

Table S1. Definitions of artisanal fishing gears used along the Kenyan coast with State Department of Fisheries' legal status. Gear category varies depending on the type, depth and behaviour of targeted species and habitat. Gill nets are among the most widely used gears and varied from 2.5cm to 46cm in stretched mesh size in relation to the target species, the depth of species (surface, mid-water, demersal) and may be set or left to drift. These sub-types are not reported separately and the illegal monofilament gillnet is hidden within the aggregated gill net data. A purse seine, locally called a ring net, though recently legalised (December 2010), was previously banned and remains controversial among coastal stakeholders. Mean catch rates (CPUE, kg/fisher/day) and fishing duration illustrates differences between gears and are from 2006. SE = standard error of the mean. Line weight is given in pounds (lb.) since fishers use and purchase lines in lbs. 1lb.=454g. Mesh size (stretched) is expressed by fishers and retailers in inches so both cm and inches (") are provided here. 1inch=2.54 cm.

Gear Category ^a		Fishing gear description and deployment	No. of fisher (SE)	Fishing duration hrs (SE)	CPUE
English name legal status deployment	Kiswahili name mesh size				
Basket traps Legal Passive ^b	<i>Malema/Madema</i> <i>Large size:Matole</i> <i>small size: Matowe</i> 3-6cm (1.2-2.4")	Hexagonally shaped: ~150 x 141 x 34 cm in size with a volume of ~645,000 cm ³ ; made from a wooden frame and interwoven reed strips. One way cone-shaped entrance funnel of ~30-37 cm diameter and 45-70 cm length. Rocks are attached as sinks. Deployed from a canoe and left overnight with bait (generally algae, but also brittle stars, crushed sea urchins, and molluscs). Traps degrade quickly and have a life span of ~ 4-8 months.	1.3 (0.01)	2.5 (0.03)	4.4
Fence traps/Weirs Legal Passive	<i>Uzio</i> <i>Zonga</i> <i>Utanga</i> <i>Rasaka</i> <i>Wando</i> <i>Tando</i> Netting: 1.5-2.5cm (0.6-1.0")	Stationary semi-permanent intertidal fences set in bays or sheltered areas perpendicular to the shore to catch fish as the tide goes out. Made of mangrove stakes or palm frond with midribs tied tightly together at intervals of <1cm. <i>Utanga</i> is a barrier made of mangrove poles. Less permanent trap types (<i>rasaka</i> , <i>wando</i> , <i>tando</i>) use several pieces of 1.5m x 30m long netting material of mounted on stakes placed at 5m intervals.	1.4 (0.18)	1.31 (0.35)	1.5

Gear Category ^a		Fishing gear description and deployment	No. of fisher (SE)	Fishing duration hrs (SE)	CPUE
English name legal status deployment	Kiswahili name mesh size				
Long line Legal Passive	<i>Zulumati sunati</i> <i>Dhulumati karputi</i> <i>Mshipi wa taa</i>	Single main line of nylon ~200m long, anchored and buoyed in a horizontal position at or near the bottom (set longlines); or at surface, or at certain depth (drift longlines). A series of vertical short nylon snoods are attached at 5-10m intervals. Longlines use artificial bait (e.g. squid lures) or natural bait (e.g. milkfish, sardine). Set longlines are deployed ~100m depth and usually left over night. Target both demersal (e.g. groupers, snappers) and pelagic species (e.g. kingfish, sharks, tuna, sword fish and marlin).	1-4	~ 6	9.5
Handline (hook and line) Legal Active ^a	<i>Mshipi</i>	Single nylon line attached to baited steel hook(s) held by hand with or without a pole and deployed from a stationary or drifting paddle or sailing canoe. Preferred bait include small fish, crushed squid, octopus, and bristle worms extracted from smashed coral boulders. Deployed at depths <40m within rocky areas, coral reefs, channels or offshore areas. Targets pelagic, mid-water or demersal species.	1.5 (0.02)	4.11 (0.05)	5.2
Gill nets	<i>Jarife, Nyavu</i>	Net are made of multi-filament nylon string of varying thickness (lb.) and varying mesh size. Gill nets are suspended by numerous floats and are held vertically in the water column with lead or stones. Gillnets fall into two broad categories based on how they are used: drifting or stationary.			
a) stationary gill nets Legal Passive	<i>Jarife, Nyavu ya kutega</i> <u>Sub-types</u> a) <i>Soni</i> 10-15cm (3.9-5.9")	Stationary gill nets are deployed by boat or canoe, are anchored mid water or near the bottom, often in channels along fish paths, or in the lagoon targeting demersal species and also shark and rays. Bottom set nets are anchored to the seabed. The net is secured at either end with large boulders, marked with a large float and left to fish overnight. Hauling is done daily to prevent catch spoilage. No data available on CPUE for sub-types listed here. <u>Sub-types weights of nylon string</u> 24lb. NB. This net rarely left over-night.	2.5 (0.23)	1.66 (0.24)	3.4- 5.5

Gear Category ^a		Fishing gear description and deployment	No. of fisher (SE)	Fishing duration hrs (SE)	CPUE
English name legal status deployment	Kiswahili name mesh size				
	<i>b) Shuhuri</i> 18cm (7.1")	36lb.			
	<i>c) Oban</i> 20cm (7.9")	36lb. <i>a), b) and c)</i> target shark, kingfish, tuna, flounder, rays, needlefish, halfbeak, lobster			
	<i>d) Sinia nusu</i> ~ 23cm (~9")	25lb. Targets shark, rays and kingfish			
	<i>e) Lasha</i> 30-36cm (11.8-14.2")	28 lb. Targets shark and rays			
	<i>f) Sinia kubwa</i> 46cm (18.1")	25lb. Targets shark and rays			
<i>b) Drifting gill nets</i> Legal Active	<u>Subtypes</u> <i>a) Jarife, Nyavu ya kueleza, Nyavu ya kuogelesha</i> 5-12cm (2.0-4.7")	Drift nets are deployed from boats or canoes, usually offshore beyond the reef. The net is set at the surface and left to drift freely with the current, or kept connected to the boat and they drift together. After ~ 1-2 hours the net is hauled. Multifilament string string weight ~20lb. Targets shark, rays, mackerel, tuna and other pelagic species.	2.2 (0.07)	1.62 (0.13)	11.9
	<i>b) Nyavu ya tafi, mpweke</i> 2.5-11cm (1.0-4.3")	Large net 1.5 x 30m deployed in shallow (< 5m) lagoon waters free of corals. String weight of 9lb. The net is pulled slowly while hitting the water with stakes to direct fish towards the net. Targets rabbitfish and emperor.	3.7 (0.05)	6.68 (0.12)	4.5

Gear Category ^a		Fishing gear description and deployment	No. of fisher (SE)	Fishing duration hrs (SE)	CPUE
English name legal status deployment	Kiswahili name mesh size				
c) Mono filament net Illegal Passive	<i>Nyavu ya mkano</i> 5.0-6.5 cm (2.0-2.6")	A gill net 2.5m x 50m long, made from a single nylon filament, usually clear and invisible in the water, with small buoys and sinkers. Deployed by anchoring one end and tying the other end to the canoe using a ~10m rope. Catch is hauled towards the anchored end. Targets garfish, half beak, and mullet. Nets made with mono-filament are banned as they are non-degradable.	2-4	4	-
Beach or reef seine Illegal Active	<i>Juya, Buruta, Kigumi</i> < 3 cm (1.2")	Seine nets of multi-filament nylon 100-200m long and made of 3-4 m deep netting of variable mesh size. They are suspended by floats and weighted with a heavy lead line or stones. Deployed from the beach (beach seine) or offshore from two boats (reef seine) and pulled through the water. Variable but small mesh size with loose section of netting on the sides for directing and retaining fish towards an optional fine-mesh cod end or bag. The gear targets mainly reef associated demersal fish.	8.1 (0.45)	3.46 (0.19)	1.5
Ring net Legal status in review Active	<i>Nyavu ya kufunga</i> ~1.5-8cm (0.6-3.1")	Large seine net, 90-300m long, 15-30m wide. Suspended from the surface with floats. Deployment requires a larger boat with an outboard engine and a smaller support boat. The bottom foot-rope is threaded through metallic rings at the bottom of the net, together with a nylon rope which is used to pull the net tight to encircle the fish. Often, the net is weighted with gunny bags half-filled with beach sand to accelerate sinking. Masks, SCUBA tanks and presence of low flying birds are used to locate schools of fish and aggregations.	19.4 (1.84)	4.58 (0.72)	9.0
Mosquito net Illegal Active	<i>Uduvi</i> 1.0-3.0 mm	Nets made of mosquito bed-netting used as active fishing nets, usually by women. Dragged while standing in waist deep water close to shore. High catch of juveniles.	N/A	N/A	N/A

Gear Category ^a		Fishing gear description and deployment	No. of fisher (SE)	Fishing duration hrs (SE)	CPUE
English name legal status deployment	Kiswahili name mesh size				
Cast net Legal Active	<i>Kimia, Kimia cha cha cha</i> < 5 cm (1.2")	Large (15-18m x 8-10m) circular pieces of fine mesh net with floats and weights to aid suspension and sinking, respectively. Metallic rings at the bottom foot-rope to close the net during retrieval. Typically deployed in shallow waters from the shore or a canoe to surround and enclose fish. Targets sardines, prawns, sprats, squids, mullets and other pelagic fish swimming near the surface.	9.0 (1.08) (1-2 for hand thrown)	3.62 (0.56)	13.7
Speargun Illegal Active	<i>Bunduki</i>	A long hand gun ~1.5-2.5 m made of wood or metal tube, with steel harpoon powered by rubber/inner tube strips. Mostly used by young fishers with masks or small goggles from shore or canoe. Target fish such as parrotfish, snappers, groupers, rays and also octopus.	1.0 (0.00)	3.31 (0.02)	5.7
Spear Illegal Active	<i>Mkuki, Mkonzu</i>	Steel or iron rod sharpened at one end, with or without a wooden handle. Used from shore by hand to stab invertebrates (octopus and rays) and fish when snorkelling.	1.0 (0.00)	4.11 (0.08)	4.4
Harpoon Illegal Active	<i>Shomo</i>	Wooden harpoon without metallic tips, used from shore, mostly targeting octopus when walking at low tide.	1.0 (0.01)	3.18 (0.12)	3.4

a) Gear names vary based on use, geographical location and local language.

b) Active versus passive gear refers to whether the gear is pulled or dragged or fishers actively scare fish into the gear.