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**'ONE MAN NO CHOP'**  
**Beach seine fishing in Ghana (West Africa)**

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**Introduction**

This photo essay<sup>1</sup> describes one of the fishing techniques<sup>2</sup> used in Ghana<sup>3</sup>: the beach seine. Beach seining is 'one of the most common fishing techniques used in peasant societies' which could be found all over the world in the 1950s and 1960s (Alexander 1995:110) and has recently been studied for India (Hopewell 2004 and Southwold 2005). In Ghana this technique has been used since 1860 when it was introduced by Afedima, a female entrepreneur from Woe in the Volta Region (Akyeampong 2001:73). It is mainly used by the Anlo-Ewe, one of three ethnic groups active in marine fishing<sup>4</sup>. Afedima had close relations with European merchants (Greene 1996:74), through whom she obtained the net. The local name for the net is *yevudor*, which means 'white man's net'.

**How is Beach Seine Fishing Organized in Ghana?**

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A beach seine is operated from the shore, after it has been set at sea with a canoe. The gear consists of two towing lines (which can vary in length by adding ropes), two wings of net and one cod end in the middle. The length and width of the netting and cod end can vary considerably, also because the seines can be used in lagoons or in the sea surf. The wings have a rope at the top with floats and at the bottom with lead sinkers – whereby the net covers the area from the water surface down to the ocean floor. The net is set in a slightly bent counter-current curve (see Figure 1 – A). After some time this will become an arch by first hauling in the left rope (B) and then pulling both ropes simultaneously to drag the net to the shore (C), leaving the enclosed fish no other option than to swim into the cod end.

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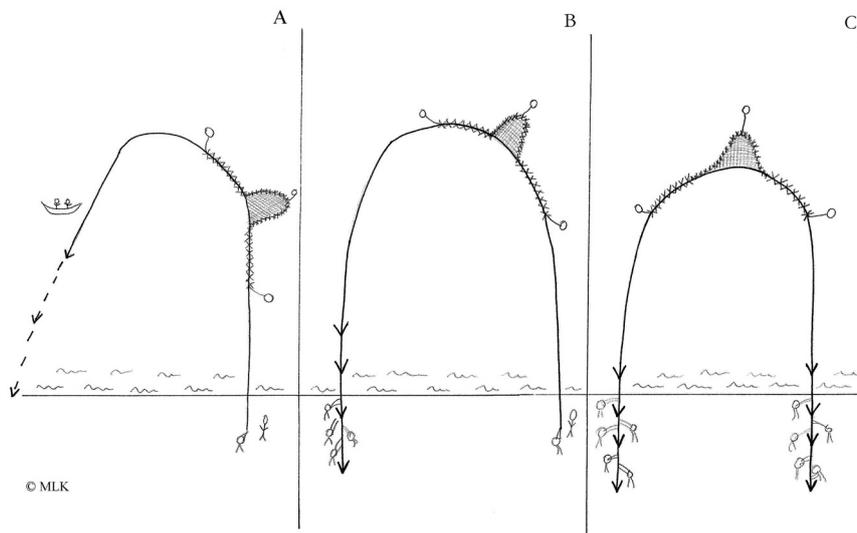


Figure 1. *Setting the beach seine and hauling it in.*

Fishing with the beach seine is done by companies consisting of twenty to sixty people. The fishing companies are run by the owner of the seine net, who generally also owns the canoe. Usually the owner is involved in the daily management of the business; in some cases he has appointed someone to do it for him, mostly family members. The other leaders besides the net owner are the bosun, horseman and secretary. The bosun is in charge of the day-to-day fishing operations. He gives the commands on the beach, makes decisions and is the first representative of the net owner. The horseman steers the boat and commands the crew at sea and also takes the final decision about how to set the net, based on the current. The secretary is in charge of the account book and keeps records of all financial transactions. He also notes down if crew members show up for work, come late or not at all.

Company crews generally consist of strong men, who have to be capable of pulling the net for hours in the hot sun. However companies also include old men, children and women. Their roles and earnings differ from the other crew members, a detail to which we will return. Some of the crew members have special roles like diving, carrying the motor, tying the net in the water, carrying ropes, mending the net, paddling the boat etcetera. Company members sign a contract with the net owner to fish for him for a certain period of time. The length of this period can differ. In Ghana contracts can be signed for nine months (leaving the rainy season with rough weather and low catches out of the contract period) but if companies migrate to neighbouring countries, contracts normally range from one to five years. After the contract period, crew members receive their salary. On signing the contract, the crew member receives an advance payment<sup>5</sup> that allows him to pay off some bills or buy some items. This advance, together with loans arranged with the net owner during the contract period will be deducted from the final earnings<sup>6</sup>. During the period, crew members receive daily 'chop money'<sup>7</sup>,

which is good for one meal a day<sup>8</sup>. Besides the company members, many other people assist with hauling in the net. Their help is never refused and they are always given some fish.

The beach seine is and has been very useful in Ghana. Not only does it provide work for the many people in the fishing companies, in which the earnings are not too bad, it also gives other people the opportunity to earn some fish for the day. This is a diverse group of people like the mentally or physically disabled, university students (as in Winneba and Cape Coast), school children and an occasional anthropologist – all are accepted and given fish. The beach-seine canoe name '*One man no chop*' is therefore well chosen, since many people are also required to operate this net. The downside of the net is its biological impact. It is a non-selective gear and due to the use of too small mesh sizes, many juveniles do not live to reproduce<sup>9</sup>.

In the coming section, I will show twelve pictures and comment on each of them. These pictures were taken during my field work at different times (between 2003 and 2005) and places (in four villages in Ghana: Tegbi and Woe (Volta Region), Akosua Village (Central Region) and Half Assini (Western Region)) and with different companies. However the pictures are ordered according to the sequence of one fishing expedition.

### The Pictures



Photo 1.

This beach seine in photo one is very large and mostly new. The cost of a new beach seine (including netting, ropes, floats and lead) in Ghana is currently about 160 million Cedis (14,000 Euros)<sup>10</sup>. A piece of old netting is visible at the bottom of the pile (lighter colour). Nets are continuously repaired and partly replaced if necessary. If a son inherits a net, he will always refer to it as 'my father's net', even though eventually no old pieces of net remain.



Photo 2.

This canoe in photo two is going out to set the beach seine. It is early morning, when the sea is calmer. The surf in Ghana can be very rough<sup>11</sup> so the canoes must be very solid. They are made in one piece, carved out of the soft and large Wawa tree<sup>12</sup> and are also planked up at the front. The canoe crew consists of paddlers, one or two swimmers and the horseman. The swimmer(s) will bring back the first rope as soon as the surf has been crossed. Crossing the surf is a highly risky venture especially without an outboard motor<sup>13</sup>. The net is packed the evening before so that it can be easily set.

Photo 3.

Photo three shows fifteen men pulling on the rope. With a large net there can be almost thirty or forty people pulling on each side. During the process, the two groups will gradually walk towards each other. This can take three to seven hours, depending on the number of ropes used (which also depends on the size of the net). Many crew members have a piece of cloth that they wind round the (wet) rope to protect their hands. As they pull, you can see their bodies hanging back, putting their full weight into the action. One day when I was helping pulling, the knot between



two ropes had become loose in the sea, which resulted in almost the whole row of pullers falling back on the sand due to loss of the counter-balance of the sea. But not everyone fell on the sand, and these people – including my research assistant and myself – were laughed at and criticized for not having really pulled the net – otherwise we would have fallen too. The rope that had shot loose was quickly retrieved from the sea and reconnected with the rope on land.

On this picture, the ropes have already been hauled in and they are now pulling with the first part of the net in their hands (the pieces of cloth to protect their hands have now been removed and wrapped around their bodies, as you can see with the second man in the row). The net was tied to the ropes in the surf by company members to make the pulling easier. The man in the middle of the row wearing the hat is the old chief fisherman of this Ghanaian village. Although he is well into his eighties, he still comes to the beach every day. Every fishing village in Ghana has a Chief fisherman. He supervises the fishing activities taking place, mediates in conflicts, acts as the spokesperson for the fishermen and processors and is also the one who will inform fishermen and processors on any news from outside. He is the one you need to ask for permission to fish in a village. A Chief fisherman has a council of elders who assist him with his duties. A Chief fisherman is either appointed<sup>14</sup> or chosen<sup>15</sup>. Anlo-Ewe fishermen told me that a Chief fisherman is ideally a net owner who has proven to be good at his job, fair to his workers and hard working.



Photo 4.

Music and rhythm are an important part of beach seine fishing in Ghana<sup>16</sup>. The fishermen sing whilst setting the net at sea and even louder whilst rowing back to the beach afterwards. But songs are also sung while pulling on the beach, some-

times accompanied by whistles or percussion. In photo four, we see two boys holding a piece of bamboo and two men playing it with sticks. They are also singing. There is always a soloist<sup>17</sup> who takes the lead while the rest of the crew sing the chorus. The songs are traditional songs or songs made up on the spot. The rhythm of sounds is copied in the rhythm of the bodies. Some crews almost seem to be dancing. The woman in the picture is Patience, one of my research assistants.



Photo 5.

Sometimes people choose to sit down while pulling, either because they are tired or because of the strong pull of the sea. These old men in photo five have almost hauled the cod end in. The small boy plays with one of the three buoys, which mark the start of the net and the position of the cod end in the water.



Photo 6.

The cod end in photo six is almost ashore. The nets are crossed in order to enclose the fish and soon the two wings will be put together and hauled in as one. The two groups of people pulling on each side of the net have now come together.



Photo 7.

The cod end has been landed in photo seven. These men are emptying the cod end by filling the basins of the women who will later buy the fish after it has been divided into heaps. Not all of the fish is for sale. Some will be given to the people who came to help, the big fish will be put aside to share with the company members (only if the catch is big enough) and the rest will be sold. The fish caught with the beach seine are of many species. The main species targeted by beach seine fishermen are herring<sup>18</sup> and anchovy<sup>19</sup> whose season runs from the end of July to the beginning of September. But many other species are caught throughout the year, such as barracuda, bumper, burrito, flat- and round-sardinella, moonfish and shrimps<sup>20</sup>. Besides fish -- companies in Ghana catch a lot of plastic waste (as in this picture) which they discard on the beach.



Photo 8.

Sometimes companies have a bumper catch (in the case of photo eight horse-mackerel or crevalle jack<sup>21</sup>). This bumper catch was caught in August 2004, which is early for their typical season<sup>22</sup>. The sharing of the fish is then postponed to allow more buyers to come. The news of a bumper catch spreads fast and is often also announced on the local radio. The fish is divided into heaps as usual and the price per heap will be negotiated with one of the leaders. To ensure a good overview, the fish is encircled with rope to separate the crowd from the fish. Only serious buyers may cross the rope. When a catch is this big, a couple of cod ends are used to catch all the fish.

Patience (see picture 4) bought four of these fishes. They were sold at 18,000 Cedis (1.60 Euro) per piece. Unfortunately they had landed this catch at quite a distance from the village. I can still remember how we walked back in the midday sun, through the sand, Patience and I each with one fish on our heads and the data collector from the fishing department helping us with the other two! The next day we drove the four fish in the back of my car back to Accra – what a smell!



Photo 9.

Women company members are often in charge of fetching drinking water for the pullers and carrying the ropes back to where the canoe will leave the following day, as in photo nine. These ropes – often wet – are very heavy. You often see two men helping the woman put the basin full of rope on her head or take it off. The women also help with pulling, often at the back of the rope. The women and children also help empty the net and cod end when the catch is landed. Like the children, they are paid half of what regular company members receive. Old men also earn less because they are less strong. The net lying on the beach is drying in the sun before it is packed again in the boat.



Photo 10.

In photo ten the male company members are carrying the net back to the canoe. Company members are all obliged to help with duties like carrying the net, packing the boat and mending the net. Failure to do so will be noted by the company's secretary and will lead to fines. Maintenance of the net is an important activity. Holes in the net or cod end will obviously result in less catch. Holes can be made by fish in their attempts to free themselves, while setting the net if the boat tears it, or by rocks or irregularities under water. A muddy ocean floor can also cause problems if the net sinks in and gets stuck. The latter areas are avoided when possible but sometimes the current is misjudged or changes in the course of the fishing. If a net is not used for some time, it is carefully dried before being stored away in the house of the net owner. Sometimes little palm frond shelters can be seen at the beach where nets can be stored, but often they are packed in the boat to be used the next day, if the weather permits. The net owner and several other leaders meet in the evening and early morning to have a look at the sea and the weather and decide whether they will go or not. One day a week is a non-fishing day<sup>23</sup> and in larger towns some fishermen do not go fishing on Saturdays because of funerals, which are held on that day.



Photo 11.

At least once a year, the net is overhauled. This means that the lead sinkers and floats are put back in a balanced position. Every part of the beach seine is studied: the ropes, the cod end, the length of the net, the amount of lead, and the position of the floaters. It is a very precise job and is often supervised by a specialist in the company. Adjustments can also be made if changes occur on the ocean floor as, for example, due to an increase in the quantity of mud.



Photo 12.

This picture clearly shows the biological consequences of too small mesh sizes. By law, the mesh size of nets in Ghana may not be smaller than one inch; in practice, however, these fish are also caught in the nets. The reason why beach seine fishermen are not easily convinced about the need to comply is that they are mainly interested in catching anchovy, which requires a small mesh size. At least all fish caught are used; for these fishermen there is no such thing as by-catch.

### Acknowledgements

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### Notes

- 1 In addition to this photo essay, I have made a short film '*if you do good*' which can be found on my website (<http://home.medewerker.uva.nl/m.l.kraan/page3.html>). It is named after the canoe pictured in the film. Canoes in Ghana are beautifully decorated with colours and designs and have names, expressions or slogans painted on them as well (see also Verrips 2002).

- 2 The other major techniques are hand lines or hook and line (mainly done by the Ga) and bottom set gillnets and purse seines (Fanti).
- 3 In 2001 there were 185 fishing villages along the coast of Ghana, with 304 landing beaches and 9981 canoes (of which more than half motorised). There were 813 beach seines along the shore, most of which (36 percent) were found in the Volta Region (Bannerman, Koranteng and Yeboah 2001).
- 4 These are the Ga, Fanti and Anlo-Ewe. However the Effutu (Winneba / Central Region) have also been involved in fishing for a long time, but they do not constitute a large ethnic group and are also often wrongly called Fanti. There are some other coastal ethnic groups involved such as the Nzema (Western Region), but these are a minority.
- 5 For a one year contract, an advance payment is normally about 300,000 Cedis up to 600,000 Cedis (roughly between the 27 and 54 Euros). I use the exchange rate of 1 Euro being 11,000 Cedis.
- 6 Explaining the sharing system and its many variations will require details which I cannot give here yet. It is clear, however, that the difference in earnings between net owners and crew members is substantial. First indications show that the following example is representative: a crew member in Half Assini earned two million Cedis (182 Euros) for nine months' work, minus an advance of 500,000 and 250,000 of extra loans, which left him with 1,250,000 Cedis (114 Euros) after the period. A net owner would get (in about the same period) 10 times as much. Source: Fieldwork notes 13-12-2005.
- 7 Chop is a Ghanaian word for food, a meal.
- 8 The figures I heard are about 2,500 Cedis (0.25 Euro cents) a day per crew member.
- 9 Having said this – it is important to assess the relative impact of this gear type at its scale with the other fishing techniques, including those of the (semi-)industrial fleets.
- 10 The cost of a canoe is another 35 million Cedis (3,100 Euros) and an outboard motor 25 million Cedis (2,200 million Cedis).
- 11 See the departure of the canoe in the film *'If you do good'*.
- 12 Its Latin name is: *Triplochiton scleroxylon*. The tree is widely distributed in tropical West Africa; found in the transition zone between the humid evergreen and semi-deciduous forests. It is a large tree 150 to 180 ft in height ([www2.fpl.fs.fed.us/Techsheets/Chudnoff/African/html-Docs\\_africa/Triplochitonscleroxylon.html](http://www2.fpl.fs.fed.us/Techsheets/Chudnoff/African/html-Docs_africa/Triplochitonscleroxylon.html)).
- 13 In 2001 fifty-two percent of the canoes was motorised (Bannerman, Koranteng and Yeboah 2001)
- 14 Such as in Winneba, with the Effutu, where the role is hereditary.
- 15 As it is generally with Anlo-Ewe fishermen, where maritime fishing and its organisation was relatively new.
- 16 This can be heard in the film *'If you do good'*.
- 17 He will also get paid extra for this important task.
- 18 Vetsimu, adraku (Ewe), *Sardinella aurita*, *Sardinella cameronensis* (Latin)
- 19 (A)bobi (Ewe), *Engraulis encrasicolus* (Latin)
- 20 The species listed here are based on data from 2004 on species per gear, of which I selected the most commonly caught species (besides anchovy and herring) of the Marine Fisheries Research Division (Tema). I only mention the common English name as used in Ghana.
- 21 Afafa (Ewe), *Caranx hippos* (Latin)
- 22 Catches of this species are said to have declined as a result of the damming of the Volta River (see Akyeampong 2001: 180-2 and Overâ 1998:240).
- 23 The day differs. There are three possibilities: Tuesday, Thursday or Sunday. Although the days vary, the rule is generally adhered to.