

Fishers' migration along the Kenyan coast

Implications for management of coastal fisheries



Policy Messages

- The task of managing coastal fisheries, particularly at the local level, is complicated by spatial mobility of fishers across local and national boundaries. The main reason is the inherent unpredictability of influx of fishers to local communities which is a result of poor knowledge of the extent and pattern of these movements.
- Better monitoring of migrant fishers (both Kenyan and foreign) at landing sites is a prerequisite for improved understanding of fishers movements, and will allow local management institutions (BMUs and Fisheries Department Offices) to better anticipate and plan for influx of non-local fishers into their management area.
- More comprehensive information is needed on: which fishing grounds migrants (both Kenyan and foreign) use, the gears used, how these gears are deployed and how this affects targeted fish stocks. This is essential in order to provide further and more informed recommendations on restrictions of migrant fishing operations.
- Migrating fishers arriving in Kenyan coastal communities are perceived to have both beneficial and negative impacts. Such trade-offs need to be considered in any policy recommendations on fishers' migrations.



Why fishers' movements are important for fisheries policy

Coastal and marine ecosystems in the Western Indian Ocean (WIO) region are under threat due to various factors, including climatic change, destructive fishing practices, over-exploitation of fisheries and other living resources, physical alteration and destruction of habitats, sand-mining, and pollution. Despite this, marine resources continue to make an important contribution to coastal livelihoods and fishing remains one of the most important elements of these livelihoods in Kenya. However, decline in catches in near-shore fisheries has been reported across the country. Different formats for managing the exploitation of resources harvested from coastal and marine ecosystems have been proposed.

The Beach Management Unit (BMU) system, introduced following the BMU regulations of 2006, is one example. However, the task of managing coastal fisheries, particularly at the local scale, is complicated by spatial mobility of fishers across local and national jurisdictions. One reason for this is the inherent unpredictability of influx of fishers from other locations to local communities which is a result of poor knowledge of the extent and pattern of these movements, the underlying drivers of migration, and what the impacts of fishers' movements are on the Kenyan communities hosting them.

In 2008 the Fisheries Department made several directives relating to migrant fishers operations in the country following complaints against migrant fishers and local fishers' demonstrations and clashes in Kilifi, Malindi and Msambweni districts. In light of pending climate change and the potential negative effects on reef-based fisheries, migration among fishers is likely to increase in the future. Understanding these movements, what cause them and how they currently affect local communities hosting migrants is therefore a pressing policy issue.

This policy brief has been developed following a regional research project designed to compile data on fishers' movements, the drivers behind these movements and the impacts on host communities. The research was commissioned by the Marine Science for Management (MASMA) programme, under WIOMSA (Western Indian Ocean Marine Science Association), to investigate fishers' migrations within and across five countries in the WIO region (Kenya, Tanzania, Mozambique, Comoros and Madagascar). The brief presents some of the major findings from Kenya, focusing on three important issues: (i) a characterization of migrant fishers operating along the Kenyan coast, (ii) the major drivers behind these migrations, and (iii) the impacts of migrant fishers on Kenyan communities of destination.

Data stem from surveys with a total of 37 local fishers and 71 migrant fishers along the Kenyan coast (including Vanga/Jimbo, Shimoni, and Kipini/Ziwayuu), as well as key informant interviews with local government officials, community elders, BMU leaders and local and migrant fishers from these and other Kenyan coastal villages. The Kenyan Fisheries Department, Coast & Marine also conducted numerous focus group discussions and stakeholder meetings, primarily along the North coast. These also form part of the data presented here.

Fishers' migrations: Escaping ecological degradation or an adaptive livelihood strategy?

Marine and coastal ecosystems are characterized by significant seasonal fluctuations of resources at varying temporal and spatial scales. Many marine fish stocks migrate over large temporal and spatial scales. Consequently, migration is an integral part of the fishing profession and could thus be seen as a social adaptation to a complex environment, rather than a response to degrading conditions. However, with modern administrative boundaries, migration of fish and people can present added complexity to the already complex task of managing marine resources. This brief will highlight some of these issues, and their implications for management.

Research in Western Africa suggests environmental degradation is rarely the sole factor determining migration among fisher folk. In fact, along the East African coast seasonal movements among fishers are an age old tradition developed as an adaptation to the different monsoon winds.

Characterization of migrants along the Kenyan coast

Destinations and origins of migrant fishers in Kenya

Migration occurs both within Kenya and from neighbouring countries into Kenya. The destinations most frequently cited by Kenyan migrating fishers were sites within the districts of Lamu, Tana Delta, Malindi and Kilifi, including Kipini, Ozi, Mayungu, Ngomeni, Takungu and Watamu. Tanzanian fishers are known to frequently enter Kenyan waters to fish. The destinations most

Box 1. Who is a migrant?

One of the key challenges for policy to address the flow of both foreign and Kenyan fishers along the coast lies in the difficulty of defining who is a migrant. Circular migration is a common phenomenon among artisanal fishers. Many non-Kenyan fishers have conducted such circular, seasonal migrations for generations and have intermarried with Kenyan women, become partly integrated into local communities and some have even acquired Kenyan identity cards. Such individuals can no longer be legally classified as foreign migrants.

Another category of fishers are Kenyans who migrate seasonally along the coast to follow fish stocks or access calmer fishing waters during the South East monsoon. These fishers are Kenyan and are therefore by law allowed to fish in Kenyan waters but their seasonal presence, in concentrated numbers, can have impacts on local communities and local resource management efforts, such as BMUs.

frequently cited by Tanzanian migrants were the districts of Msambweni (Gazi, Shimoni, Vanga, Jimbo), Tana delta (Kipini, Ozi and Ziwayuu), Malindi (Malindi, Watamu, Mayungu, Ngomeni) and Kilifi (Takaungu, Mnarani). The list of destinations in Table 1 should not be seen as exhaustive; it represents only those destinations cited by respondents from the three sites where the survey was carried out.

Currently available data does not allow for a quantification of the flow of migrants from specific locations. However, surveys and interviews indicate that foreign migrant fishers along the Kenyan coast come from a wide range of origins, including the islands of Pemba and Tumbatu, as well as mainland Tanzania. Kenyan fishers also migrate to other areas within the country, and a pattern can be discerned where Kipini and Lamu are target areas for fishers migrating from Watamu, Ngomeni and Kilifi. Kipini fishers also go to Lamu. Fishers from the south coast tend to move north during the North East Monsoon season to seek calmer fishing waters.

Table 1:

List of destinations cited by migrants surveyed along the Kenyan coast. KE represents migrants of Kenyan origin, while TZ are migrants of Tanzanian origin.

	Place	# citations	
		KE	TZ
KENYA	Kenya (unspecified)	3	3
	Diani-Chale	2	
	Gazi	3	3
	Kilifi	1	3
	Kipini	3	8
	Lamu	9	2
	Malindi (incl. Watamu)	11	24
	Msambweni	2	4
	Shimoni-Vanga	3	13
TANZANIA	Bagamoyo		2
	Dar es Salaam	1	11
	Kilwa		3
	Mafia	1	6
	Mtwara		1
	Pemba	1	14
MOZAMBIQUE	Mozambique		1
	Pemba		1

Overall, beach seines were more frequently used by migrant fishing units, as were shark nets and different types of fishing lines. Only marginal differences in the use of ring nets between locals and migrants were observed (47% locals vs 53% migrants). It is worth noting that there are some notable differences in gear use among migrants across localities, with higher use of line in North coast sites of Kipini/ Ziwayuu, and dominance of shark nets among migrants operating on the South coast. This is partly explained by differences in the ecology across sites, where northern fishing grounds like Kipini are more open pelagic, while Southern sites like Vanga and Shimoni are dominated by reefs. As fishers tend to move along the coast according to season this may also simply be a result of our time of sampling and not a persistent pattern over time.

An important observation related to gear use is that there are differences in deployment techniques between local and migrant fishers using the same gear types. For example, it was noted that traps, which are normally used by locals in shallow waters such as seagrass beds or on reefs, were used by migrants in Vanga, in deeper water by suspending them mid-water. Differences in the deployment of nets were also observed, where

Vessels, crew size and gears used

The survey which forms the main basis of this brief is not comprehensive enough to allow firm conclusions regarding differences observed between local and migrant fishing operations. Nonetheless trends show that a majority (69%) of migrants surveyed operated using larger vessel types, such as 'mashua', which is also confirmed by qualitative data. The size of these larger vessels averaged 11 meters and did not differ significantly between locals and migrant fishers. The average size of migrant crews surveyed was 7.5 and the proportion of migrant fishers in these crews averaged 87% compared to only 31% of migrants in local crews. This indicates that fishing operations arriving temporarily in local communities rely only marginally on local fishers as crew, and it brings into question to what degree potential skill and knowledge transfer from migrants to locals can be expected.

Box 2. Migrants and the use of ring nets on the Kenyan coast

The issue of non-Kenyan migrants and the use of ring nets in certain areas along the coast has become an issue of political tension. Media coverage of conflicts in villages such as Takaungu, Malindi and Mayungu illustrates the complexity of the issue. This situation partly constrained our data collection as we were denied access, by local authorities, to speak to fishermen at Mayungu, one of the most conflictual sites. As such, the trends in types of gears used by local and migrant fishers observed here may not be representative across the entire coast.

gillnets were sometimes used as drift nets by non-Kenyan fishers.

Fishing effort, catches, and target species

On average, migrant fishers spend 7.7 hours/day fishing compared to locals who spend an average of 6.0 hours/day. This results in an overall fishing effort which is higher for migrant (188 hours/month) compared to local fishers (150 hours/month). Although somewhat higher for migrant fishers, reported catch on a poor, as well as a normal day, differs only marginally. However, reported catches on a good day are strikingly higher for migrants (514 kg compared to 154 kg) and indicates that on average migrant fishing units have the potential to catch significantly more than local crews.

Migrant fishers surveyed in Kenya targeted primarily shark (papa), Kingfish (Nguru, a Scombrid) and other semi-pelagics such as Kolekole (Carangids), Jodari (Carangids), red snappers, and a variety of Lethrinids (Changu) and rabbitfish (Tafi). In terms of species actually caught, it is interesting to note that most species are cited as caught by both locals and migrants but sharks, semi-pelagics (e.g. Nguru, Sehewa, Jodari, and Kolekole), Lethrinids and red snappers are all more frequently cited as caught by migrant fishers.

Key informant interviews reveal that lobsters and octopus are also more frequently caught by non-local fishers, especially on the North coast of Kenya (i.e. Kipini). This data relies on self-reporting and would need to be verified with records of landings before conclusions could be made regarding impacts of migrants and locals on stocks.

Age, ethnicity and marital status

The average age of migrant fishers surveyed was 33.6 years, with a median of 32 years. The oldest migrating fisher was 60 years old and the youngest merely 16 years. The vast majority are married and some of the foreign migrant fishers have both a Kenyan and a Tanzanian wife. A wide range of ethnicities are represented among migrants. Kenyan migrants surveyed represented

Digo, Giriama, Kifundi, Bajuni, Swahili and Shirazi. The large majority of migrants of Shirazi and Swahili ethnicity, however, were from Tanzania, particularly from the island of Pemba and Kojani. The island of Tumbatu was also well represented.

A high proportion of migrants surveyed (44%) were first time migrants, i.e. this was their first trip to the specific location in which they were interviewed. This does not mean that they have not migrated to other locations along the Kenyan coast before but it could indicate that migration may be an increasing phenomenon. To assess any trends in migration will require better monitoring of non-local fishers at all landing sites along the coast.

What drives fishers to migrate?

Movement of fishers in the Western Indian Ocean region is not new. Dago fishing, for example, has been a traditional 'lifestyle' for many Tanzanian fishers allowing them to save money by living away from home. These movements are often seasonal and associated with the Northeast monsoon when the sea is calmer and the prevailing winds enable fishers to access more distant and productive fishing grounds. Reasons for migration are diverse. By asking why fishers have migrated as opposed to staying at home, the project shed some light into the diverse reasons for migration.

The possibility of earning more money, saving and improving one's life were some of the most common reasons for migration given by fishers. Search for better fishing conditions at destination was also important and included more abundant fishing resources and higher catches, and less competition from other fishers. A significant number of fishers also mentioned search for new experiences as a reason for migrating, particularly travelling and living in a new place, which suggests that migration may be seen as a way to gain life experience and become more knowledgeable and experienced, thus gaining respect in their communities of origin.

Another important reason for migration was related to access to better markets, including more traders and better prices for fish. Other fishers migrated to join family or friends that were already at destination, which highlights the role that social networks can play in facilitating migration. Tradition was also mentioned as a motive for migrating, but appeared to play a much less important role than economic reasons. Escaping economic and ecological hardship at home such as poverty and lack of fish were also mentioned by a small number of fishers.

In sum, the migrant fishers found along the coast of Kenya appear to be motivated mainly by the desire to improve their livelihoods through better earnings, savings and higher fish catches.

Effects of migrant fishers on local host communities

The perceived effects of migrant fishers on local communities can vary widely depending on who you ask. For example, shop owners may have a largely positive view on migrants because of the additional business they provide. The population in general may also consider migrants to be good because of improved availability of fish and potentially lower prices. However, local fishers may see migrants as being largely detrimental because of increased competition for scarce fishing resources.

The project explored the effects of migrant fishers on receiving communities from the perspective of local fishers, which arguably is the social group within local communities most likely to have negative views of migrants. Yet many respondents believed migrants had both positive and negative impacts on their communities. The various negative and positive effects cited by local fishers were of social, economic, institutional and ecological nature. The range of issues cited by respondents is presented in Figure 1.

Perceived negative effects of migrants

The most commonly cited negative effects of migrants were social, and included, for example, womanizing, bad behavior and alcohol and substance abuse. Issues related to women were of particular concern and included problems such as pursuing married women or engaging in sexual activities with minors, thus promoting teenage pregnancies among local youths which cause them to drop out of school. Locals also accused migrants of theft and lack of respect for local culture (traditions and customs).

After social impacts, ecological effects were the most frequently mentioned negative aspects of having migrants in local communities. Use of destructive gears accounted for a high proportion of the negative views on migrants. Destructive gears included those that damage habitats such as corals and seagrasses and catch juveniles. Other responses linked to negative ecological impacts include the fact that migrants catch a lot of fish and that fish catches in areas frequented by migrants are perceived to be declining.

Negative economic impacts of migrants include flooding of the local market with fish, which lowers the price per kg of fish and thus affects income levels of local fishers. Another issue identified was related to fish traders. Foreign migrants are accused of often bringing their own dealers, or being tied to a specific fish trader (often of non-Kenyan origin), which results in most of the economic benefits accruing to this trader with little economic benefits flowing to the community.

Non-compliance with rules and regulations was cited by locals as a problem related to migrants. In addition migrants were accused of often fishing without valid permits. For example, migrants are cited to enter Kenya with visitors' permits but proceed to fish and trade. These can be seen as being negative institutional effects of migrants. The use of illegal gear (included under ecological impacts above) could also be seen as an institutional issue which needs attention.

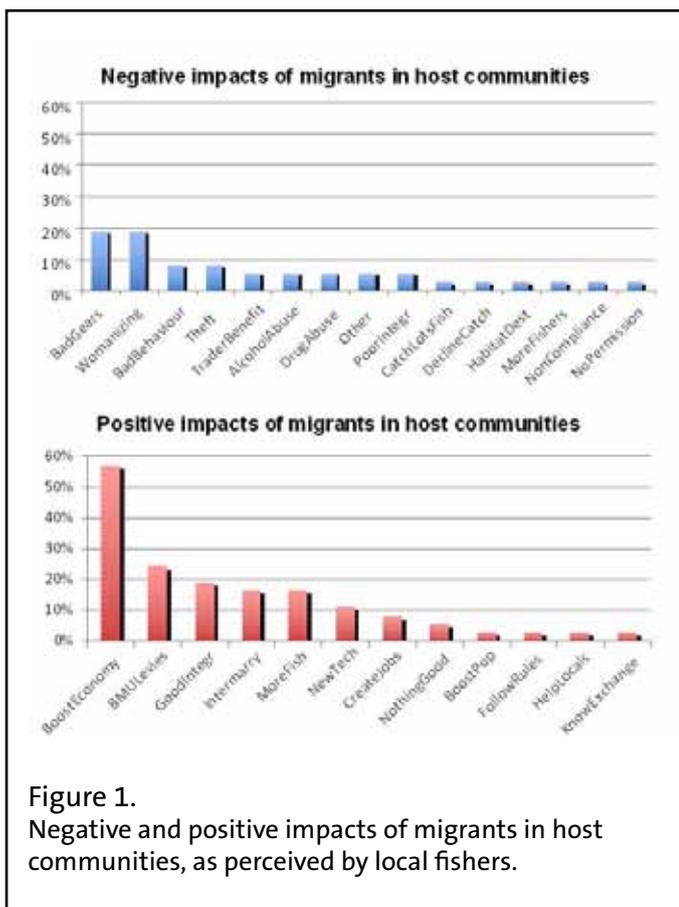


Figure 1. Negative and positive impacts of migrants in host communities, as perceived by local fishers.

quently cited positive economic effects. This was followed by increased revenue to local BMUs through levies. The increase in fish landings, identified as a negative effect, was recognized as also having a positive side - it improves the availability of fish for consumers and contributes to food security. Provision of job opportunities for local fishers (on migrant crews/boast) was pointed out as another positive effect of migrants. The introduction of new fishing technology and the transfer of knowledge and skills was a related benefit of having migrants.

Migrants were also perceived to have positive social effects on local communities. Although cited above as a negative effect, the relationships between migrant fishers and local women leading to marriage was also considered a positive aspect by some, along with good integration, which included good relations and friendships between locals and migrants, and helping locals with fishing gear, rescue at sea, and fish gifts (Kiswahili: kitoweo). Migrants were also considered to boost the population of often small local communities, which was thought to contribute to their development.

Perceived positive effects of migrants
Positive effects of migrants on receiving communities included both economic and social benefits. Increased non-fishing related business opportunities such as eateries, rents, and other boosts to the local economy were the most fre-



How is fishers' migration dealt with in current policy?

The project analyzed policies and legal documents related to coastal resources management and development to examine the extent to which they recognize and integrate fishers' migration in their provisions (see Crona and Rosendo in press). The possible implications of these legal provisions and policies for efforts to manage fisheries resources in the context of migration were also examined. Our analysis shows that policy and legal documents related to gover-

nance of marine resources lack an acknowledgment of fishers' migration and we suggest that this signals an important gap in policy. We do not propose that mobility of small-scale fishers should necessarily be constrained but we highlight the fact that the invisibility of the issue in policy means that institutions developed to deal with coastal management at the community level may not have sufficient support from legal and policy documents, and may not be developed or equipped to handle the possible conflicts and difficult trade-offs that need to be addressed as a result of fishers' mobility.

Recommendations

Despite the preliminary nature of data presented in this brief it is evident that information is lacking in several areas of direct relevance for policy development aimed at dealing with issues of migrating fishers. Below we list a number of pressing issues that deserve the attention of policy and research in the near future to address the issue of fisher's migration and fisheries management.

1. Better monitoring of migrant fishers (both Kenyan and non-Kenyan) at landing sites is a prerequisite for improved understanding of fishers' movements and the effects of such mobility on coastal resources.
2. Significant gaps in the information about the status of many coastal and marine resources limits the ability of both BMUs and the Fisheries Authorities to make informed decisions about the number of fishers, types of gears and catches to allow into any given area.
3. The type of systematically collected information required would include recording of all fishers and crews not members of local BMUs, their origin, time of arrival, gears used, species and quantities landed. This could be collected by BMUs in collaboration with, and with the support from, the Fisheries Department.

4. Collection of such information would constitute a first step towards forming a solid base in which to ground more informed recommendations on restrictions of migrant fishing operations. It would also allow local management institutions (BMUs and Fisheries Department Offices) to better anticipate and plan for influx of non-local fishers into their management area.

5. Given the conflictual issue over use of ring nets, this issue would benefit from a thorough investigation into who is involved in such fishing practices. A working group should be convened to address this issue.

6. The invisibility of fishers' mobility in policy means that institutions developed to deal with coastal management at the community level may not have sufficient support from legal and policy documents, and may not be developed or equipped to handle the possible conflicts and difficult trade-offs that need to be addressed as a result of fishers' mobility.

7. Any policy decision needs to consider the trade-offs between both benefits and negative effects as perceived by members of communities hosting migrant fishers.



Further related readings

Crona, B. I., and S. Rosendo. in press. Outside the law? Analyzing policy gaps in addressing fishers' migration in East Africa. *Marine Policy*.

Fulanda, B., C. Munga, J. Ohtomi, M. Osore, R. Mugo, and M. Y. Hossain. 2009. The structure and evolution of the coastal migrant fishery of Kenya. *Ocean & Coastal Management* 52:459-466.

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Nunan, F. 2010. Mobility and fisherfolk livelihoods on Lake Victoria: Implications for vulnerability and risk. *Geoforum* 41:776-785.

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