

## **Building timber boats in Indonesia**

Most of us would remember the days of boat people arriving in Darwin or Christmas Island on overcrowded Indonesian fishing boats. The boats were always described in the media as unseaworthy, unsafe and terribly built. Which is a crock. Indonesians have been building timber fishing boats for thousands of years, aren't collective idiots, own and use a hell of a lot of them and have figured out what sort of hulls they need, how to build them quickly and efficiently, and how to adapt them to local conditions. Given that Indonesia is a collection of several hundred islands which were amalgamated into a single nation fairly recently, there was and is a huge amount of regional variation in language, culture and boat building technique and design. Boat design, especially, varies enormously across the archipelago, with designs being adapted to local weather and landing facilities.

Some years ago I was involved in a short aid project in Madura, an island to the east of Java. The concept was to teach the local fisheries management team how to best manage their local resources. Given that

a) the area they managed covered about 2000 nautical miles<sup>2</sup> and contained a fleet of well over 2000 boats

b) the fisheries management team expected me to show them how to catch more fish from this tiny, crowded pond by using up-to-date technology and

c) my background and training has always been about managing sustainable fisheries and fishing for profit whereas the locals fish for protein and kept everything they caught, down about 10 mm long,

the project itself was never going to end well. But it did give me the opportunity to see how local boats were built, and that was an eye-opener.

Indonesian boats can be beautiful. Long, fine hulls to suit low-powered engines, high bows and sides, colourful painting and presentation. The regional variation I mentioned earlier is especially obvious around Aceh, where boats hulls are flat-bottomed and so can be easily dragged ashore over mud flats. Those in more exposed areas tend to be deeper, have proper keels and a double ended configuration and to a length of about 12-15 m, when conventional flat sterns take over.

The way these boats are built is fascinating. Initially a keel is laid down and stem and stern post inserted. Next step involves cutting and inserting garboard strakes. This is done without framing the boat. Planks are attached with peg and dowel. The hull is built up plank by plank, with very broad planks being bent over an open fire, being weighed down by rocks and kept damp by slapping on water for shaping. Simple, but effective. Planks are shaped using an adze and there must be fabulous skill levels in shaping these planks precisely, without any evidence of a plan or mould. Watching chippies holding onto planks in their feet while trimming timber with ultra-sharp adzes gave me the willies but they all

appeared to have the normal number of toes, so must have known what they were doing.

Once hull planking is completed the planking is tightened up and into deck level and the lower section of planking attached to frames. A capping section is then attached to the stem, around the upper planking line to the stern post. In smaller boats, less than about 10 m, an engine mount is attached into the capping section, well above the water line. A basic petrol or diesel car engine is fitted to this bed, with a long-tail shaft somewhat like the system used on Thai river boats. Looks like hell, but seems to work. There seemed to be a preference for sail-powered boats on the northern coast of Madura: I'm uncertain why this was the case.

The hull is then decked and sealed with a locally made caulking compound. I didn't find out what it was made from, which may have been a good thing for all of us, but it was good and sticky and didn't smell great. Finally, the hulls was smoothed down, in part with an electric plane, painted and launched. No mucking about with these builds - an 8 m hull could be completed by a team of 4 builders in about 8 weeks, from what I could understand.

All in all, the background and process of boat building in Madura was an expression of simple needs, efficiency and cost control in a very third world economy.

Mike Dredge

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