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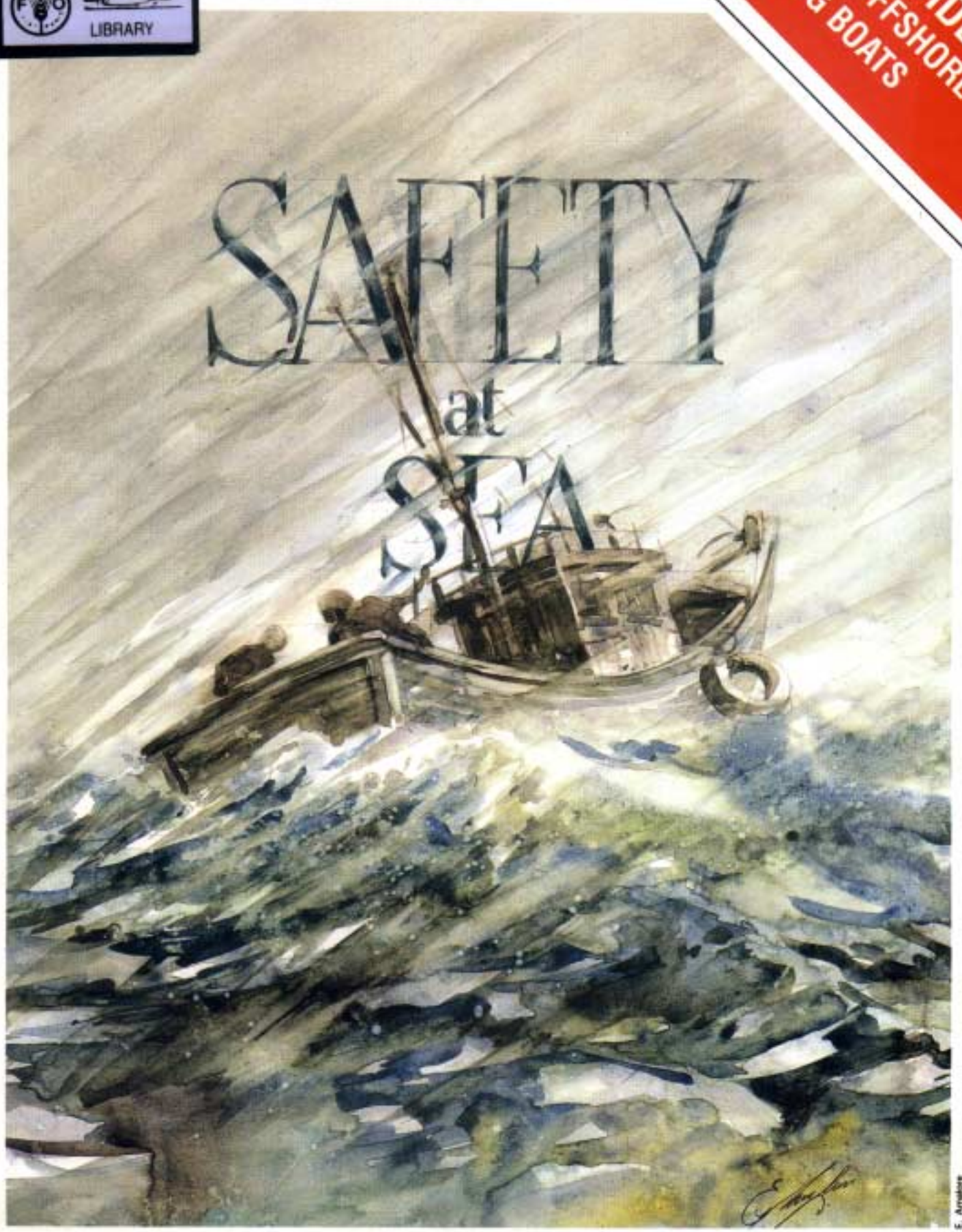
SAFETY GUIDE
FOR SMALL OFFSHORE
FISHING BOATS

SAFETY at SEA



E. Arnaboe

BOBP For Fisheries Development
BAY OF BENGAL PROGRAMME

A SAFETY GUIDE FOR SMALL OFFSHORE FISHING BOATS

BY
O. GULBRANDSEN
Consultant Naval Architect

and

G PAJOT

Sr Fishing Technologist

BAY OF BENGAL PROGRAMME
Madras, India
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INTRODUCTION

Small boats, less than 12 m in length, are not used in most countries to fish offshore for large pelagic species. That was the case in Shri Lanka too, upto around 1980. All the fishing there took place in coastal areas during the day or night and fishing trips never lasted more than 12 hours. That is not true any more. About 400 small decked boats of 9-11 m now venture out as far as 200 n miles from shore and stay at sea for upto ten days in search of tuna, shark and billfish

The expansion of the offshore fisheries in Shri Lanka was, in many ways, hurriedly done, without the required upgrading of boat technology for boat and crew safety. These fishermen are still facing new challenges and do not have the experience to prevent breakdowns and, worse, losses at sea. The result is a relatively high accident rate. Every year, an average of eight boats and around 30 men are lost at sea without trace.

The Bay of Bengal Programme (BOBP) undertook a subproject in 1982 to develop small offshore boats in Shri Lanka. Besides developing these boats, the subproject, as a follow-up, dealt with the problem of safety at sea and offered advice on search-and-rescue for the offshore fisheries. Various studies, followed by seminars and consultations held during the last few years, identified two avenues for improved safety:

- Government regulations to be introduced at some stage, but which will have to be carefully considered before introduction.
- Information to be provided to boatyards, boat-owners and crew on the design and operational aspects which contribute to making a safer fishing boat that will provide adequate protection for the lives of those aboard.

The purpose of this manual is to assist the latter effort.

Since no international rules or guidelines exist for fishing boats less than 12 m in length, advantage has been taken of local experience and of the work done on the safety of small fishing boats in European countries, the United States of America and Australia.

The manual covers aspects of safety that are relevant to all decked fishing boats less than 12 m in length, but it deals more in detail with the engine installation, since experience in Shri Lanka has shown that engine breakdown. which leads to drifting, is a major cause of fishing boats being lost. The manual indicates practical solutions to safety problems faced by multiday offshore boats off Shri Lanka and elsewhere.

When dealing with safety for small fishing boats in developing countries, the question of cost is unavoidable. For example, the cost of an inflatable liferaft is high in relation to the total cost of these small boats and might not,' at this stage, be feasible. A better engine installation, however, will not increase the cost substantially, but will, together with better engine maintenance, lead to a substantial reduction in engine breakdowns at sea and, thereby. lessen the number of fishermen lost.

Other low-cost safety measures are:

- Increased fuel tank capacity, to avoid placing fuel drums on deck.
- Lashing of hatch covers.
- Better installation of gas cooker.
- Emergency sail for small boats.
- Introduction of the 'buddy' system, whereby several boats keep in contact with each other at the fishing grounds in order to assist each other when in trouble.

As the Guide is intended to be of practical use to boatbuilders, boat-owners and fishermen, it has been necessary to be specific and go into detail. It will also be very useful to teachers in fisheries training schools and extension field officers dealing with small-scale offshore fisheries.

The Safety Guide has been prepared by Ø Gulbrandsen, Consultant Naval Architect, and G. Pajot, Senior Fishing Technologist. It incorporates the work of Emil Aall Dahle, Consultant on Safety at Sea, BOBP staff, Fisheries Officers, boatyard personnel and all those who were involved in the development of offshore fisheries in Shri Lanka. It has not been cleared by the Government concerned or the FAO.

CONTENTS

ABBREVIATIONS

L	=	Length	GM	=	Metacentric height
D	=	Diameter	KW	=	Kilowatt
iD	=	Inner diameter	Tr	=	Rolling period
H	=	Height	RM	=	Righting Moment
B	=	Beam	PA	=	Nylon
F	=	Freeboard at bow	PP	=	Polypropylene
K	=	Empirical constant	PE	=	Polyethylene
T	=	Thickness	Kg	=	Kilogram
S	=	Spacing	Ah	=	Ampere hour
V	=	Volt	hp	=	Horsepower
A	=	Ampere	SWG	=	Sheet and wire gauge
R	=	Radius	FRP	=	Fibreglass reinforced plastic
	=	Effective length	GPS	=	Global Positioning System
	=	Minimum freeboard	PVC	=	Polyvinyl chloride
d	=	Distance	LOA	=	Length overall
m	=	Metre	CUNO	=	Cubic number
m2	=	Square metre			
mm	=	Millimetre			

NOTE: Unless otherwise stated, all dimensions are in mm

An offshore fishing boat fitted *with* **the necessary safety equipment**