

Supplementary Figures and Table

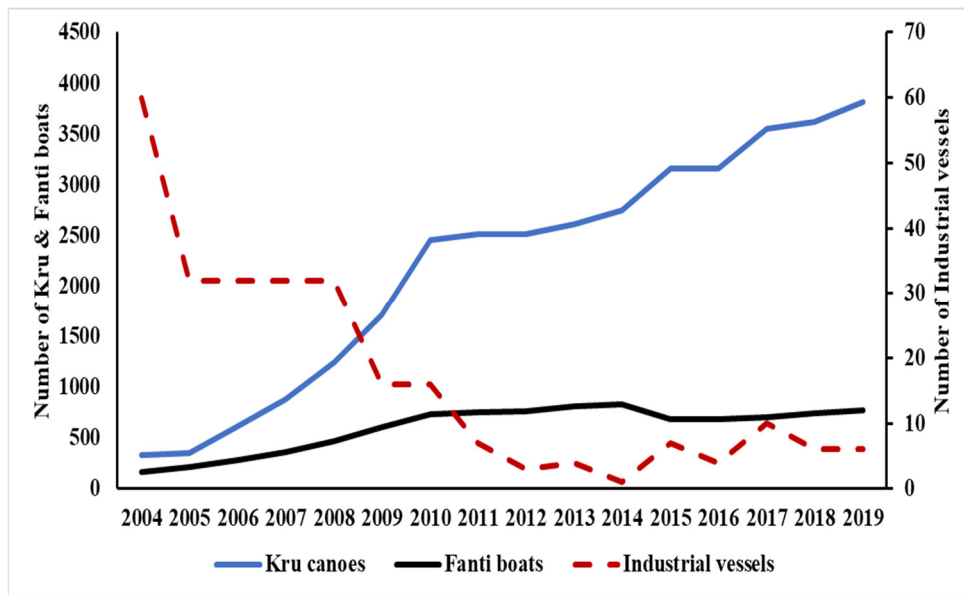


Figure S1. Changes in coastal fleets in Liberia. Source: National Fisheries & Aquaculture Authority (NaFAA) (2018).

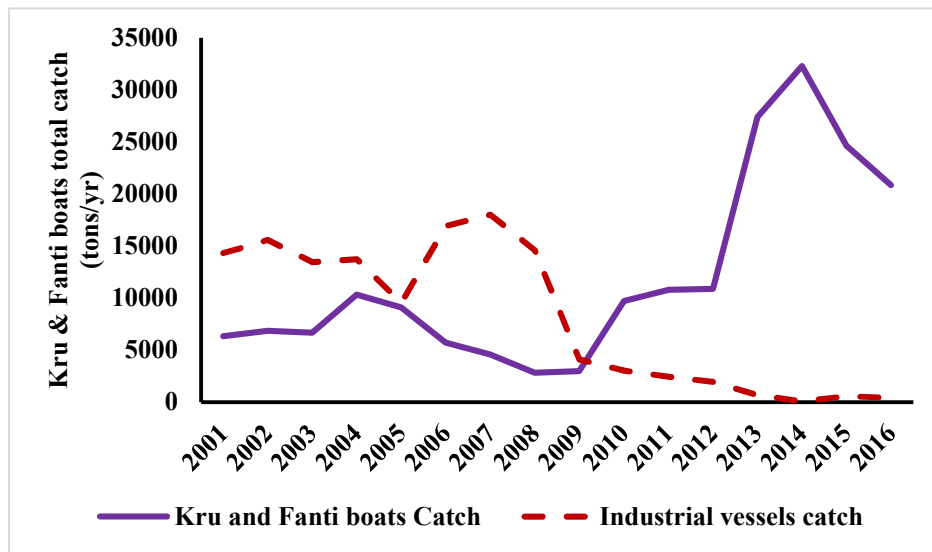


Figure S2. Catch development of the Liberian coastal fleets. Source: National Fisheries & Aquaculture Authority (NaFAA) (2018).

Table S1. Generalized likelihood test ratio tests of hypothesis for parameters of SPF and technical inefficiency models for the small-scale fisheries in Liberia.

Null hypothesis	Log-likelihood value	Critical value (χ^2)	Decision
Kru canoes			
$H_0: \gamma = \delta_0 = \delta_1 = \delta_2 = 0$	-49.64	0.45	fail to reject
$H_0: \beta_{11} = \beta_{22} = \beta_{33} = \beta_{12} = \beta_{13} = \beta_{23} = 0$	-49.64	12.59*	reject H_0
$H_0: \delta_1 = \delta_2 = 0$	-45.53	15.03*	reject H_0
Fanti Boats			
$H_0: \gamma = \delta_0 = \delta_1 = \delta_2 = \dots = \delta_6 = 0$	-142.38	1.64	fail to reject
$H_0: \beta_{11} = \beta_{22} = \beta_{33} = \beta_{12} = \beta_{13} = \beta_{23} = 0$	-142.38	16.81**	reject H_0
$H_0: \delta_1 = \delta_2 = \dots = \delta_6 = 0$	-136.16	22.46***	reject H_0

Note: ***, ** and * are statistically significant at 0%, 1%, and 5%. The critical values for the hypothesis are obtained from Tab 1 of Kodde and Palm (1986).

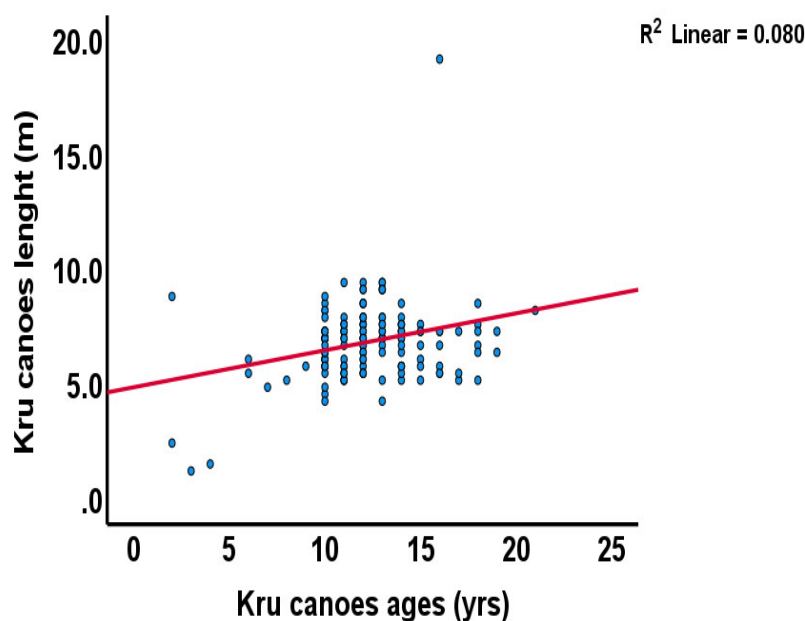


Figure S3. Variability in length by age of Kru canoes.

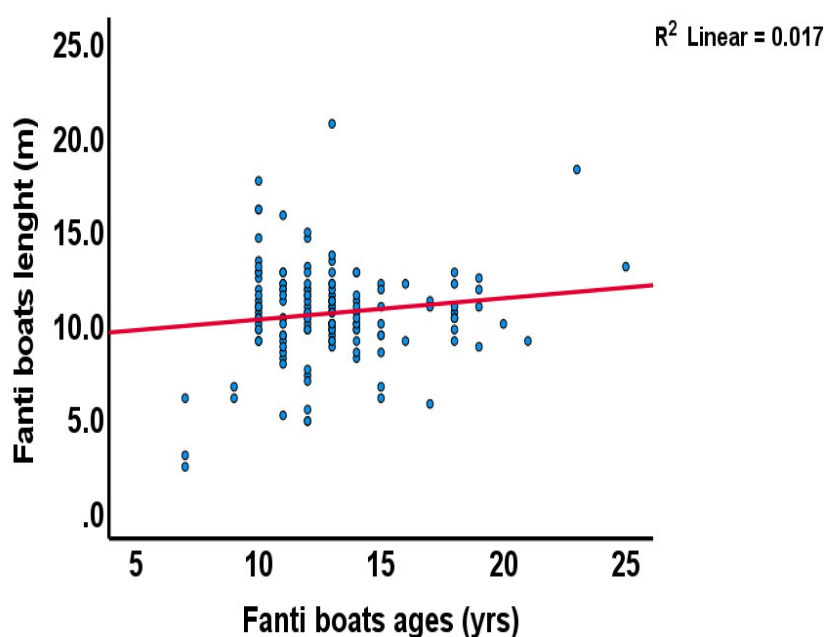


Figure S4. Variability in length by age of Fanti boats