水产英语

Fishery English

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大连水产学院资助教材

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前　言

水产业（fisheries, 即渔业）是国民经济的重要产业，是淀粉食物时代向营养平衡食物时代转变过程中人类优质蛋白质和必需营养物的重要来源之一。我国的水产业历史悠久，分布广泛，特色鲜明，技术先进，改革开放以来一直保持着强劲的发展势头，水产品年均增长超过 10%，远高于同期世界渔业约 3%的增长率。从 1990 年以来，我国水产品总产量连续 16 年居世界之首。2005 年全国水产品总量达 5101.65 万吨，比 1985 年 705 万吨增加了 6.2 倍，约占世界水产品总量的 40%。

水产业的高速发展极大地改善了我国城乡居民的食物结构，为保障我国的食品安全，改善人们的食物结构做出了重要贡献。据联合国粮食与农业组织统计，我国水产品人均占有量达 39.02 公斤，比世界水产品人均占有量 23 公斤高出 70%，而水产蛋白消费已占我国动物蛋白消费的 1/3。

目前，水产业已经成为促进我国农村经济繁荣的重要产业。据统计，2005 年全国水产经济总产值达 7619.07 亿元，水产业产值 4180.48 亿元，水产业总产值占大农业的份额已从 1985 年的 3.5%提高到 2004 年的 10%。

我国水产业的优势和高速发展极大地吸引了世界资本和广泛关注，急需大批懂专业、又有扎实英语知识和技能的复合型人才。为适应这一需求，大连水产学院开设了水产经济贸易英语专业，组织教学和科研经验丰富的水产专业和英语专业教师编写了《水产英语》教材。经多年使用后，反复修改，现拟正式出版。

本书以水产业所需要的最新理论、知识和技术为框架，以英语词汇学和语法学为重点，系统介绍了水产英语常用的词汇、语法特点和翻译技巧。全书共 6 章，34 个单元。第 1 章共 3 个单元，简单介绍了世界水产业的现状、地位、特色和发展趋势，给学生们一个水产业的总体概念。第 2 章包括 6 个单元，系统阐述了海洋学和湖沼学的基础知识。水产业是在水中进行的产业，要搞好这个产业必须了解水和各种水体的性质、生产力和循环。第 3 章有 8 个单元，按照生物的分类系统，阐述了水中各种生物的形态生物学，让外语类的文科学生们认识水产业的生产对象。第 4 章由 9 个单元组成，介绍了水生生物的感觉、呼吸、渗透调节、生长、繁殖等生命活动的特点、规律等，为了解水产养殖、捕捞和加工等水产业生产奠定理论基础。第 5 章包括 3 个单元，分别介绍了渔具、渔法和渔业资源管理的理论与知识。第 6 章有 5 个单元，系统阐述了鱼肉质的特点、水产品的加工与保存、水产品质量监控与毒素检测等最新理论和知识。本书涵盖了水产业的主要生产内容和学科，既是一本水产英语教材，又是一本水产概论的专业入门读物。

限于篇幅，与水产业相关的水产动植物病害、营养与饲料、遗传与育种、生物技术等最新理论，不能一一单独设课介绍，而以扩充词汇和翻译练习等形式加以补充，供学生们自学。在这些练习中，着重培养学生们用归类、联想、扩充等方法记忆词汇的能力，培养学生们的自学能力，使本书成为既是英语水产理论和知识的载体，又是培养学生们运用所具有的英语知识学习、研究和传播水产英语的媒介。

本书涵盖面广，涉及了水产专业词汇万余条，附图较多，力争图文并茂。水产学作为一级学科，涉及的面很广，许多英语专业词汇可在英汉生物学词典中查找，但众多水产生物名称，从低等的细菌、藻类，到大量的鱼类、贝类，直至高等的鲸类，有数万种，

很难在一本书中找到；一般英语系学生们又不具备这些工具书，查起来也很不方便。为了便于英汉互译，满足人们查找水生动植物名称的需要，本书后附有英汉和汉英对查词汇表，便于查询，使本书既是教材，又是具有保存价值的水产动植物名称的字典。英汉词汇按英文字母顺序排列；汉英词汇按汉语拼音顺序排列。

改革开放以来的教育与教学改革，使我国的英语教学水平有了很大提高，英语与专业结合的趋势日益显现。但目前全国尚没有适用于水产经济贸易英语专业的特色教材，本书则填补了这方面的空白。

本教材的编者们曾在英美进修和工作多年，一直从事专业英语教学和改革工作，具有坚实的英语语言学基础理论和应用英语进行交流的实践经验；他们一直活跃在教学和改革实践的第一线，熟悉研究生和本科生的英语水平，具有编写出适用性和针对性强教材的实践经验；他们均为重点学科的学术带头人和教学骨干，主持和参加了多项国家和省、部级科学研究，在国内外公开发表了多篇学术论文，有些为 SCI 引用，具有用英语写作科技论文和进行国际交流的实践经验。自 1992 年以来，王吉桥一直任《大连水产学院学报》和《水产科学》杂志的英文编辑，积累了大量我国科技人员和研究生英语科技论文写作和专业阅读中的常见错误的资料。本教材就是根据这些经验和资料编写而成，因此，它的理论性较强，学生可以“举一反三”；资料性较强，便于学生自学和查考；应用性较强，其常用句型，学生可以直接引用；它是水产专业教师与英语专业教师合作，力争专业新、语言精而共同劳动的结晶。

本书为我国首部水产英语教材，虽经多年使用，听取了多方意见，但由于作者知识水平所限，可能存在一些缺点、错误和疏漏之处，诚望读者和专家指正。

编者

2007-3-24 于大连水产学院

Fishery English

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Chapter 1 The State of World Fisheries and Aquaculture

Unit 1 Fisheries Resources: Trends in Production, Utilization and Trade（1）

1.1 OVERVIEW

In 1995 and 1996 total world fish production expanded rapidly, reaching 121 million tons in the second year. Aquaculture output grew dramatically during the biennium while capture fisheries production registered a slight increase. Supplies for human consumption increased considerably, rising from 14.3 kg per caput (live weight equivalent) in 1994 to 15.7kg in 1996. However, this increase was almost entirely due to raised production reported for mainland China. Excluding mainland China, at 13.3 kg, the average food fish supply for the world in 1996 remained close to the level recorded during the first half of the 1990s, but was somewhat lower than that of the 1980s. Catches destined for the production of fishmeal and fish oil (reduction) contracted somewhat（Table 1-1).

Trade increased during the 1996-1997 biennium, although at a slower pace than in the previous two years, and the value of world exports of fish and fishery products reached US $ 52.5 billion in 1996, with developing countries achieving a net trade surplus of US $ 16.6 billion.

1.2 PRODUCTION AND THE STATE OF FISHERIES RESOURCES

1.2.1 Capture fisheries

Total capture fisheries production in 1996 amounted to 94.6 million tons. China, Peru, Chile, Japan, the United States, the Russian Federation and Indonesia (in that order) were the top producer countries in 1996, together accounting for more than half of world capture fisheries production in terms of tonnage. Marine capture fisheries continued to account for more than 90 percent of world capture fisheries production, with the remainder, coming from inland waters.

World marine capture fisheries production reached a new record of 87.1 million tons in 1996 (Table 1-1). However, as in previous years, the rate of increase continued to slow down during the biennium. In the 1950s and 1960s, total world marine fisheries production increased on average by as much as 6 percent per year, doubling from 17 million tons in 1950 to 34.9 million tons in 1961, and doubling again in the following two decades to reach 68.3 million tons by 1983. In the following decade, the average annual rate of increase dropped to 1.5 percent and to a mere 0.6 percent during the 1995/96 biennium. The Northwest Pacific remains by far the most important fishing area in terms of both volume and value of landings.

For the world as a whole, therefore, landings of marine fish are continuing to level off. This is also the general trend for most major fishing areas of the world, where fisheries have evolved from a phase of increasing fishing effort and production to one in which production has stagnated and in some cases declined (i.e. a senescent phase). Judging from known fish stocks and resources of traditional fisheries, the total marine catches from most of the main

fishing areas in the Atlantic Ocean and some in the Pacific Ocean would appear to have reached their maximum potential some years ago, and substantial total catch increases from these areas are therefore unlikely.

TABLE 1-1 World fisheries production and utilization(million tonnes)

	1990	1992	1994	1995	1996	1997
PRODUCTION						
INLAND						
Aquaculture	8.17	9.39	12.11	13.86	15.61	17.13
Capture	6.59	6.25	6.91	7.38	7.55	7.70
Total inland	**14.76**	**15.64**	**19.02**	**21.24**	**23.16**	**24.83**
MARINE						
Aquaculture	4.96	6.13	8.67	10.42	10.78	11.14
Capture	79.29	79.95	85.77	85.62	87.07	96.03
Total marine	**84.25**	**86.08**	**94.44**	**96.04**	**97.85**	**97.17**
Total aquaculture	13.13	15.52	20.77	24.28	26.38	28.27
Total capture	85.88	86.21	92.68	93.00	94.63	93.73
Total world fisheries	**99.01**	**101.73**	**113.46**	**117.28**	**121.01**	**122.00**
UTILIZATION						
Human consumption	70.82	72.43	79.99	86.49	90.62	92.50
Other uses	28.19	29.29	33.47	30.78	30.39	29.50

From *The State of World Fisheries and Aquaculture*, FAO (1998).

The relatively stable total marine capture fisheries production for the last three years masks some major fluctuations for individual species. Major increases in landings between 1995 and 1996 were recorded for capelin, chub mackerel and Japanese anchovy, whereas major decreases between 1994 and 1995 were observed for South American pilchard and anchoveta as well as Japanese pilchard. In 1995, six species — anchoveta, Alaska pollock, Chilean jack mackerel, Atlantic herring, chub mackerel and capelin — accounted for 25 percent of total capture fisheries production.

Distant-water fisheries production has declined sharply since 1990, mainly owing to the demise of the former USSR. Japan had the largest distant-water fisheries production in 1996, with total catches of 668 000 tonnes. This is Japan's lowest figure, since 1963, as the country's distant-water production has declined steadily since the early 1970s when it amounted to about 2 million tonnes.

1.2.2 State of marine fish resources

Overall, the state of exploitation of the main fish stocks (in fisheries for which assessment information is available) has remained more or less unchanged since the early 1990s. Recent reviews tend to confirm that, among the major fish stocks for an estimated 44 percent are fully

exploited and are therefore producing catches that have reached or are very close to their maximum limit, with no room expected for further expansion. About 16 percent are overfished and likewise leave no room for expansion; moreover, there is an increasing likelihood that catches might decrease if remedial action is not undertaken to reduce or suppress overfishing. Another 6 percent appear to be depleted, with a resulting loss in total production, not to mention the social and economic losses derived from the uncontrolled and excessive fishing pressure, and 3 percent seem to be recovering slowly.

Fisheries in the Northwest Atlantic, the Southeast Atlantic and the Eastern Central Atlantic reached their maximum production levels one or two decades ago and are now showing a declining trend in total catches. In the Northeast Atlantic, the Southwest Atlantic, the Western Central Atlantic, the Eastern Central Pacific, the Northeast Pacific and the Mediterranean and Black Seas, annual catches seem to have stabilized, or are declining slightly, after having reached a maximum potential a few years ago. The declining and flattening catch trends in these areas are consistent with observation that these areas have the highest incidence of fully exploited fish stocks and of stocks that are either overexploited, depleted or recovering after having been depleted.

The main areas where total catches still follow an increasing trend and where, in principle, some potential for increase still exists are the Eastern and Western Indian Ocean, the Western Central Pacific and the Northwest Pacific. These areas tend to have a lower incidence of fully exploited, overexploited, depleted or recovering fish stocks, with relatively more under-exploited or moderately exploited stocks. However, these areas are also the ones with the largest incidence of stocks whose state of exploitation is unknown or uncertain, and for which production estimates and stock assessments are consequently less reliable.

1.2.3 Inland capture fisheries production

Nominally, exploitation of inland fisheries resources amounts to 7.6 million tons, equal to 8 percent of total capture in 1996. Exploitation is mainly of finfish, although molluscs (7 percent) and crustaceans (6 percent) may be locally important. The production of reptiles, including crocodiles, alligators and caimans, is recorded by number and reached slightly more than 1 million in 1996(including cultured production).

Six of the ten top producers for inland capture fisheries are in Asia: China, with a production of nearly 1.8 million tonnes, produces 23 percent of the world total and nearly three times as much as the second largest producer, India. Altogether, the top ten producer countries account for about 62 percent of world landings from inland capture fisheries.

In Africa, the majority of freshwater fish landings consist of Nile perch, followed by Nile tilapia, other tilapias, and silver cyprinid. These reflect both the importance of large lake fisheries (Lake Victoria, at its peak, accounted for about one-fourth of all of the inland catch from Africa) and the fact that more complete catch data are available for these fisheries than for smaller water bodies.

Inland catches mainly consist of: cyprinids as a group, snakeheads and shads in Asia; European perch, common carp, northern pike and roaches in Europe; of Azov Sea sprat,

freshwater bream, roaches and pike perch in the CIS and the Baltic states; of characinids and freshwater siluroids in Latin America; and of lake whitefish, yellow perch, crayfish and catfish in North America.

1.2.4 State of inland fish resources

Based on total inland capture for the period 1984-1996, it is clear that increasing use is being made of inland fisheries resources. The average annual increase is about 130 000 tonnes (about 2 percent per annum), and exploitation is most intensive in Asia and Africa.

Looking broadly at continental areas, neither the present state of nor the short-term outlook for inland aquatic resources is encouraging. An increase in the loss and degradation of land and forest resources and of biodiversity and habitat as well as the growing scarcity and pollution of freshwater can be observed in Africa, Asia and the Pacific, Latin America and the Caribbean and West Asia. Europe and the CIS and the Baltic states are also experiencing increasing biodiversity loss and habitat degradation. On the other hand, in North America, land degradation is decreasing.

Vocabulary:

aquaculture *n.* 水产养殖
biennium *n.* 两年的时期（pl. biennia）
level off 稳定，平衡
biennial *adj.* 二年生的，两年一次
caput 合法公民 （per caput 人均）
food fish 食用鱼
catch *n.* 渔获物
fish meal 鱼粉
fish oil 鱼油
capture fisheries 捕捞（渔）业
capture fisheries production 捕捞量
marine capture fisheries 海洋捕捞业
inland waters 内陆水域
fishing area 渔区（fishing ground 渔场）
landing *n.* （到码头）卸货量
fishing effort 渔获努力量，捕捞作业量
senescent *n.* 衰老
stock *n.* 原种
capelin *n.* 毛鳞鱼
chub mackerel *n.* 鲐
anchovy *n.* 鳀
pilchard *n.* 沙丁鱼，沙瑙鱼
anchoveta *n.* 秘鲁鳀
pollock *n.* 青鳕
jack mackerel *n.* 鲹鲐
herring *n.* 鲱
distant-water fisheries production 远洋渔业产量（distant fishing 远洋捕捞）
overfish *vt.* 过度捕捞
fishing vessel 捕捞船
flag state 主权国
inland capture fisheries production 内陆捕捞渔业产量
finfish *n.* 有鳍鱼类
Azov Sea 亚速海
mollusc *n.* 软体动物
crustacean *n.* 甲壳动物
reptile *n.* 爬行动物
crocodile *n.* 鳄
alligator *n.* 短吻鳄
caiman *n.* 南美鳄
Nile perch 尼罗尖吻鲈
Nile tilapia 尼罗罗非鱼
cyprinid 鲤类
Lake Victoria 维多利亚湖
snakeheads 鳢科鱼
shads *n.* 西鲱(*Alosa alosa*)，
Alosa sapidissima *n.* 美洲西鲱

Macrura reevesii *n.* 鲗
perch *n.* 鲈
common carp *n.* 鲤
pike *n.* 狗鱼
roaches *n.* 拟鲤，蟑螂
sprat 新西兰鳀(*Engraulis antipodum*)
黍鲱(*Sprattus sprattus*)
bream *n.* 鲂，鲷
pike perch *n.* 梭鲈
the CIS *n.* 地中海
Baltic states 波罗的海国家
characinids *n.* 脂鲤科鱼类
siluroids *n.* 鲶类
whitefish *n.* 白鲑，银鱼
yellow perch 金鲈(*Perca flavescens*)
crayfish=crawfish *n.* 龙虾，螯虾
catfish *n.* 鲇，鮰
cod *n.* 鳕
degradation *n.* 退化
biodiversity *n.* 生物多样

Exercise 1

Ⅰ. Answer these questions according to the text above.

1. Do you think that China is a strong fisheries country? Why?
2. What did the world marine capture fisheries production change in the past years?
3. From the text above, where can you increase, decrease and remain the catches in the marine?
4. From the text above, where are the inland aquatic resources experiencing increasing and decreasing?

Ⅱ. Translate the following into Chinese.

Quotas for cod stocks: an update

The quotas for Atlantic cod in the Barents Sea were reduced by about 195 000 tonnes or approximately 22 percent from 1997 to1998. However, about 13 000 tonnes of the Norwegian 1997 quota was not caught and the share of the Russian quota not caught is expected to be even higher-approximately 40 000 tonnes. Consequently, the decrease in catch from 1997 to 1998 might not be as large as the quota indicates. According to Norwegian experts, the reduction is not expected to be of the same scale in the near future.

Iceland has also increased its cod quota, raising it by 32 000 tonnes to 218 000 tonnes for the period from 1 September 1997 to 31 August 1998. By 1 January 1998, 144 000 tonnes of the Icelandic quota had not been taken, which is about 30 000 tonnes more than the previous year. The outlook for future output from Icelandic waters is also good, although very weak results in the Barents Sea loophole in 1997 indicate a pause in the Icelandic cod fishery in this area. In the Pacific, the major cod-catching country is the United State, and it is reducing its quotas from 270 000 tonnes in 1997 to 210 000 tonnes in 1998.

Note: quota *n.* 限额，配额，定额　　the Barents Sea 巴伦支海

III. Write the English names of the following aquatic animals.

1. 鲍 _____ 2. 珠母贝 _____ 3. 宝贝 _____ 4. 法螺_____

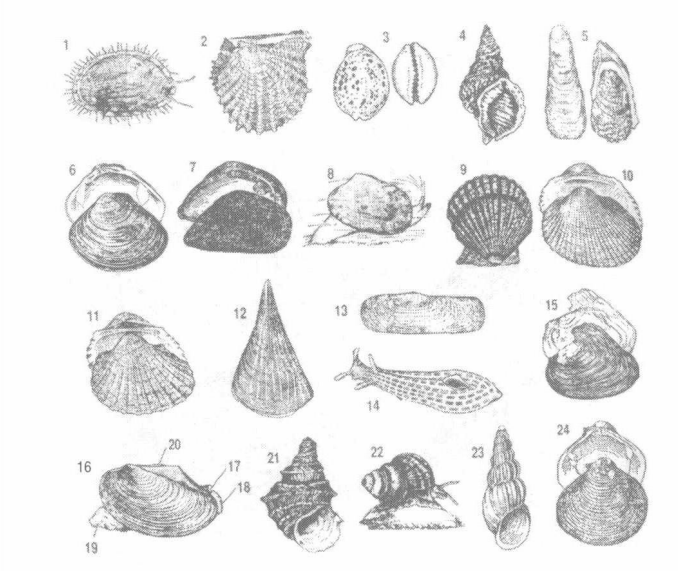
5. 牡蛎_____ 6. 文蛤 _____ 7. 贻贝 _____ 8. 蛤仔 _____

9. 扇贝 _____ 10. 毛蚶 _____ 11. 泥蚶_____ 12. 江珧_____

13. 蛏 _____ 14. 海兔 _____ 15. 褶纹冠蚌_____ 16. 无齿蚌_____

17. 出水管____ 18. 入水管_____ 19. 斧足 _____ 20. 韧带_____

21. 螺蛳_____ 22. 田螺 _____ 23. 钉螺_____ 24. 河蚬_____



Unit 2 Fisheries Resources: Trends in Production, Utilization and Trade（2）

2.1 Aquaculture

Aquaculture provided 20 percent of global fisheries production (and 19 percent of food fish) in 1996. Most aquaculture production (15.1 million tonnes) originated in freshwater. Of the remainder, 9.7 million tonnes were produced in marine environments and about 1.6 million tonnes in brackish water environments. These figures are excluding the production of aquatic plants, which amounted to 7.7 million tonnes in 1996.

Global production of aquaculture continues to be dominated by China, which in 1996 accounted for more than 67.8 percent of world output. However, given the relatively low value of carp and seaweeds, which dominate Chinese culture, its contribution to the world value of aquaculture production was just 45.4 percent. Japan, on the other hand, accounted for 4 percent of total world aquaculture production by weight but for more than twice that share by value because of the high-value species cultured (e.g .amberjack, scallops and oysters).

The dominant global aquaculture activity in 1996 continued to be finfish production, accounting for about 49 percent of total aquaculture production by weight and 55 percent by value.

As in previous years, freshwater finfish, in particular Chinese and Indian carp, accounted for the greatest (42 percent) of total aquaculture production. Aquatic plants, 70 percent of which come from China, were valued at nearly US $ 5 billion and represented almost one-quarter of total production in 1996.

A key factor in the rapid production growth of some species of finfish and crustaceans is the increasing availability of hatchery-produced seed, in turn a reflection of a wider diffusion of the expertise needed for successful hatchery operations.

While finfish account for almost 99 percent of freshwater aquaculture production, they account for less than 10 percent of culture in the marine environment.

In 1996 the production of kelp, *Laminaria japonica,* totaled just more than 4 million tonnes (Table 2-1). In terms of volume, this production figure made it the most important species in aquaculture for that year. In fact, two of the top ten aquatic species produced through culture were plants. It is worth noting that all these top species are low in the food chain, i.e. they are either primary producers, filter feeders or finfish that, in their adult stage, are herbivores or omnivores.

Because of its high unit value, the giant tiger prawn tops the list of species ranked according to the total value of production (Table 2-2). Nearly all giant tiger prawn production is carried out in a tropical environment and the product exported to developed economies. This particular activity therefore provides a significant contribution to some Asian and Latin American economies.

The other high-value species that is not among the ten with the highest production figures is Atlantic salmon, which is grown in cold climates where a large share of it is also consumed.

TABLE 2-1 World cultured aquatic production: top ten species in 1996, ranked by volume

Common name	Latin name	Production (million tons)
Kelp	*Laminaria japonica*	4.17
Pacific cupped	*Crassostrea gigas*	2.92
Silver carp	*Hypophthalmichthys molitrix*	2.88
Grass carp	*Ctenopharyngodon idellus*	2.44
Common carp	*Cyprinus carpio*	1.99
Bighead carp	*Aristichthys nobilis*	1.41
Yesso scallop	*Pecten yessoensis*	1.27
Japanese carpet shell	*Ruditapes philippinarum*	1.12
Crucian carp	*Carassius carassius*	0.69
Nile tilapia	*Oreochromis niloticus*	0.60

From *The State of World Fisheries and Aquaculture* (1998).

TABLE 2-2 World cultured aquatic production: top ten species in 1996, ranked by value

Common name	Latin name	Value (billion US $)
Giant tiger prawn	*Penaeus monodon*	3.93
Pacific cupped oyster	*Crassostrea gigas*	3.23
Silver carp	*Hypophthalmichthys molitrix*	2.79
Kelp	*Laminaria japonica*	2.70
Common carp	*Cyprinus carpio*	2.42
Grass carp	*Ctenopharyngodon idellus*	2.23
Atlantic salmon	*Salmo salar*	1.87
Yesso scallop	*Pecten yessoensis*	1.62
Japanese carpet shell	*Ruditapes philippinarum*	1.52
Bighead carp	*Aristichthys nobilis*	1.31

From *The State of World Fisheries and Aquaculture* (1998).

Although a few advanced economies such as Japan, Norway and the United States feature among the top producers, aquaculture production is carried out predominantly in low-income food-deficit countries (LIFDCs).

By 1996, 27.9 million tons, or around 82 percent of world total finfish, shellfish and quatic plant production originated in LIFDCs. The contribution of this group of countries to world production has increased sharply since 1990. At 16.7 percent, between 1990 and 1996 the average expansion rate of the aquaculture sector within LIFDCs was nearly six times that in non-LIFDCs, which recorded 2.9 percent overall. Most of the production comes from six countries, with China accounting for about 83 percent.

2.2 Numbers of fishers and fishing vessels

Information provided recently by FAO member countries on numbers of fishers and fishing vessels indicates that, while the expansion of fishing fleets seems to be slowing down,

the number of fishers appears to be rising relatively fast. However, as the number of fishers includes individuals engaged in aquaculture—and not separately identified in most cases—the increase in the number of participants in capture fisheries is in fact slower than the overall figures suggest.

Recent information on the number of fishers is scarce, as few countries collect and publish annual estimates. Among those that do are China, Iceland, India, Japan and Norway, data for which are presented in Table 2-3. As can be expected, the figures show that, while the numbers of fishers are shrinking in capital-intensive economies, they are expanding in economies that are still predominantly labour-intensive.

Between 1980 and 1997, China's fleet of decked fishing vessels increased from about 60 000 to 460 000 vessels. Without this increase, the number of decked fishing vessels in the world would have remained stable during the period.

TABLE2-3 Number of fishers (including fish farmers) in selected countries

Country		1970	1980	1990	1994	1995	1996
China	(number)	2 300 000	2 950 344	3 460 345	4 740 483	5 071 940	5 396 370
	(index)	66	85	100	137	147	156
Japan	(number)	549 357	457 380	242 990	202 000	193 000	...
	(index)	243	188	100	83	79	
Iceland	(number)	4 895	5 946	6 951	6278	5 661	5 635
	(index)	70	86	100	90	81	81
India	(number)	104 000	2 008 913	1 741 265	2 045 701	2 394 174[3]	...
	(index)	60	115	100	118	138	
Norway	(number)	21 000	19 425	20 475	16 442	17 160	17 087
	(index)	102	95	100	80	84	83

From *The State of World Fisheries and Aquaculture* (1998).

A study of Lloyd's Register of Shipping(Information drawn from Lloyd's Register of Shipping is provided under exclusive licence by Lloyd's Maritime Information Services) reveals that fishing vessels above 100 GT(fleet tonnage) have decreased in number over the last seven years, as the decommissioning of vessels has outpaced new constructions. In 1991, there were slightly fewer than 26 000 fishing vessels of this class in Lloyd's Register; in 1997, the number was about 22 700, which is below the number of vessels recorded for the year 1985. Of the vessels currently in the register, more than 10000 are 20 years old or more and are likely to be decommissioned or scrapped over the next decade. However, given that Lloyd's Register has incomplete statistics for Chinese fishing vessels, the known increase in the size of the world fishing fleet (of vessels above 100 GT) is not evident in its records.

The register shows that there has been a long-term reduction in the building rate for vessels of more than 100 GT, with construction at its lowest in 1997. According to a provisional estimate, only 155 vessels were built in that year.

Vocabulary:

brackish water 半咸水
carp 鲤科鱼
seaweed 大型海藻
amberjack 紫鲕
scallop 扇贝
oyster 牡蛎
finfish *n.* 有鳍鱼类
Chinese carp （中国的）鲤科鱼类(常指家鱼)
Indian carp 鲮鱼类
hatchery *n.* 孵化场，育苗场
hatchery-produced seed 人工培育的苗种
kelp（*Laminaria japonica*）海带
food chain 食物链
primary producer 初级生产者
filter feeder 滤食者
herbivore *n.* 植食性动物
omnivore *n.* 杂食性动物
shellfish 贝类
giant tiger prawn 斑节对虾
Atlantic salmon 大西洋鲑，三文鱼
low-income food-deficit countries (LIFDCs) 低收入食物短缺国家
Pacific cupped（*Crassostrea gigas*）长巨牡蛎
silver carp（*Hypophthalmichthys molitrix*）鲢
grass carp(*Ctenopharyngodon idellus*)草鱼
common carp（*Cyprinus carpio*）鲤
bighead carp(*Aristichthys nobilis*)鳙
Yesso scallop（*Pecten yessoensis*）虾夷扇贝
Japanese carpet shell（*Ruditapes philippinarum*）菲律宾蛤子
crucian carp（*Carassius carassius*）鲫
fisher *n.* 渔民(注意与 fisherman 的异同点)
fishing vessel=fishing fleet 渔船
capital-intensive 资本集约型的
labour-intensive 劳动密集型的
GT=fleet tonnage 船吨位
decommission *vt.* 使退役
outpace *vt.* 发展快于
Lloyd's Register of Shipping 罗德轮船注册机

Exercise 2

Ⅰ. Answer these questions according to the text above.

1. What was China different from Japan in the aquaculture production by weight and by value?
2. What was the freshwater aquaculture and the mariculture characterized in species cultivated by?
3. What are the top ten aquatic species produced through culture? Why?
4. Please give the reasons for the fact that aquaculture production was carried out predominantly in LIFDCs in 1996?

Ⅱ. Translate the following into Chinese.

（1）Monitoring hatchery production: at least 160 million fry a day

To improve the utilization of aquatic biodiversity, governments need information on hatchery output. However, the collection of information on this subject is not always systematic, since a central mechanism for collating related data is often lacking.

At the request of FAO, therefore, member countries have recently submitted hatchery production statistics, and these have been analysed, revealing a total reported production for 1996 of 58 000 million fry and/or fingerlings, i.e. almost 180 million juveniles per day! Of