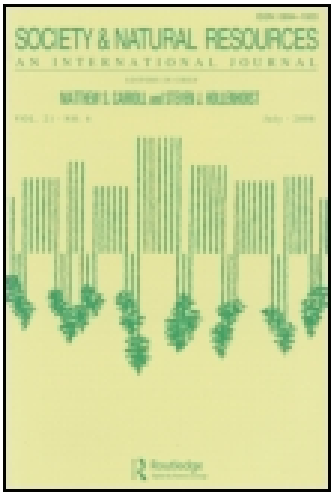

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Shifting Tides, Complex Lives: The Dynamics of Fishing and Tourism Livelihoods on the Kenyan Coast

Christine Carter [a] & Caroline Garaway [a]
[a] Department of Anthropology , University College London , London , United Kingdom
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Articles

Shifting Tides, Complex Lives: The Dynamics of Fishing and Tourism Livelihoods on the Kenyan Coast

CHRISTINE CARTER AND CAROLINE GARAWAY

Department of Anthropology, University College London, London, United Kingdom

This article investigates the complexities of fisher livelihoods and their interactions with the tourism industry on the Kenyan coast, to better understand how the prospects for alternative livelihoods, such as tourism, reduce fishing pressure. Data were derived from a questionnaire of 123 households and 30 interviews. Results showed that fishers cover the whole socioeconomic spectrum and that the role of fishing in livelihoods is heterogeneous both between individuals and for individuals over time. The majority of fishers do not combine tourism and fishing simultaneously, but livelihoods are characterized by a process of moving in and out of various activities as opportunities present themselves. There was no evidence of systematic or permanent displacement of fishers as a result of tourism. Given that fishing is not only an occupation carried out by those with no alternatives, prospects for alternative livelihoods systematically reducing fishing effort, predicated on this assumption, are questioned.

Keywords alternative livelihoods, conservation, development, fishing, tourism

In an attempt to diversify the economies of fishing communities in developing countries and reduce pressure on declining fish stocks, providing artisanal fishers with alternative or additional livelihoods (ALs) that do not rely on the capture fishery has become a popular policy option or course of action for organizations involved in both conservation and development (Gell and Roberts 2003; Salayo et al. 2008; Cinner et al. 2009; Peterson and Stead 2011). This is part of a wider trend of using ALs to reduce pressure on natural resources in developing countries more generally.

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Address correspondence to Christine Carter or Caroline Garaway, Department of Anthropology, University College London, London WC1H OBE, United Kingdom. E-mail: cpcarter33@yahoo.com and c.garaway@ucl.ac.uk

For ALs to achieve this objective, it is obviously crucial that intended beneficiaries want them, can access them, and that having taken them up, pressure on the natural resource, in this case the fishery, is reduced. In predicting whether this is likely to be the case, it is therefore critical to understand the characteristics of fishers and the role small-scale fisheries play in livelihoods. Only then is it possible to understand the incentives/disincentives that fishers may have for diversifying or changing their livelihood portfolios.

Because of relatively low entry costs, small-scale fisheries in developing countries have traditionally been seen, first and foremost, as providing an activity of "last resort" for the poorest of the poor (Béné 2003). There is no doubt that fisheries can often provide the main livelihood for chronically poor people with minimal access to other resources (Béné et al. 2010). However, fishing can also act as a "safety net" for those who have other forms of livelihood but who turn to fishing in times of stress and shock (Béné et al. 2010), with individuals moving in and out at different periods in their lives (Jul-Larsen 2003). Moreover, it is now also recognized that fishing is also carried out by wealthier households (e.g., Garaway 2005; Béné and Friend 2009), by those with more diverse livelihood portfolios (Allison and Ellis 2001), and may be pursued for a range of livelihood objectives beyond those of survival and bare subsistence (Smith et al. 2005).

Diversification of livelihoods as a strategy to minimize risk and uncertainty is well documented for those involved with fishing (Allison and Ellis 2001) and for rural households in general where "diversification is the norm" (Barrett et al. 2001, 315). However, diversification is not purely carried out as a risk management strategy but is also used to realize strategic complementarities (i.e., where two jobs can be easily combined, or where they add value to each other) or to accumulate wealth where increased investment leads to a comparative advantage due, for example, to a superior technology being used (Barrett et al. 2001). Smith et al. (2005) found that these reasons for diversification also exist with respect to livelihoods involving fishing.

Smith et al. (2005) classified the myriad different livelihood functions of fisheries and different strategies of fisheries. In their case with respect to inland fisheries in Asia, they provide examples demonstrating that, as well as being for nutrition or income, or as part of an overall risk management strategy (labor and consumption smoothing, buffer or coping mechanism/safety net), fishing may also be carried out for recreation, for maintaining social networks through reciprocal exchange, to provide an instant and/or occasional cash source, or for wealth accumulation. Smith et al. (2005) distinguish four broad strategies of fishers: first, and at the bottom, fishing for "survival," the classic "last resort" category engaged in by the chronically poor who have limited or no access to other resources; second, fishing as part of a traditional diversified livelihood strategy where fishing is part of a risk management strategy, used as an occasional cash source, or complementary to other activities such as farming; third, specialist fishing where increased investment allows higher returns to effort providing a means to generate and possibly accumulate income; and finally, fishing retained as part of a strategy that involves diversification into new, even higher return activities as household assets and incomes rise. It might be retained for recreation or for times when fishing provides a particularly good return to labor/investment, but it is no longer the most significant source of household income (Smith et al. 2005).

From the preceding review, it is clear that far from being carried out solely by poor people with no alternatives, fisher livelihoods are extremely heterogeneous and characterized by both dynamism and complexity. There is also a growing literature that demonstrates that, far from being an activity of last resort, fishing is perceived by some

as a very desirable occupation, a significant part of one's identity and not reducible to economics (Pollnac et al. 2001; Cinner et al. 2009; Pugholm 2009; Daw et al. 2012). Such understanding suggests that when considering options for how to reduce pressure on a capture fishery, the responses of fishers need to be taken into account. The provision of ALs as a means to reduce fishing pressure has always been predicated on the assumption that alternatives would at least be desired above natural resource-based livelihoods (and the "last resort" narrative certainly lends weight to this assumption), yet literature just reviewed suggests this may not always be the case. Furthermore, Sievanen et al. (2005) suggest that the success of AL projects displacing fishing relies on three frequently invalid assumptions: that fishers are poor, that they are willing to give up fishing, and that this will lead to reduced pressure on the resource.

It is perhaps not surprising that, despite increasing interest in their provision, evidence for ALs leading to reduced fishing pressure is limited and outcomes difficult to predict (Hill et al. 2012). While there are some examples of at least partial "success" (Boissevain and Selwyn 2004; Leisher et al. 2007; Diedrich 2007) there are many more cases where ALs have not resulted in fewer fishers or in multiple outcomes (e.g., Cruz-Trinidad et al. 2009; Sievanen et al. 2005; Fabinyi 2010; Hill et al. 2012). Reasons for "failure" include: fishers returning to fishing when alternatives fail (Hill et al. 2012); fishing households diversifying rather than switching, leading to no reduction in fishing pressure (Sievanen et al. 2005; Boissevain and Selwyn 2004); a rise in unsustainable or illegal fishing practices (Boissevain and Selwyn 2004; Diedrich 2007); and income generated from the alternative being invested in more efficient fishing gear (Kiss 2004; Sievanen et al. 2005).

Because of these complex and sometimes unexpected outcomes, there is a growing recognition in the literature that when considering the provision of ALs, understanding the local and/or socioeconomic context is extremely important (Sievanen et al. 2005; Cinner et al. 2009; Peterson and Stead 2011; Hill et al. 2012). Central to this, we believe, is the requirement for a deeper understanding of local fisher diversity, the heterogeneous role fishing plays in livelihoods, the shifting nature of this role through lifetimes, and the equally complex and continually in flux relationship that fishers have with the range of other opportunities open to them, including those presented by the availability of new alternatives in the area.

This article provides such a case by investigating the complexities of fisher livelihoods and their interactions with the tourism industry on a small part of the Kenyan coast. Central to the research was the belief that, because of fisher heterogeneity, the incentives/disincentives for fishers to engage with the newer livelihood opportunities presented by increased tourism in the area would be extremely varied. At the same time, the constantly changing nature of opportunities and constraints, both in and out of fishing, meant that this diversity would only be fully captured by taking a long-term view of events, investigating change across lifetimes.

After describing the context in which fishing and tourism operate and providing a socioeconomic profile of respondents in the study site, the article presents and discusses the varied role fishing plays in livelihoods and uses this to provide the context for understanding the second set of results: the extent to which tourism has displaced fishing as a principal livelihood activity. By doing this, the article demonstrates how a more nuanced understanding of fisher livelihoods can help explain why unidirectional and comprehensive shifts toward AL options currently remain unlikely and, in this particular case, can shed light on the prospects for the displacement of fishing by tourism in this region and beyond.

Background

Fishing became a financially important industry on the coast of Kenya after the Second World War and remains one of the most important economic activities in the region. Hoorweg et al. (2009) estimated that in 1999, 7.5% of Kenya's coastal population was directly dependent on fisheries, a small but not insignificant percentage that has the potential to grow, given the rapidly increasing populations in coastal zones (Burke et al. 2001). Although it is now believed that fish catches are in decline (McClanahan and Obura 1995), fishing remains one of the few feasible economic activities for local inhabitants. Hoorweg et al. (2003) argue that as fishers are faced with reduced catches and competition, a possible solution lies in diversification, and they report that two-thirds of the fishers involved in their surveys diversified income in some way.

One way that local coastal populations could diversify their income is through the tourism industry. Tourism dominates the services sector in Kenya, and in the 1990s the number of arrivals were over 800,000 per annum producing revenue in excess of 10 billion ksh (~$110 million) per annum (Government of the Republic of Kenya [GOK] 2007).

Methods

Fieldwork was carried out between January 2009 and March 2010. Data were derived from a household survey of 341 households and interviews discussing livelihood trajectories (LTJs) with 30 fishers and/or those involved with tourism.

Site Selection

Research was conducted around Watamu Marine Park and Reserve Area (WMPRA), part of a large protected marine system (~230 km^2) known as the Malindi/Watamu Marine Parks and Reserve, Kenya's first marine protected area (MPA), designated in 1968. WMPRA was chosen for case-study research because one of its management objectives is to promote tourism, there are a variety of tourism establishments in the area, and at the same time a high proportion of the local community is dependent on fishing. There is a 200-km^2 no-take zone bound by the fringing reef and a 32-km^2 body of water surrounded by mangroves called Mida creek, which is under reserve status (meaning traditional forms of fishing are allowed).

Four villages were chosen from those that border WMPRA; three villages (Chafisi, Dabaso and Dongokundu) border Mida creek, and one village (Watamu), borders the ocean. The villages were selected as being broadly representative of those in the area, reflecting the spectrum from high to low levels of involvement in tourism. These villages were also chosen so that both predominant ethnic groups in the area (Giriama and Bajuni) were represented. The Giriama are a Kigiriama-speaking subgroup of Mijikenda, who migrated to the area from the coastal hinterland in the 1950s (Spear 1978), coming to settle around Mida creek as a result of the Gede resettlement scheme (Hoorweg et al. 2003). The Bajuni were originally dhow fishers from Lamu who began fishing and residing in the area around the turn of the century. As well as linguistic, historical, and religious differences between the Bajuni and Giriama, the Bajuni population was found to be better off according to a number of wealth indicators (see later discussion). Indeed, the Giriama people were historically more marginalized, having been "resettled" during the colonial period to help rectify their poverty and landlessness (McIntosh 2009).

The Bajuni in the area predominantly resided in Watamu village (just over 100 households in total), whereas the Giriama were spread out over 11 creek villages containing approximately 1000 households in total. Given this, it was decided that the whole of Watamu village should be sampled along with a representative sample from three creek villages to ensure a big enough sample for comparisons between ocean and creek villages.

Data Collection

A household questionnaire was used to collect information on employment, income, personal characteristics, and fishing behavior. To create sampling frames, maps showing all households in each village were generated by local residents and cross-checked several times. The names generated from this were then subject to wealth ranking (see later discussion). This resulted in village lists ranking all households from the most to the least wealthy, and to ensure a representative cross section, households were selected from this through a process of systematic random sampling.

The questionnaire was administered at four different points of the year reflecting distinct tourism seasons (i.e., low, highest, high, and mid). In the first round of the household survey, 341 households were visited in order to collect baseline economic data ($n = 341$). For subsequent rounds the number of households was reduced ($n = 123$) for logistic reasons.

Based on Grandin (1988), poverty wealth rankings (PWRs) were used to explore what constitutes "wealth" or "well-being" and to create the sampling frame stratified by wealth (just described). The PWRs were carried out three times in each village in order to cross-check people's perceptions of wealth and the placement of individual households. Each household was therefore ranked three times and any large inconsistencies between ranks were checked for error. Once complete, the individual ranks for each household were aggregated providing an overall household score.

LTJs explored how fishing and tourism were incorporated into livelihoods. Whilst similar in some ways to life histories, LTJ's can be described as "unravelling a historical route through a labyrinth of rooms, with each room having several doors giving access to new livelihood opportunities; but the doors can be opened and the room of opportunities successfully entered only with the right key of qualifications" (de Hann and Zoomers 2005, 44). The American Anthropological Association (AAA) code of ethics was adhered to throughout the research period (AAA 1998). Respondents were assured they would not be identified by name in the research and raw data were stored securely.

Data Analysis

Data from the survey were analyzed using SPSS 18.0. LTJs were transcribed and entered into Atlas.ti for coding and analysis.

Results

Socioeconomic Profile of Villages

The PWR exercises showed that there were vast differences in both levels of wealth and the criteria used to differentiate between socioeconomic groups (se-groups) in

Watamu when compared with the creek villages, with the latter being very similar to each other.

Characteristics associated with the poorest groups in the creek villages included skipping either one or two meals a day, low levels of education, lack of material assets, and problems with housing. By contrast, in Watamu, even the poorest families ate three times a day and there were no reports of individuals lacking a house. In the creek villages a lack of assets meant having few, if any, possessions, whereas in Watamu it meant having few high-priced consumer goods, such as TVs and radios.

Characteristics associated with the middle wealth category in Watamu included children in further education, water and electricity in the house, and investment in businesses, all of which were absent in the equivalent categories in the creek villages. Although the wealthiest categories in Watamu and the creek villages displayed some similar characteristics (e.g., private and/or further education, houses with electricity), the percentage of households from the creek villages falling in this group was considerably lower.

Personal observations and interviews throughout the research supported the finding that wealth in Watamu was higher. One other significant difference between Watamu and the creek was land ownership. This was common among the middle and wealthier households in the creek and lack of land here was an indicator of poverty. In contrast, in Watamu very few households owned land, instead earning income through fishing and investment in business.

Tourism accounted for the largest proportion of overall income in both the Creek villages and Watamu (34% and 50% respectively) (Table 1). However "selling produce" (coconuts, palm wine, and chickens), accounted for the next highest proportion of income in the creek, whereas in Watamu it was small business (e.g., small kiosks selling vegetables, milk, coffee, and tea). Fishing was a major source of income in both, but higher in Watamu. Table 2 shows the proportion of households engaged in the different activities. Again there are differences, but in both cases fishing and tourism are in the top four.

There were also major differences between villages in terms of the sectors of the tourism industry they were engaged in. The majority of income from the most lucrative and self-employed sectors (safari selling, boat operation, and curio vending) was accrued in Watamu. At the other end of the spectrum, most of the income from the least lucrative and employed sectors (hotels and private plots) was accrued in the creek; apart from a very few individuals, those working in hotels did so in low-grade positions such as waiters, cooks, or housekeepers. An analysis of access to tourism is reported elsewhere (Carter 2012), but access to social networks was key. During LTJs, almost 100% of respondents said that tourism opportunities arose through their connections to others in the industry. This was backed up by survey data showing that

Table 1. Top income-generating activities of the creek villages and Watamu village (percentage of total village income)

Importance	Creek	Watamu
1	Tourism (34%)	Tourism (50%)
2	Selling produce (21%)	Small businesses (16%)
3	Casual labor (15%)	Fishing (13%)
4	Fishing (9%)	Government jobs (5%)

Table 2. Percentage of households partaking in these activities (one household can partake in more than one activity)

Importance	Creek	Watamu
1	Selling produce (55%)	Small businesses (65%)
2	Tourism (38%)	Tourism (53%)
3	Casual labor (35%)	Other (40%)
4	Fishing (26%)	Fishing (39%)

more than half of those who worked in the tourism industry also had another household member earning income from tourism. Even if one were educated, knowing few people in the hotel industry could be a serious constraint when seeking access. Similarly, the language skills (particularly Italian and English) that facilitated access to safari selling were often gained through social relations. In this current case, young male Bajuni with a good network of social relations and language skills were reaping the benefits of the most lucrative sector, safari selling, while the Mijikenda inhabitants of the creek villages, who lacked the necessary social connections, could not.

Socioeconomic Status of Fishers

In total, 735 economically active men (aged 16–65 years) were identified in the first round of the household survey. In this and subsequent rounds of the household survey, 141 men reported that they had earned income from fishing at some point during the survey. Figure 1 shows the composition of the fishing community with respect to socio-economic status and the overall socioeconomic composition of the community.

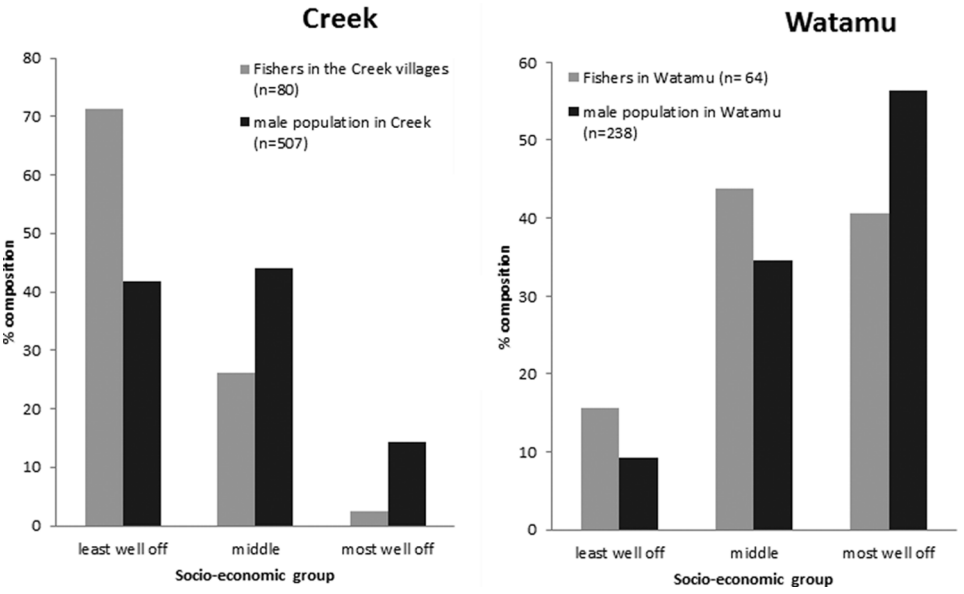

Figure 1. Socio-economic composition of fishers and whole community in the Creek and Watamu.

The first thing to note is that fishing is not an activity carried out only by the poorest, but instead is an activity practiced across the whole socioeconomic spectrum. In fact, in Watamu, the majority of fishers come from the middle and most well off groups, further debunking the myth that it is always an occupation of last resort. Taking into account the overall size of each se-group, a slightly different picture emerges. In the creek, despite fishers being represented in each se-group, a disproportionately high percentage of fishers (71%) come from the poorest households in the community (comprising only 42% of the community in general). In Watamu, the composition of the fishing community more closely reflects the composition of the wider community, but here too the poor and middle groups are disproportionately larger. Thus, poorer groups make up a disproportionately large percentage of the group but socioeconomic heterogeneity is a key characteristic of fishers.

Fishing Activities and Their Role in Livelihoods

Distinct differences in fishing activities were found between Mida creek and Watamu. The majority of fishers from the creek fished within the boundaries of Mida creek, from dugout canoes or on foot, both during the day and at night, for periods of 6–12 hours. In contrast, most of the fishers from Watamu fished in the open ocean (4–7 nautical miles past the reef) during the *kaskazi* (i.e., between November and March, when the ocean is calm), and in the inner reef during the *kusi* (i.e., from May to October, when the ocean is rough). Fishing in the open ocean was done using *dhows* and, increasingly, motorboats.

Fishing in different locations and with different gear, fishers from Watamu were catching large fish for sale to fish shops and private plots and fetching a higher price per kilogram than fishers in the creek, whose catch consisted of smaller fish sold to local fishmongers. While there was huge variation, the average income of fishers in Watamu (median [Mdn] $67/month, interquartile range [IQR] [$59–$120]) was higher than in the creek (Mdn $49/month, IQR [$26–$82]).

As one might expect with the involvement of different se-groups and the diverse types of fishing activity carried out, fishing did not play the same role in all households. This was backed up during LTJs with fishers and their families, as described in the following.

At one end of the spectrum were the poorest households, particularly in the creek, where fishing was the principal or only source of income and for whom, due to a lack skills and assets, there were few, if any, alternatives. Entry costs were low (with many borrowing or renting gear) and fishing was a means to improve food security and generate some cash income. As explained by a fisher/tourism worker in Chafisi village:

> I think they are forced by circumstances because even if they love to be doing something else, it is not there . . . they are not learned enough to get some other employment so they end up going fishing. (Hotel employee and fisher, Chafisi, aged 36)

In these cases then, fishing was fulfilling what Béné et al. (2010) termed the ''last resort'' welfare function and Smith et al. (2005) called ''fishing for survival.'' These people fished because they had few alternatives and they were among the poorest in the community.

For others in the creek, particularly in the middle wealth groups but also the more well off, fishing was one element of a diversified livelihood strategy

(at household and/or individual level). These households had land and other skills/assets, and fishing was combined with activities such as selling produce and work in tourism. Discussions revealed that some fished at the same time as undertaking other work throughout the year to supplement their otherwise insufficient income. Others fished when less busy, for example, in the low agricultural or tourist season or because it fitted well with their other activities. Finally, some fished when they had lost employment or while looking for other work.

Here, then, fishing can be seen as part of a "traditional diversified livelihood strategy" (Smith et al. 2005), helping to smooth out troughs in income flows and acting as an important safety net when individuals were faced with events such as unemployment or other times of "stress or shock" (Béné et al. 2010).

In Watamu, interviews showed that fishers were far less likely to employ diversified livelihood strategies at an individual level than those in the creek (though diversification at the household level was still the norm). Costs to enter the fishery were higher for ocean fishers. *Dhows* cost upwards of 30,000 ksh (~$360; three times higher than a canoe), more expensive gear was used, and payments for licenses were more frequently enforced. While the costs were higher, fishing in the open ocean was also more lucrative than fishing in the creek. This meant it was less necessary to do additional work, but also it was not easy to do on a part-time basis, due to the time required to travel to fishing grounds. There was also some evidence to suggest a cultural preference for being self-employed within the Bajuni. As explained by one:

> Bajuni don't feel like it's good to be employed. The salary in hotels is less than fishing and [Bajuni] don't like the control either; [they] have own programme and can do fishing as well. (Safari seller from Bajuni fishing family, Watamu, aged 30)

In Watamu then we can see examples of a "specialized livelihood strategy" (Smith et al. 2005), where there is increased investment in boats, gear, licenses, and so on, but there are larger economic rewards to be gained. There is also a suggestion here of noneconomic reasons for fishing, as have been described by others elsewhere (e.g., Pollnac et al. 2001).

Finally in Watamu, at the other end of the spectrum from the poor fishers in the creek, there were a few very wealthy individuals who had invested in very capital-intensive fishing gear, such as ring nets and boats with engines. Ring-net catches were considerably higher than catches from other ocean gears (500–2000 kg/day, compared to averages of 4.75 kg/day (ocean nets) and 37.5 kg/day (ocean line fishing). These incredibly efficient gear items were jointly owned by Watamu individuals who were also involved in many other activities, including tourism. The ring nets would be operated by a crew of around 20 fishermen, many of whom had migrated in from the Kenyan South Coast, with each receiving a wage of approximately $1.25 per day. A fee was also paid to the Watamu Beach Management Unit, and some fish were given to members of the local community. However the ring net owners reaped the majority. For them, then, fishing was part of a diversified livelihood strategy but was not retained as a buffer or safety net but was a means of significantly increasing wealth.

Results show the presence of all the functions of fishing discussed in the introduction. With different reasons for fishing, incentives and disincentives to leave fishing would also be different. First, for the "last resort" fishers, these people, with few

alternatives, are the theoretical target of ALs and yet there was evidence to suggest that these people lack the necessary skills, social networks, and knowledge to access the tourism industry, or at least the most lucrative sectors of it. For those for whom fishing is part of a risk management strategy, topping up income levels or reverted to in times when there is no other work—a safety net—it is hard to see why they would decide to permanently leave fishing, especially for tourism, which itself can be "subject to severe global shocks and create new vulnerabilities" (Cinner and Bodin 2010, 12), something already seen after the postelection violence in Kenya in 2008. Of course, new opportunities might reduce the time people spend fishing and this is discussed further. Finally for those fishers higher up the socioeconomic spectrum, and/or who fish because it combines well with other activities or who just prefer the lifestyle, reasons to leave fishing would be different again.

While diversification is a common strategy for fishers, in this case, the majority of fishers had not diversified with tourism in the past year and the majority of those in tourism had never fished, demonstrating that there had been no large-scale switch from one profession to the other. There have been many examples in the literature where due to a lack of access, benefits of tourism have not been felt by the local community and/or poorest among them, but instead have benefited others in a process known as "elite capture" (e.g., Scheyvens 1999; Ashley et al. 2001; Fabinyi 2010). In this case, access to tourism, and particularly the most lucrative aspects of it, was enhanced by social connections and language skills/education and these were certainly out of reach of the poorest fishers. However, many fishers were not "poor," and therefore lack of access as a result of poverty is not a complete explanation. Other research (e.g., Pollnac et al. 2001) has demonstrated that fishing can be a desirable occupation that fishers don't want to leave. In Mida creek in particular there was a high level of willingness to leave the fishery but individuals continued to fish for different reasons and at different points in their lives (e.g., to top up income; fill gaps between other activities; earn income in "retirement"). In Watamu, however, among the specialist fishers who had migrated from Lamu and were assimilated into local Bajuni families, preference for fishing was indeed a reason for the lack of crossover into tourism. Thus, although important, to understand the low level of switching simply as a case of "lack of access" or "elite capture" fails to recognize the dynamics of the situation.

Interaction between Fishing and Tourism

The survey showed that 31% of creek and 17% of Watamu fishers had also earned income from tourism at some time in the past year. Thus, while most fishers had not combined both activities within the year period, there was significantly more integration in the creek than Watamu, unsurprising given the nature of fishing in the ocean and the number of specialist fishers involved. In both Watamu and the creek, approximately two-thirds of those combining the activities did so simultaneously (with the reason being that fishing income topped up income from tourism and not vice versa) and the remainder just fished in the low tourism season when many would find themselves otherwise unemployed.

While the survey gave a snapshot view of who had been engaged in fishing and/or tourism over the year, LTJs revealed that livelihood choices fluctuate over much larger time scales than can be captured in a year-long survey. Individuals frequently combined fishing and tourism over a period of years or even entire lifetimes. People's

decisions and actions with regards to engaging in fishing and/or tourism are presented schematically in Figure 2. LTJs revealed that those who had stopped fishing to work in tourism frequently returned to fishing in later years. Out of 13 interviewees who were involved in fishing "full-time" in the creek, seven used to work in tourism and had returned to fishing after retiring. Even those who were only 50–55 years old and still economically active were not planning to continue searching for work in tourism, as they felt that they were too old. This shows that not only can

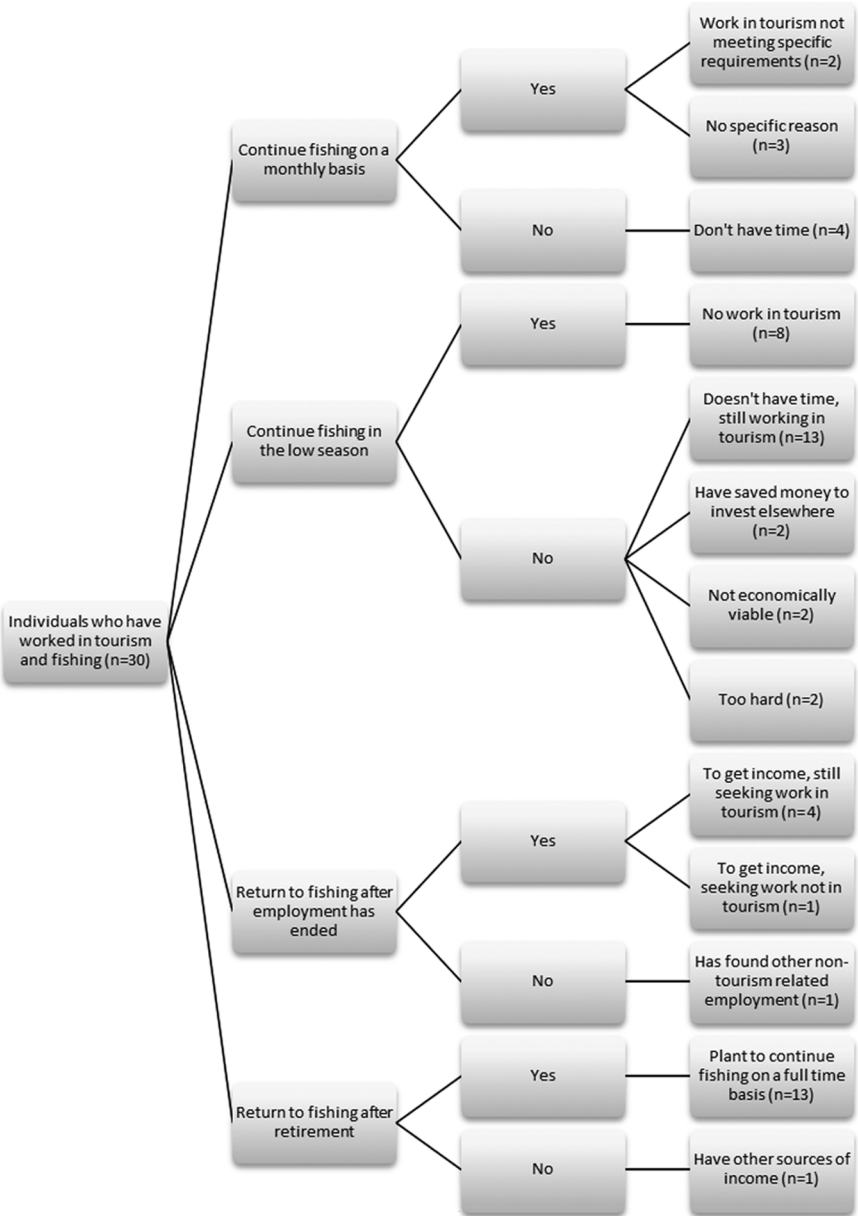

Figure 2. Interaction between tourism and fishing activities based on interviews discussing past, present, and future plans.

the role of fishing vary between individuals, it also varies with individuals over time. Why someone fishes today may not be why they fish next year or in 10 years' time, and just because they may not be fishing now is no reason to assume they won't return.

Evidence for Tourism Displacing Fishers and/or Decreasing Fishing Effort

This final section investigates the evidence that tourism has displaced fishing as a livelihood option, though results already discussed suggest that any such displacement is very unlikely to be widespread or necessarily permanent.

The household survey showed that out of 290 men employed in tourism, 55% in the creek had never fished, 28% used to fish and 17% still fished. In Watamu, 85% had never fished, 1% used to fish, and 14% combined both. On a basic level, then, it is clear that the vast majority of those working in tourism have not come from fishing and that therefore a switch from one to the other has not occurred.

Looking first at those who used to fish but don't now, evidence from the last section suggests that one cannot conclude from this that any switch has been permanent. On the contrary, evidence suggests that they are likely to return to fishing at various points in the future, either in combination with other activities or not. While a small proportion of individuals combine fishing and tourism at the same time, this number becomes much larger when considered over lifetimes. Such results cast doubt on studies (e.g., Leisher et al. 2007) that estimate levels of fisher displacement from these types of survey results alone.

In addition, those who combined fishing with tourism (and therefore potentially fished less now than before) were discussed in the previous section and did so for a variety of reasons. A detailed investigation of whether this diversification led to a reduction in fishing effort was beyond the scope of the research. However, there was some evidence to suggest that, at the very least, outcomes in this respect were less than straightforward.

First, the ring nets and motorized boats, mentioned in the previous section, which exert far more pressure on the resource than other gear, were financed with money from tourism. Second, it was found that the use of small mesh nets (considered unsustainable fishing gear due to their effect on the benthic habitat and juvenile catch) was significantly greater among individuals who combined fishing with other livelihoods than among those who just fished (or fished and sold crops), with 74% and 47% usage, respectively. This was because they could be deployed for shorter amounts of time (2 hours rather than 7 hours for a normal net) and used during both day and night on a more opportunistic basis.

The majority of tourism workers who had never fished were young men in Watamu actively seeking employment in tourism, as opposed to fishing whenever possible, and while fishing was historically an important activity, such choices might indeed reduce fishing pressure (or at least fisher numbers) as young people move directly into tourism-based livelihoods. However, residents of Watamu retained strong social and economic ties with communities in Lamu County, on the northern Kenyan coast (from where the Bajuni had originally migrated), and these were found to provide a constant source of new fishers, with young men from Lamu frequently marrying into families in Watamu. Of all the fishers in Watamu who featured in the household survey, only 26% were born in the village, compared to 64% who were born in Lamu. With these personal ties, entry barriers to this livelihood were low,

meaning any displacement was readily balanced by an influx of new workers. The other sources of new entries into the fishery were fishers from Pemba Island in Tanzania who had made annual migrations and permanently settled in Watamu. As stated by one member of Watamu village:

> *Because here, we got . . . people from Pemba. So, for more fish we have to employ them, because we've got only people here, they only doing . . . tourism, not for fishing*. (Safari seller, from an established fishing family in Watamu, aged 24)

Conclusion

Results from this research confirmed, as expected, that even within one small geographical area those who fish are an exceptionally diverse group (with respect to ethnicity, fishing practices, socioeconomic status, reasons for fishing, etc). Fishing can be a classic "last resort" activity (Béné 2003) or safety net when other alternatives fail (Béné et al. 2009; Hill et al. 2012), but it can also be a means of accruing significant wealth or retained because of complementarities with other activities (Smith et al. 2005). In fact, all of the strategies described by Smith et al. (2005) and presented at the beginning of this article are in evidence at this site.

At the same time, fishers' interaction with tourism is equally diverse and, critically, differs not only between individuals but with the same individuals over time, with people leaving one or other activity (or combining both) at different points in their life as different opportunities and constraints arise. This critical dynamism needs to be incorporated into any study assessing the likely or actual success of AL programs at reducing fishing numbers. Just because someone is not fishing now is certainly no indicator of whether that person will in the future.

The influx of new entrants to the fishery to take the place of those pursuing ALs, as happened here, is obviously a significant obstacle to reducing fishing pressure. Another concern is that the presence of alternatives can actually increase fishing pressure through enabling investment in more efficient fishing gear (Kiss 2004; Sievanen et al. 2005) or by causing a rise in unsustainable fishing practices (Boissevain and Selwyn 2004; Diedrich 2007). While by no means conclusive, evidence of both practices was suggested in this study, further complicating the picture.

In conclusion, understanding the local complexities and dynamism surrounding fisher livelihoods is the best way to better target AL interventions at those who are likely to want them, able to take them up and to do so in a way that reduces fishing pressure. Ultimately, though, the heterogeneity and dynamism of fisher livelihoods and the ease with which people can enter and exit the fishery mean that the potential for ALs to reduce fishing pressure is limited, and where this is the aim, we would argue, like others (e.g., Béné et al. 2010; Smith et al. 2005), that additional fishery management measures will always be required.

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