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Report NoP-2527-MAL

REPORT AND RECOMMENDATION
OF THE
PRESIDENT OF THE
INTERNATIONAL DEVELOPMENT ASSOCIATION
TO THE
EXECUTIVE DIRECTORS
FOR A
PROPOSED CREDIT
TO THE
REPUBLIC OF MALDIVES
FOR A
FISHERIES PROJECT

May 7, 1979

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CURRENCY EQUIVALENT 1/

US\$1.00	=	MRs 3.93	Administrative Accounting Rate
US\$0.25	=	MRs 1.00	

WEIGHTS AND MEASURES

Metric System

ABBREVIATIONS

DPW	-	Department of Public Works
IMF	-	International Monetary Fund
MOF	-	Ministry of Fisheries
MPA	-	Ministry of Provincial Affairs
MRC	-	Maintenance and Repair Center
MT	-	Metric Tons
PCC	-	Project Coordinating Committee
STO	-	State Trading Organization
UNDP	-	United Nations Development Programme

DEFINITIONS

Atoll	-	a coral island consisting of a reef surrounding a lagoon.
Pole and line technique	-	fishing method by which fish are caught on a baitless hook and manually pulled onboard; bait is spread separately.
Collector vessel	-	10 meter vessel, with insulated hold containing ice, used to collect fish directly from fishing vessels and to transport fish to other sites (either land-based operations or mother vessels) for further processing.
Mother vessel	-	large vessel, equipped with refrigeration equipment, used to freeze and store fish.
Reefer vessel	-	large vessel, with refrigeration equipment, used to transport fish from processing facilities (either land-based operations or mother vessels) to markets.

MALDIVES FISCAL YEAR

Equal to Calendar Year

1/ The administrative accounting rate is used by the Government of Maldives for official transactions and by the State Trading Organization for the export of fish and the import of most essential commodities, such as rice, wheat flour, sugar and oil. It is fixed to the US dollar and has not changed since 1967. A commercial exchange rate is determined in the open market and fluctuates relative to the US dollar and other major currencies (During project appraisal in October 1978, the rate was about US\$1.00 = MRs 8.80).

MALDIVES

FISHERIES PROJECT

Credit and Project Summary

Borrower: The Republic of Maldives

Amount: US\$3.2 million equivalent

Terms: Standard

Relending Terms: The Ministry of Fisheries would make loans to project beneficiaries for the purchase and installation of in-board engines on the following terms: (i) 9% interest per annum on outstanding balance, (ii) repayment period of eight years, no grace period, (iii) repayment to be made bimonthly, and (iv) exchange risk borne by the Government.

Project Description: The proposed project is designed to increase fisheries production through mechanization of sailing vessels and would improve the safety of fishing operations and marine transport. It provides credit for the mechanization of about 500 sailing vessels, and finances five engine maintenance and repair centers and installation of aids to navigation. Technical assistance is also provided under the project to implement a short-term training program for skippers and master fishermen on improved fishing techniques for mechanized vessels, as well as for assistance in the longer term objectives of improving the design of existing vessels and testing the feasibility of longer-range vessels. Preparation of feasibility studies for possible further investment in marketing and fuel distribution are also included in the technical assistance component. The major direct benefits would be the incremental landings of about 11,900 tons of tuna per year valued at about US\$3.25 million and the facilities to enable the country to export a much larger share of its fish catch. The project would help to increase the incomes of the 5,000 project beneficiary families by about 60% on average within three years. The project faces no special risks.

Estimated Cost: 1/

	<u>US\$ Million Equivalent</u>		
<u>Major Category</u>	<u>Local</u>	<u>Foreign</u>	<u>Total</u>
Credit for Mechanization	0.26	2.70	2.96
Mechanization and Repair Centers	0.09	0.06	0.15
Navigation Aids	0.02	0.04	0.06
Technical Services	-	0.01	0.01
Technical Assistance	-	0.28	0.28
Total Base Costs	<u>0.37</u>	<u>3.09</u>	<u>3.46</u>
<u>Contingencies</u>			
Physical	0.01	-	0.01
Price	<u>0.04</u>	<u>0.38</u>	<u>0.42</u>
Subtotal	0.05	0.38	0.43
Total Project Cost	0.42	3.47	3.89

Financing Plan:

	<u>US\$ Million Equivalent</u>		
	<u>Local</u>	<u>Foreign</u>	<u>Total</u>
IDA	-	3.2	3.2
UNDP	-	0.3	0.3
Government of Maldives	<u>0.4</u>	<u>-</u>	<u>0.4</u>
	0.4	3.5	3.9

Estimated Disbursements: 2/

	<u>US\$ Million Equivalent</u>	
<u>IDA FY</u>	<u>80</u>	<u>81</u>
Annual	2.8	0.7
Cumulative	2.8	3.5

Rate of Return: 100%.

Staff Appraisal Report:

No. 2396-MAL, dated May 1, 1979.

Map:

IBRD No. 13994R

1/ There are no duties or taxes applicable to the project.

2/ Includes disbursements for technical assistance financed by UNDP.

INTERNATIONAL DEVELOPMENT ASSOCIATION

REPORT AND RECOMMENDATION OF THE PRESIDENT TO THE
EXECUTIVE DIRECTORS ON A PROPOSED CREDIT TO
THE REPUBLIC OF MALDIVES FOR A FISHERIES PROJECT

1. I submit the following report and recommendation on a proposed development credit to the Republic of Maldives for the equivalent of US\$3.2 million on standard IDA terms to help finance a fisheries project. The United Nations Development Programme (UNDP) is expected to provide about US\$0.3 M for the technical assistance component of the project.

PART I - THE ECONOMY 1/

2. The Republic of Maldives joined the International Monetary Fund (IMF) and the Bank Group in January 1978. A Bank Group economic mission is planned for July 1979 to prepare an introductory economic report. Country data are shown in Annex I.

3. Maldives is an archipelago consisting of 19 coral atolls in the Indian Ocean about 400 miles to the southwest of India and Sri Lanka. The atolls form a double chain that stretches about 500 miles from north to south and 80 miles across, and covers an area of 41,500 square miles. The total land area is estimated at 115 square miles. About 25% of the total population of 144,000 ^{2/} live in the capital, Male, with the balance living on about 200 of the total of about 1,100 islands. Population is estimated to be growing at an annual rate of about 3.7%. The climate is tropical and dominated by two monsoons; the southwest monsoon from May to October, which brings rain and occasional strong winds, and the northeast monsoon from December to April, which brings fair weather.

4. Formerly a Sultanate under British protection, Maldives became independent in 1965. As a result of a 1968 revision of the 1964 Constitution, Maldives became a Republic with executive, legislative, and judicial branches of government. The President presides over the executive branch and appoints the Cabinet. The Cabinet includes Ministries of External Affairs, Fisheries, Education, Public Safety, Agriculture, Home Affairs, Justice, Shipping, Health, and Transport. The Department of Finance operates through the Office of The President. The Government is working with the IMF to establish a separate monetary authority; there is at present no Central Bank (para 10). The President is elected to a 4 year term by the legislature, but must be confirmed by popular referendum. The current President assumed office in November 1978, after a July 1978 referendum. The unicameral legislature, the Majlis, is composed of 48 members, of which 40 are directly elected for 5 year terms by universal suffrage and 8 are appointed by the President. There are no

1/ Part I of this Report is based substantially on information provided in an IMF economic report entitled "Maldives - Recent Economic Developments," (SM/78/249), dated October 5, 1978.

2/ Preliminary 1978 Census results.

political parties. The legal system is based on Islamic law. For administrative purposes, the territory of Maldives is divided into 19 atoll groups, each headed by an atoll chief who is appointed by the President.

5. As the Government of Maldives has only recently begun to collect national economic data, only the general outlines of the structure and inter-relationships of the Maldivian economy are available. Based on data provided by the State Trading Organization (STO), Fund staff estimate 1977 GNP at about US\$11.0 million and per capita income at about US\$77 equivalent in 1977 dollars, placing the Maldives among the 25 least developed countries. From earliest times, the Maldivian economy has been dominated by fishing, and the trade of dried fish to neighboring Sri Lanka provided the major trading contact with the outside world. Until 1947, the currencies of India and Ceylon were used for monetary transactions. In 1959, foreign traders who had dominated the local trade and export markets were compelled to leave Maldives and, except for two commercial banks which are owned and operated by foreign enterprises, the economy of Maldives has been restricted to nationals only.

6. Fishing is the mainstay of the economy, accounting for over 50% of GNP and 90% of exports. About 80% of the labor force is either directly or indirectly involved in fishing (see Section III below).

7. Despite the tropical climate, possibilities for agricultural production are severely limited by the small size of the islands and the sandy soil, which has a high alkaline and a low organic content and lacks certain trace elements. Agricultural production meets only about 10% of food consumption; all major food staples other than fish are imported. The main crops are millet, maize, yams, and sweet potatoes. Bread-fruit and coconut trees are also in abundance throughout the islands. The northern and southern islands are more fertile than those in the central groups and the eastern islands are more fertile than the western. Crop cultivation is dependent on the seasonal distribution of rainfall, and the best growing period is during the southwest monsoon. Irregular rainfall and drought also contribute to fluctuations in agricultural output. It is estimated that 30-40% of agricultural output is lost each year because of plant diseases, insects, and rodents. Coconut trees, which, in addition to copra, provide fiber for ropes and wood for boats, are subject to a production cycle of three or four years. Because of their importance in boat construction, the felling of coconut trees is subject to licensing by the Ministry of Agriculture which endeavors to limit felling to old trees and to those islands where there is a relative abundance of trees. In recent years, systematic cultivation of coconut trees has been undertaken on many islands.

8. Since the establishment of the first resort hotel in the Maldives in 1972, tourism has expanded rapidly and there are now 14 resort hotels with a capacity of 1,200 beds. The number of tourists visiting the Maldives increased from 1,500 in 1973 to about 25,000 in 1976. The Government intends to open three new resort hotels within the near future which will increase the number of beds to 1,400. The hotel capacity on the islands around Male will be increased to 3,000 beds within the next five years, while additional possibilities for establishing tourist resorts exist on the islands around the former airstrip at Gan. The runway at Hulule airport near Male is presently

being extended with assistance from the Kuwait Fund and others, to enable it to receive long range jet aircraft. A further extension, expected to be completed in the early 1980s, will make it possible for jumbo-size aircraft to land. The possibility of direct flights to the Maldives, i.e., without a stopover in Colombo, is expected to increase the average stay of tourists. Many islanders specialize in handicrafts, such as rope-making, mat weaving, lace, jewelry and lacquer work, which have found a growing market with the recent increase in tourism.

9. The government-owned Maldives Shipping Line (MSL), which was established in 1958, consists of a fleet of 29 ships. In addition, it participates in the ownership of several foreign shipping companies. The headquarters of MSL is in Male, but many of its operations are directed from Singapore. Shipping services are provided between the Far East, the Middle East, the Mediterranean and the east coast of Africa. In recent years, the MSL has transferred large amounts of profits to the Government.

10. STO plays an important role in the Maldivian economy and functions as a public enterprise. Its activities encompass about 95% of merchandise exports, about 75% of merchandise imports, and much of the domestic retail trade. In addition, as there is no Central Bank, STO administers the budget of the Central Government, issues currency on behalf of the Government and, for security reasons, keeps the cash reserves of the two commercial banks.

11. Government revenues consist almost exclusively of profit transfers from STO and MSL, and indirect taxes, mainly import duties and taxes on exports. There is no direct taxation. Import duties range from 15% on essential foods and medicines to 30% on luxury items; they are levied only on imports by STO and on imports financed with the proceeds of private exports of commodities of domestic origin. Export duties apply only to locally produced commodities. The Government has recently instituted a set of taxes to take advantage of the expanding tourism trade. As of this year, an occupancy tax of US\$1.00 per night is charged directly to the tourist customer and collected on behalf of the Government by the resort/hotel. In addition, the resort owner is taxed on the bednight capacity of his facilities, on a sliding scale adjusted according to the tourist season.

12. The Government budget has been in deficit throughout the 1974-1977 period. The deficit increased to MRs 15.3 million in 1976, but is estimated to have declined to about MRs 6 million in 1977. The sharp rise in the deficit during 1975 and 1976 occurred almost exclusively because of higher capital expenditures associated with the airport extension and the construction of an earth satellite station in Male; current expenditures have remained stable at about MRs 10 million. Government receipts increased to MRs 24 million in 1977, owing to higher contributions from public enterprises. Receipts from import duties and export taxes have declined because of a shift in the composition of both imports and exports to items that are subject to smaller duty or tax rates and a decline in imports during 1976. The budget deficits were financed by drawing down cash balances, the issuance of currency, and, in 1977, by borrowing from the banking system.

13. Although the exchange rate of the Maldivian rupee is determined in a free market, the STO applies an administrative accounting rate of Rs 3.93= US\$1.00 to all its transactions. Neither STO nor the Government buys or sells foreign exchange in the free market, where the rate for the Maldivian rupee is substantially different (Rs8.80 = US\$1.00 in October 1978). Since the STO holds the monopoly for fresh and Maldives fish exports, selling on contract terms to foreign companies for foreign exchange, the application of the administrative accounting rate for payment to the local fishermen for the fish amounts to a tax on these exports of about 55% (the difference between the administrative accounting rate and the freemarket commercial rate). STO then determines the local prices of the essential goods which it imports by applying the administrative accounting rate, thereby subsidizing the domestic price of these imports from the implied tax on fish exports.

14. Tourism and the increased economic activities in the Male region have contributed to the rise in prices of many consumer goods in recent years. Between 1974 and 1977, prices of fish, which account for about 30% of consumer expenditures, increased 30-50%. Increases of similar magnitudes were recorded for vegetables, fruits, and some textile items. The price of rice, which is the other staple food, declined 16%, reflecting in part the fall in world market prices. Rents in Male have increased partly due to the demand for housing by employees of foreign companies and international organizations.

15. The external transactions are estimated to have led to a surplus of US\$0.7 million in 1974, a deficit of US\$0.8 million in 1975, a surplus of US\$1.1 million in 1976, and are estimated to be in balance in 1977. STO exports consist of Maldives fish (salted, smoked and dried tuna fish product), fresh frozen fish and since 1977, fresh lobsters. Due to progressive reduction in access to the Sri Lanka market, exports of Maldivian fish declined from 3,500 tons in 1974 to less than 1,000 tons in 1977. However, exports of fresh frozen fish increased from 4,600 tons to nearly 11,000 tons during the same period but, as the export unit value of Maldivian fish is about five times that of fresh frozen fish, total export earnings of STO have declined by about 25% or by about US\$1 million. Imports by the STO consist mainly of essential foods and petroleum and, since 1974, they have amounted to about US\$5 million a year. With foreign exchange proceeds from the transfer of MSL profits to the Government and the receipt of a small commodity loan in both 1974 and 1977, the external transactions of the STO are estimated to have led to an increase in its working balances in foreign exchange of US\$1 million during the period 1974-77. Exports of the private sector have increased sharply in both 1976 and 1977, mainly due to the increase in export of salted fish and sharkfins to Singapore. Earnings from tourism and the transit trade (whereby consumer goods are imported for re-export to Sri Lanka) have grown steadily.

16. While the Government has not yet formulated an integrated investment program, the Government has adopted a policy of actively promoting the fishing and tourism sectors. The performance of the Government in guiding the economy during the last few years has been characterized by a rapid adjustment to the phased reduction in access to the traditional market for the major export item (Maldivian fish) and the withdrawal of the British presence at the airbase at Gan. New markets for fresh frozen fish were quickly found, while the establishment of more tourist hotels led to a rapid rise in tourist earnings. An increase

in MSL activities made it possible to transfer larger profits to the Government. Due to these developments, it was possible to prevent a deterioration in the external financial position and a large decline in income and employment. Present Government development plans, which include further expansion of infrastructure, will assist in continued expansion of fish exports and tourism. To the extent that domestic receipts fall short of total outlays, the Government has indicated that it would consider financing part of its development expenditures with foreign borrowings. Such borrowing is considered appropriate since these investments are likely to contribute to the capacity of the Maldives to earn foreign exchange within a relatively short time.

17. The official foreign indebtedness of the Maldives stood at US\$19.5 million at end December 1978. The indebtedness results mainly from the foreign financing of the extension of the Hulule airport and of the establishment of an earth satellite station in Male. The financing was largely obtained on concessionary terms, with a grant element of a little over 50%. The debt service ratio in 1978 is tentatively estimated at 0.6%; it is expected to rise to about 10% by 1983.

PART II - BANK GROUP OPERATIONS

18. There have been no loans or credits made to date.

19. Given the overwhelming importance and potential of fisheries, the first Bank Group investment is proposed for the fishing sector. By improving the productivity of the fishing sector, this investment would also lead to improved income distribution, an enhanced tax base and sources of revenue for Government, and increased foreign exchange earnings. Proposals for preparation of complementary investments to assist with fuel distribution, fish marketing, and design of long-range fishing vessels have been identified and are being prepared with the assistance of the Kuwait Fund for Arab Economic Development and would be prepared as part of the technical assistance component of the proposed fisheries project. During the upcoming economic mission, we hope to discuss with the Government the preparation of an investment program, and explore additional areas of possible assistance by the Association.

PART III - THE FISHERIES SECTOR

20. Approximately 75% of the total Maldivian catch is comprised of skipjack tuna (Katsuwonus pelamis) and yellowfin tuna (Thunnus albacares). Research on skipjack in the Indian Ocean and Pacific Ocean suggests that skipjack appears throughout the Indian Ocean and indicates that Maldives skipjack are part of the large migrating stocks of the Indian Ocean, which are estimated to have a sustainable yield of several hundred thousand tons per year. The scale of present fishing efforts and the resulting catch suggest that resources in Maldives are only lightly exploited. The total marine catch, which is meticulously recorded by the Ministry of Fisheries,

shows substantial annual fluctuations, which are the result of changes in stocks caused by natural phenomena. The average annual catch over the 1967-1977 period was 27.9 thousand metric tons (MT). In 1977 the catch was 26.7 thousand MT. Over this 11-year period the annual catch rose 18.4% or 1.5% per year. Over the same period the number of pole and line vessels, which range in size from 8 to 14 meters and catch well over 80% of the total catch of all species, increased by 25% to 2,150 in 1977. In addition to the pole and line vessels, there are 3,300 smaller trolling vessels. These vessels are also used for inter-island transport; none are mechanized and their share of the total catch of all species is less than 20%. The slow growth of the catch is mainly due to a reduction of the number of fishing days by sailing vessels due to marketing problems for the dried and smoked traditional export product called Maldive fish. The catch is not evenly distributed; each atoll has distinct seasons and catch characteristics and only a few atolls show regular catches throughout the year.

21. Prevailing fishing techniques are the result of hundreds of years of fishing experience, and techniques and vessel design are well adapted to conditions in the area. Skipjack and juvenile yellowfin tuna rarely enter lagoons; fishing of these species takes place from the outer reef to a maximum distance of 25 kilometers seaward. Over 90% of the Maldives tuna catch is caught by the pole and line method. Fishing operations start early in the morning to catch bait; when sufficient bait is caught, the vessels start searching for fish schools. When a school is sighted the vessel will move to it, bait is then thrown to attract the school, and fish are caught with fishing poles and lines to which a baitless hook is attached. The vessels return to the island or collector vessel when they are full or at the end of the day.

22. Both mechanized and sailing vessels apply basically the same baiting and catching techniques. Mechanized pole and line vessels continue to fish in close proximity of the reefs but their efficiency is greatly improved because they no longer rely on wind, which increases the number of potential fishing days by as much as 15%. Moreover, mechanized vessels reach fish schools much faster, increasing the number of schools fished and wasting less time traveling to and from the fishing grounds and collector vessels. Motorized vessels are the only vessels which are able to move with the collector vessels and mother ships to the most profitable fishing grounds. They continue to make single day fishing trips because they are unable to keep bait alive for more than one day, and are not suited to stay out for more than one day. Most of them are registered and fish in the northern half of the country or near Male.

23. In the past, fish exports consisted mainly of Maldive fish which were processed by fishermen and sold to Sri Lanka. In 1971 exports of Maldive fish to Sri Lanka amounted to 27.7 thousand MT fresh fish equivalents or 78% of total fish production in that year. Since then, Sri Lanka has gradually reduced these imports, and, in May 1978, exports to Sri Lanka virtually stopped. In 1972 the Government began to explore the possibilities of frozen fish exports and initiated arrangements through STO with three companies to operate fresh fish collection systems and freezing and cold storage facilities in the Maldives. Two are foreign companies (HOKO, a Japanese company, and ICP, a Thai company) and one is a joint venture (Maldive Nippon). Exports of

frozen fish amounted to 1,100 MT (valued at US\$110,000) in 1972; in 1977 10,900 MT (valued at about US\$1.8 million) were exported, mainly to Japan, Mauritius and the USA, nearly a ten-fold increase in tonnage in five years. In addition, small quantities of a smoked tuna product and canned tuna are sold to Japan and to Europe. Recently dried fish and sharkfin have been exported to Singapore; in 1977 fish worth more than US\$1.1 million was sold in that market. The balance of the catch is consumed locally.

24. Infrastructure for the export of fish is limited to six mother vessels owned by the three companies with a combined cold storage capacity of 2,700 cubic meters and a daily freezing capacity of 160 tons. The total cold storage capacity, including land-based storage, is sufficient to handle the present level of exports. With increasing reefer vessel frequencies, more than double the present exports can be handled by the present motherships and cold storages under construction. Nine collector vessels operate in Maldives, with 12 more on order. Collector vessels are in short supply and collection has been limited to the most promising fishing areas, concentrated in the northern part of the country. Until recently, there was no collection of fish in the southern atolls, but now two mother vessels have started local operations. The lack of collector vessels forces mechanized vessels to leave their home base for extensive periods to follow the mother vessels. The collector vessels do not cover the entire productive area, because the companies prefer to concentrate on the most promising areas. Mother vessels and collector vessels move frequently, and only mechanized vessels are able to follow them and, thus, sell for export. Since 1977 Maldivian Nippon has operated a five-ton/day tuna cannery and a smoking plant. Frozen and canned fish are also exported in company reefer vessels.

25. Sailing pole and line vessels have been forced to substantially reduce operations because of lack of marketing opportunities. Previously, the sailing vessels brought their catches to land, where most fish was dried and smoked and then exported as Maldivian fish. With the restriction on imports of Maldivian fish by Sri Lanka, only the local consumption market is available to the sailing pole and line vessels. As local consumption is already one of the highest in the world, about 80 kilograms per capita per annum, there is little scope for further expansion of these markets beyond the rate of growth of population. Some sailing vessels have stopped operations altogether until they can be mechanized and operated for the frozen fish export market. Trolling vessels, which until recently caught fish mainly for the local and Sri Lanka markets, have started a rapidly expanding shark and whitefish fishery, which is also exported. One cold storage specializes in whitefish caught by local trolling vessels for export to South East Asia.

26. Prices paid for export fish are determined during annual negotiations between the Government and the companies and all quotations and transactions are in US dollars. As the fish sold to the companies are of lower average quality due to minor handling deficiencies and as the companies have incurred substantial infrastructure costs, the prices paid by the companies have ranged about 40% below the free market world price for top grade tuna. In 1978, skipjack prices paid by the companies ranged from US\$192 to

US\$256 per MT for different sizes of fish and different species. The companies also pay US\$20 per MT as export duty. The fishermen deliver their fish to the collector vessels at sea, which issue them receipts based on the variety, grade and weight of the delivered fish. The STO pays the fishermen in Maldivian rupees at the administrative accounting rate.

27. Vessels have a useful life of about 25-40 years and are usually owned by regular fishermen, although there are absentee owners, especially of mechanized vessels, in the Male area. Crews operate on a share basis, with crew share systems differing among atolls and between mechanized and nonmechanized vessels. A typical crew share on a mechanized vessel is 40% of gross earnings minus fuel and gear costs. This is divided equally among the crew, with extra shares for the skipper and the master fisherman. Crew members of mechanized vessels earn about 45% more than crew members of sailing vessels. Crews of the more efficient new mechanized vessels earn 85% more than their sailing colleagues, or MRs 860 annually, versus MRs 470 for a fisherman of a sailing craft. A skipper earns roughly twice a crew member's share when he is not the owner of the vessel. Owners of mechanized vessels earn between MRs 5,000 and MRs 8,000 annually, compared to MRs 2,500 for a sailing vessel. Incomes of crew members of sailing vessels have declined as a result of the discontinuance of the dried Maldive Fish export.

28. Fuel for mechanized vessels is presently distributed by the three collecting and marketing companies and by STO in Male. In order to initiate their operations, the companies supplied fuel to the fishermen who deliver fish to the collector vessels at MRs 0.60 per liter compared to MRs 1.65 per liter for fuel supplied by STO. At present, fuel is allocated to vessels on the basis of the quantity of fish delivered. Many vessels are forced to visit Male regularly to buy additional fuel. The Government is presently negotiating with the companies to establish a higher fuel price, which could allow the companies to distribute fuel at a small profit.

29. Three Maintenance and Repair Centers (MRCs) are presently operating and two more are under construction. The equipment for these centers was financed by a grant under Japanese bilateral aid. The MRCs presently operating are situated near the main fishing areas (Map 13994). They are staffed with 2 mechanics, managed and trained by Yanmar, the supplier of all engines under the Japanese bilateral aid scheme, and are operating satisfactorily. The Government has reached agreement with Yanmar that, as of March 1980, all MRC's will be owned and operated by a government-owned corporation to be established for this purpose. A Maldivian manager and five assistant managers will be appointed to work with Yanmar during the transition.

30. At present, Maldives is almost completely dependent on foreign companies for the operation of the marketing and export of fish. To counteract this and to enhance its development prospects, the Government has three long term objectives for its development of the fisheries sector:

- (a) to improve fishing efficiency of present fishing vessels through mechanization and improvement of vessels design;
- (b) to develop a fishing vessel which is able to fish areas which are beyond the range of present fishing vessels; and

- (c) to gradually increase control over fish collection and marketing operations.

To this end, the Government has requested IDA to finance a project which would include both mechanization and improvement of fishing vessel design. As a second step, Maldives has requested the Kuwait Fund for Arab Economic Development (KF) to finance a fish marketing project, which would entail Maldivian-owned fish collection and marketing and fuel distribution facilities. This would effectively provide fish collection and fuel distribution for a number of areas not yet serviced by collector vessels, or about a third of the country. As part of this KF project, the Maldives proposes to include two small collecting centers which would operate in conjunction with the other project components, but which would be located in areas which are now licensed to foreign operators. This would create an element of competition in the collection of fish. This proposal is currently under study by KF. The technical assistance component of the proposed IDA-financed project would also provide consultants to further assist the Government in developing marketing capabilities.

PART IV - THE PROJECT

31. The proposed project was identified and prepared as part of an overall fisheries sector survey by the Gesellschaft fur Organisation, Planung und Ausbildung MBH (GOPA), which was financed by the Kuwait Fund for Arab Economic Development. The GOPA report recommended mechanization of the traditional fishing vessels, a frozen fish export scheme, development of off-shore resources, and a substantial technical assistance program. The mechanization component and a portion of the technical assistance program were appraised in September 1978. A report entitled "MALDIVES: Staff Appraisal Report - Fisheries Project" (No. 2369-MAL) dated May 1, 1979, is being circulated separately to the Executive Directors. Negotiations were held in Washington, D.C., during April 1979. The Borrower's delegation was led by the Honorable Abdul Sattar, Minister of Fisheries. A timetable of key events relating to the project and special conditions of the proposed credit are given in Annex III.

Project Objectives

32. The objectives of the proposed project are to increase fisheries production and to improve the safety and efficiency of fishing operations and marine transport.

Project Description

33. The main components of the proposed project are:

- (a) provision of credit to fishermen for the mechanization of about 500 sailing vessels;
- (b) establishment of five maintenance and repair centers for motorized vessels;

- (c) installation of navigational lights, reef markers, and fishing ground markers; and
- (d) technical assistance.

34. The Government is negotiating with UNDP to finance the technical assistance component which would include: (i) training of fishermen in improved bait-fishing techniques, vessel and engine handling during fishing, and fishing tactics; (ii) development of improved fishing vessels; and (iii) preparation of a feasibility study for a follow up investment for marketing infrastructure. The Government has requested the Bank to be the executing agency for the UNDP component, which would be implemented over a 14 month period and is estimated to cost about US\$0.3 M equivalent. The Government would make arrangements, satisfactory to the Association, for this technical assistance (Section 3.03(b) of the Development Credit Agreement (DCA)).

Organization and Implementation

35. The project would be implemented over a period of about two and a half years. The MRCs and navigational lights would be installed by mid-1980, the buoys and markers by early 1981 and the mechanization of sailing vessels phased over the entire project period. General responsibility for project implementation would be vested in a Project Coordinating Committee (PCC). The PCC would be chaired by the Minister of Fisheries, with the Secretary of Fisheries as its secretary, and its membership would include the Director of the Male Boat Yard and senior officers of the Ministry of Provincial Affairs, the Port Commission and Public Works Department, Treasury Division, and National Planning Agency. The PCC would be empowered to co-opt other state officials as necessary. Establishment of the PCC, with membership, powers and functions satisfactory to the Association, would be a condition of credit effectiveness (Sections 3.02 and 5.01 of the DCA).

36. The Ministry of Fisheries (MOF) would be responsible for day to day conduct of project activities, other than the navigational aids which would be the responsibility of the Ministry of Provincial Affairs (MPA) and the Ports Commission and Public Works Department (DPW) (para 38 below). Implementation of the proposed fisheries mechanization component would be similar to the successful ongoing vessel mechanization scheme executed by MOF and financed with Japanese bilateral aid. MOF would select pole and line fishing vessel owners eligible for credit under the scheme, procure the required engines, make arrangements for installing the engines, and ensure proper documentation and repayment systems for the credit program. The Male Boat Yard would install engines on terms similar to the present arrangements under the ongoing vessel mechanization scheme. In order to ensure that the mechanization schemes do not outstrip the capacity of the Male Boat Yard and also to ensure the full utilization of the engines to be purchased under the proposed terms of the IDA credit, the Government would not undertake additional pole and line vessel mechanization schemes with external assistance during the implementation of the proposed project in such a way as to impair the execution of the proposed project (Section 4.04 of the DCA).

37. The MOF would also be responsible for construction of the five maintenance and repair centers (MRCs). The Government would select five sites, satisfactory to the Association, and make these sites available to the project by September 30, 1979 (Section 3.06 of the DCA), and prepare a detailed plan for construction of MRCs by October 31, 1979 and a policy statement for the future organization, operation and management of MRCs by September 30, 1979 (Sections 3.05(a) and (b) of the DCA). The Government would also take all such action as shall be necessary to ensure, to the satisfaction of the Association, that throughout the execution of the project an adequate supply of fuel is available to the fishing vessels mechanized under the project (Section 4.03 of the DCA).

38. The MPA and DPW would be in charge of installing the navigational lights and distributing the reef markers and buoys. The reef markers and buoys would be installed by the local atoll authorities under the technical guidance of DPW. The DPW would be responsible for maintenance of the lights; maintenance of the other navigational aids would be under the responsibility of the local atoll authorities. Navigational aids would be maintained in accordance with appropriate practice and the Government would provide MPA and DPW the funds and other resources as required for this purpose (Section 4.02 of the DCA).

39. The MOF would continue to compile catch statistics from mechanized and nonmechanized vessels and would monitor changes taking place during the course of project implementation. The PCC would prepare quarterly and annual project progress reports (Section 3.08(c) of the DCA) and a project completion report for submission to the Association, covering all project components and reporting the status of, inter alia, procurement and installation of project engines, construction of MRCs and credit operations (Section 3.08(d) of the DCA). The project completion report would include an analysis of the costs and benefits of the project, and would be based on a study to be conducted by MOF of the changes in costs of fishing by different categories of vessels.

40. Separate accounts for each subloan would be maintained (Section 4.01(a)(i) of the DCA). The audited accounts for each project component would be prepared and forwarded to the Association within six months of the close of each financial year (Section 4.01(b) of the DCA).

Costs and Financing

41. The total project cost is estimated at US\$3.9 million equivalent, including the UNDP-financed technical assistance component. No duties or taxes would be applied to project expenditures. The foreign exchange component is estimated at US\$3.5 million, about 90% of total project cost. The proposed IDA credit of US\$3.2 million and the UNDP grant of US\$0.3 million would finance the full foreign exchange cost and most local costs of the technical assistance component. The Government would finance the remaining local currency cost of about US\$0.4 million equivalent. The Government funds would be made available in the form of annual budgetary allocations.

42. The MOF would arrange for the provision of credit to pole and line vessel owners for the financing of the purchase and installation of engines.

Credit would be available only to owners of pole and line vessels (Section 3.04(a) of the DCA) and would cover 100% of the cost on the following terms: (i) 9% interest per annum (Section 3.04(b) of the DCA) and (ii) eight year repayment period with no grace period (Section 3.04(c) of the DCA). The Treasury Division of the Department of Finance would act as agent for the MOF for the collection of repayments to be made on a bi-monthly basis. The foreign exchange risk would be borne by the Government (Section 3.04(d) of the DCA). Insurance of vessels to be financed under the project would be mandatory (Section 3.04(e) of the DCA).

Procurement

43. The MOF would be responsible for procurement for the mechanization and MRCs components. Technical services of specialized procurement consultants have been included under the credit to assist the Government in preparing tender documents, evaluating the bids, and awarding the contracts (Section 3.03(a) of the DCA). Contracts for the supply of 500 engines, spare parts, and initial stock of spare parts (US\$3.06 million equivalent 1/) and equipment for MRCs (US\$0.06 million equivalent 1/) would be awarded through international competitive bidding in accordance with IDA guidelines. Engine and spare parts contracts would also specify training of MRCs and Male Boat Yard staff. Contracts for equipment for the aids to navigation would be awarded through international competitive bidding in accordance with IDA guidelines and would be administered by DPW. The contracts for the MRCs buildings would be small (less than US\$12,000 each 1/), scattered over five widely dispersed sites, and therefore, unsuitable for international competitive bidding; contracts for this work would be on the basis of local competitive bidding in accordance with procedures satisfactory to the Association. Steel structures for the lights and other local cost items in the navigation aid component (US\$22,900 equivalent 1/) would be procured under local competitive bidding in accordance with procedures satisfactory to IDA and would be administered by DPW.

Disbursements

44. Disbursements from the proposed IDA credit could be made against (i) 100% of foreign expenditures on engines, spare parts, and MRCs equipment; (ii) 100% of foreign expenditures on equipment for aids to navigation; (iii) 10% of local expenditures on MRCs buildings and structures for navigational aids; and (iv) 100% of foreign expenditures on technical services. Disbursements would be made against full documentation.

Marketing

45. Unlike the prospects for the dried and smoked traditional export product of Maldivian fish, the market prospects for fresh, frozen, and canned skipjack tuna are good. Skipjack is becoming the most important ingredient of canned tuna, the form in which most tuna reaches consumers in the United States, the largest market for tuna. Demand in the United States has been very strong because of sharply increasing prices of beef and poultry meat,

1/ Excluding contingencies.

principal tuna substitutes. World skipjack catches increased from 530,000 MT in 1973 to 645,000 MT in 1976. The world skipjack resources are estimated to have a sustainable annual yield of over 1 million MT; the increases in catches expected in the foreseeable future are not likely to be large enough to pose marketing problems. The Maldivian share of the global skipjack market is expected to remain less than 4% in the next 10 years, and, as the Maldivians appear to have a clear advantage over their competitors in terms of costs of harvesting, no serious marketing problems are anticipated. This would be true even in the most unlikely event (given the rising long-term trend in skipjack prices) that world market prices fall considerably below those anticipated.

Cost Recovery

46. The major component of the proposed project would be for the extension of credit to fishermen for the purchase and installation of inboard engines. The mechanism for subloan repayment and implied taxation on fish exports should enable the Government to recover the full cost of the proposed mechanization as well as the cost of the other components. The loans (about MRs 10.5 million) would be denominated in Maldivian rupees. By converting the foreign exchange cost of the engine to Maldivian rupees at the administrative accounting rate of MRs 3.93/US\$1, instead of at the open market rate of MRs 8.8/US\$1, each purchaser would receive a subsidy of about MRs 22,900 for each engine installed. This subsidy would, however, be more than recovered by STO through application of the same administrative accounting rate to the price of fish for export. Fishermen would receive only about 45% of the dollar value of their fish exports, and over the eight-year loan repayment period, each vessel would receive MRs 330,000 less for its fish exports than if the open market rate were applied. This implied taxation would amount to about 14 times the subsidy implied in the local currency purchase price of the engines. Direct recovery of the cost of aids to navigation and the initial capital cost of MRCs is not included, because the main beneficiaries would pay substantial implied taxes to the Government via the pricing mechanism for exports of fish. The recurrent costs of MRCs would be covered by the rates charged for their services.

Project Benefits and Risks

47. The financial benefits would consist primarily of the value of the incremental catch and improved efficiency of vessels due to the availability of navigation lights and reef entrance markers. At full development in 1981, proposed project investments are expected to yield annual incremental landings of about 11,900 MT of skipjack tuna, valued at US\$3.25 million. In addition, the aids to navigation would improve safety at sea. Despite the high implied tax, the estimated financial rate of return from the mechanization of an existing traditional pole and line vessel is about 33%. The estimated financial rate of return for a new mechanized vessel is about 34%.

48. The estimated economic rate of return for the mechanized vessels is over 100%. The economic rate of return is much higher than the financial rate of return mainly due to the adjustments of the price of fish exports to

the open market exchange rate. The economic rate of return for the entire project investment is 100%. Sensitivity tests indicate that the project remains viable under a series of assumptions with respect to adverse conditions. If the benefits were reduced 30% and costs increased 30%, the composite economic rate of return would still be about 26%.

49. At full development, the project would increase export earnings from fishing by about US\$3.25 million, or 185% over the value of 1977 exports. More than half of the gross annual incremental proceeds of the project vessels would accrue to the Government. The proposed project would significantly increase the incomes of project fishermen. It is estimated that the earnings of vessel owners would increase by about 90% and the earnings of the 5,000 crew members would increase by about 40% for 425 mechanized traditional vessels and by about 80% for the 75 new type mechanized vessels.

50. Risks associated with the project would be a possible overharvesting of skipjack and bait fish resources and a shortage of fuel. However, the skipjack resources in the Indian Ocean are plentiful, and with anticipated fishing efforts, overfishing is highly unlikely. Moreover, the project would only slightly increase bait fish catches, which are adequate. Risks stemming from fuel shortages are expected to be reduced as part of the Government's undertakings regarding the implementation of the proposed project (para 37).

PART V - LEGAL INSTRUMENTS AND AUTHORITY

51. The draft Development Credit Agreement between the Republic of Maldives and the Association, and the Recommendation of the Committee provided for in Article V, Section 1(d) of the Articles of Agreement are being distributed to the Executive Directors separately.

52. Special conditions of the credit are listed in Section III of Annex III. An additional condition of effectiveness for the IDA Credit would be the establishment of the Project Coordinating Committee with membership, powers and functions satisfactory to the Association (para 35).

53. I am satisfied that the proposed credit would comply with the Articles of Agreement of the Association.

PART VI - RECOMMENDATION

54. I recommend that the Executive Directors approve the proposed credit.

Robert S. McNamara
President

Attachments
May 7, 1979

ECONOMIC INDICATORS

GNP (1977): US\$11.0 million

GNP PER CAPITAL (1977): US\$77

<u>GOVERNMENT BUDGET</u> (MRs. million)	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Customs receipts	5.5	5.0	3.7	4.7
Transfers from Public Enterprises	11.8	17.3	15.9	18.3
Other receipts	0.5	0.7	0.8	1.0
Current expenditures	9.9	9.7	9.8	10.0
Development expenditures	12.2	17.7	25.9	20.0
Deficit	3.2	4.4	15.3	6.0

MONEY AND CREDIT (end of year; MRs. million)

Net Foreign Assets	-	-	1.4	-5.9
Credit to Government	-	-	32.7	38.4
Credit to private sector	-	-	2.1	16.4
Money	-	-	29.4	32.4
Quasi-money	-	-	7.7	17.0

BALANCE OF PAYMENTS (US\$ million)

Exports	3.9	2.6	3.0	3.5
Imports	-6.8	-6.7	-5.4	-9.2
Transfer of profits	1.6	1.9	1.4	1.9
Tourist receipts	0.6	0.7	1.0	2.0
Other transactions	1.4	0.7	1.1	1.8
Surplus or deficit (-)	0.7	-0.8	1.1	-

EXTERNAL DEBT (as of end December 1978)

Total outstanding	US\$19.5 million equivalent
Total outstanding and disbursed	US\$3.93 million equivalent
Debt service ratio	0.6 <u>/a</u>

RATES OF EXCHANGE (MRs/US dollar)

Free Market Exchange Rate <u>/b</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Buying	6.0	8.25	8.70
Selling	6.25	9.00	9.15

/a Estimate.

/b End Calendar year.

STATUS OF BANK/IDA OPERATIONS IN MALDIVES

A. Statement of Bank Loans and IDA Credits as of March 31, 1979

None

B. Statement of IFC Investments

None

C. Projects in Executive

None

MALDIVES

FISHERIES PROJECT

SUPPLEMENTARY PROJECT DATA SHEET

Section I: Timetable of Key Events

- (a) Time taken by country to prepare the project
8 months.
- (b) Agencies preparing the project
Government with the assistance of consultants
financed by the Kuwait Fund for Arab Economic
Development.
- (c) Date of first presentation to the Bank and date
of the first mission to consider project
December 1977
March 1978
- (d) Date of departure of appraisal mission
September 25, 1978
- (e) Date of completion of negotiations
April 19, 1979
- (f) Planned date of effectiveness
August 30, 1979

Section II: Special Bank Implementation Actions

none

Section III: Special Conditions

- (a) The Borrower would make arrangements, satisfactory to the Association, for the technical assistance component expected to be financed by UNDP (para 34);
- (b) the Government would not undertake additional pole and line vessel mechanization schemes with external assistance in such a way as to impair implementation of the proposed project (para 36);
- (e) the Government would prepare and furnish to the Association by September 30, 1979, a plan for the future organization, management and operation of MRCs (para 37);
- (d) the Government would take all such actions as shall be necessary to ensure, to the satisfaction of the Association, that throughout the project execution an adequate supply of fuel is available to the fishing vessels mechanized under the project (para 37); and
- (e) the Project Coordinating Committee would be established, with membership, powers and functions satisfactory to the Association (condition of effectiveness, para 35).

