

# Fishing boat construction: 4

Building an undecked fibreglass reinforced plastic boat



**Cover photo:**

One stage in the production of an undecked fibreglass reinforced plastic boat in the Maldives.

Courtesy of Derrick Menezes

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# Preparation of this document

This manual has been developed from information collected during a post-tsunami rehabilitation project of the Food and Agriculture Organization of the United Nations (FAO) funded by the Government of Japan and carried out in the Maldives after the 2004 Tsunami.

The 4.5 m fibreglass boat featured in this manual is the MDV-1. It was developed cooperatively by FAO and the Maldives' Ministry of Fisheries and Marine Resources to replace the traditional wooden *Bokkuras* lost in the Tsunami. Øyvind Gulbrandsen, FAO consultant Naval Architect, was responsible for the final MDV-1 design.

In 2005, while training local people in the Maldives to build their own boats, Thomas Anmarkrud made a preliminary record of the work. He has now revised and expanded this information and included additional photographs from Derrick Menezes, boatbuilding consultant for the FAO Fisheries and Aquaculture Department, who also worked on the project. Some photographs from Thomas Anmarkrud's own boatyard and his consultancy work in Sri Lanka, China and Poland have also been used to illustrate the procedures and techniques described.

Preparation of this manual was funded by the FAO Fisheries and Aquaculture Department and completed under the supervision of Ari Gudmundsson, Fishery Industry Officer (Vessels), Fishing Technology Service.

## Abstract

In many areas of the world, finding the type of timber needed to build a good quality wooden boat is becoming a problem. As a result, fibreglass reinforced plastic (FRP) is beginning to be used by many wooden boatbuilders. The information provided in this manual relates specifically to the production of a 4.5 m open fishing boat called the MDV-1. It is a simple, easily-driven, seaworthy boat intended for both rowing and power propulsion. Its general-purpose design is suitable for inshore waters around the world.

A general basic knowledge in the use of FRP as a boatbuilding material is presented and step by step construction of a 4.5 m open fishing boat using FRP is set out in detail. In addition, the booklet describes how to maintain an FRP boat and how to recognize fatigue problems. Some simple guidelines on how to repair minor damage to FRP are also included.

The information is intended for less experienced boatbuilders who already have a plug or mould. (Making a plug is not easy and requires experience in reading line drawings and lofting frames.) It is assumed that people planning to build a boat already have a good, general understanding of basic hand tool use. This manual will also be a useful aid for maintaining and improving quality control practised by boatbuilders who already have some experience working with this material.

This manual should give boatbuilders and fishermen a better understanding of how FRP acts, how to recognize fatigue problems and more serious damage, and how to carry out needed maintenance and repair.

**Anmarkrud, T.**

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