquatic weeds' ability to scavenge inorganic and some organic compounds from the water suggest uses in wastewater treatment, an approach being tested today.

The modern culture of aquatic weeds for food is "a grossly neglected area of aquaculture." Aquatic plants such as the

watercress, lotus, taro and water chestnut are good traditional food sources rich in protein, starch, or oil. Increased use of these and other potentially useful aquatic weeds should be explored more thoroughly.

Food potential of aquatic macrophytes.

P. Edwards. 1980. ICLARM Studies and Reviews 5, 51 p. \$3.00 surface; \$7.00 airmail.

A review is presented of the pathways in which aquatic macrophytes may be involved in the food production process, directly as human food, as livestock fodder, as fertilizer (mulch and manure, ash, green manure, compost, biogas slurry), and as food for aquatic herbivores, such as fish, turtles, rodents and manatees. A number of research areas are suggested as worthy of attention.

