

Cargo Proa Prototype

Building Blog

JUNE 2022

Finally got 5 kgs of epoxy. The hardener was faster than the stuff we used in the Marshalls and just as much a challenge, especially working inside the 800mm/32" x 800mm/32" hull. I managed to get the first bottom joined and the mast step stringers in using 200g / 7 oz mixes, but it was a near thing. I used bundles of tow instead of fillets on the stringers to increase the joint strength. Worked well.

The 2nd end was more challenging as it was twisted (my fault, shouldn't install bulkheads on a gravel slope). A couple of judicious cuts and it all went together, but there was some unpleasant grinding to do inside once the hull was on its side.

I glassed the outside of the joins from waterline to waterline over the deck and wrapped the top mast rings in tow. Looks OK and seems strong.



Ready to join



Twisted join



Mast step



One piece

Mast stepping

I spent the first couple of weeks here trying to figure out how to insert the masts. I finally looked up and saw the great big tree next to the slip. A student slung a line over a branch, I rigged a block and tackle and after a few adjustments (“one two three, slide” and 20 students move the hull) the 1st mast was in. The second one won't be so easy, we may need to tip the boat on it's side, which is tricky as it will need to be in the water to get the mast step under the tree.. I was discussing this with the head gardener (CATD is almost self sufficient, the students do the gardening under supervision) who came up with a typically out of the box solution. Pics next update.

I bit the bullet on the beams that Rassy and I had spent so much time and effort building and trimmed off the loop on the end and replaced it with multiple dyneema wraps. Means the mast can be raised and the beams installed afterwards, which makes everything (including the build of the next one), much easier.

After a hot day's work one of the students asks if I want a coconut drink. Sure, I say. He shinny's up the tree in no time flat and tosses down half a dozen nuts. One of the others holds a nut in his hand and hits it with 6 machete blows to de husk it and open the top. OHS's worst nightmare, but these guys do it all the time. The juice is lovely, as refreshing as a cold beer.



Tree crane



Mast up



Coconut palm climbing

Lifters



Apart from spending time mixing teaspoons of epoxy, why isn't work proceeding faster? It rained for the first 2 weeks. The shed is fine unless a strong breeze blows rain from the east, which it did. The boat is designed to be built with limited infrastructure, so this and intermittent electricity (4 all day power cuts in the last 2 weeks) are good learning experiences. It's also hot. A good morning's work followed by a siesta then back to work until dark is pleasant, but not very productive.

We have plenty of important visitors, wannabe partners and potential funders who get guided tours. There is a fair bit of other stuff on the agenda around MOU's, grants, teaching and the future which all needs to be discussed. Fortunately, we are an hours drive from Suva, so only the keen visit, but there are still a lot of them.

The Fijian PM was going to visit CATD to open a conference and had asked for a briefing on and a look at the boat. Unfortunately, the Chinese foreign minister was visiting on the same day and he carries more clout than us, so the PM has postponed the visit.

Last weekend we were invited to Leleuvia to fix a busted outrigger. Took 30 minutes, spent the rest of the time relaxing. Met some influential people, all of whom were interested in the project. Half a

dozen of them visited the boat on their way home. I'm busting to drop some names, but have been told not to. 😊

It looks like we are setting up a joint venture to replace the petrol part of outboard motors with electric. Some impressive Australian technology involved at a reasonable cost. Waterproof to 1m, droppable on concrete from waist high, all plug and play so any busted components can be replaced on the beach, motor and prop properly matched.

We got a request from the UNDP to attend a meeting to discuss a grant application. Seems they have money available, but no projects that tick the necessary boxes. The cargo proa does. We shall see in August when the money is allocated.

How serious are the Fijians about cargo proas and green shipping? I took someone down to the slip to see what could be done about cutting up and removing the sand barge. He glanced at it, said, "No problem", turned around and said "What I want to talk about is the production factory." There is ~100m x 75m of flat land (currently a flourishing taro patch and 2 cargo proa sheds) and he wanted to know what a cargo proa building factory, with class rooms to teach modern and traditional sailing, building and navigation, a full width slipway, offices, maritime museum and an innovation and testing space would look like. Fortunately, Steinar is good at this sort of stuff and came up with a preliminary sketch. Everybody is pretty excited. The sand barge is still there, but hopefully not for long.

The students continue to delight. Drum roll (hollowed out log and 2 sticks, beaten fast) at 5.30am. I get up, make a pot of coffee and watch the sun rise while they sing hymns: a lovely way to start the day. When I lend them my tools (I am pretty sure my little sledge hammer was instrumental in the demise of the pig we had for dinner last night), they are always returned, often in cleaner condition.

I have built a lot of boats in the garage of various houses I've lived in, often upsetting the neighbors in the process. Here, when I start work, my neighbors turn up to see what is going on and offer to help. Refreshing.

A couple of days after my birthday, I was asked to visit the carpentry workshop. The guys had built me a tool box, turned it into a great big birthday card. The art and sign writing is all free hand with a texta. The artist is going to go to work on the cargo proa if/when I stop grinding bits off it.

Next update (mid July) should be a PR ripper.



Big birthday card

