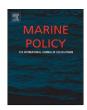
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# Migrant fishers of Pemba: Drivers, impacts and mediating factors



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## ABSTRACT

Most of the fishers of coastal East Africa particularly among the Bajuni, Kojani, Macua and Vezo ethnic communities have historically practiced migration. This study explores the strategies used by migrant fishers' of Pemba in the Western Indian Ocean region. By adopting a modified sustainable livelihoods framework (SLF), the study uses in-depth interviews and questionnaires to explore the life histories of the fishers in migrant communities, their motivations to migrate, and their associated socioeconomic and ecological implications. Results point out to a complexity of factors contributing to migration including natural, to economic and social factors. Interaction of such factors is instrumental in shaping fisher migration as an activity into an important livelihood strategy. The study concludes that SLF provides holistic understanding of migration. However the incorporation of the 'livelihood spaces' extends this knowledge by integrating the spectrum of spatial aspects. This understanding is critical in the design of policies and interventions necessary to ensure resource sustainability and secure fishers livelihoods. This multi-method approach is critical in empirical study of fisher migration.

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# 1. Introduction

# 1.1. General understanding of fisher migration

Fisher migration is the movement of fishers to fishing grounds (or camps) away from home for any period ranging from few weeks to several months, mostly on a temporary basis and occasionally permanently [1,2]. Migration is a key livelihood strategy among many fisher communities [3-5]. Historically, such migrations have been influenced by the abundance of fish (cornerstone of push-pull theorists) [6–8], economic, social-cultural factors [9–12] as embedded in the social networks theory [13]. Social networks are arguably critical in influencing the expected net returns to the migrants by reducing the cost and vulnerability associated with migration. Migrant's remittances may explain the impact of migration in source areas but falls short of showing how this influences fishers'investment decisions or vulnerability from external shocks, particularly environmental processes. So far, a number of studies on fisher migration including those that have applied push - pull and social network theories have focused on the destination areas [7,14–18]. Although these studies have been critical in enhancing our understanding of factors influencing fisher migration, they have been limited in addressing out-migration as a household strategy in relation to environmental processes as well as social and institutional structures in the community of origin.

1.2. Sustainable livelihoods framework (SLF) in the context of fisher migration

The sustainable livelihoods framework (SLF) has previously been used in the assessment of livelihoods of communities dependent on natural resources [3,11,19] and remains relevant for migrant fisheries. Migrant fishers, operating within the socioeconomic and ecological milieu are influenced by external factors and processes that result in changes at both the individual and community level. Migration outcomes include knowledge transfer, socioeconomic and cultural changes and ecological impacts related changes in natural resource base, such as fish stocks, pressure on target fisheries and vulnerability to shocks and trends, [3,11].

Research has shown that individual's decision to migrate is influenced by access to livelihood assets (human, physical, financial, social, and natural) and respective demographic characteristics including age and gender [3,7,9]. Physical assets

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may include the boats, fishing gear, house, bicycle among others, or at community level access to road networks, fish markets, landing sites, harbours, health centres, schools and other infrastructure. Financial assets are the savings, credit, insurance while natural assets are the fish stocks, fishing grounds accessed by licence, land owned, crops cultivated and much more. Human assets on the other hand, refers to people's 'capabilities' mainly education, knowledge, skills, labour and health. Social assets are the kinship networks, associations, membership organisations and peer-group networks that people can use in times of difficulties to gain an advantage [3,7,11].

Participation in migration is also influenced by policies, institutions and processes (PIPs) [11] that either enable or hinder access to capital assets and fishing activity. For instance, institutions affect access to livelihood activities such as fishing by influencing fisher movement, implementation of regulations about fish catches and gear use among others. While processes are the social relations with key players (including captains, traders and patrons or organisations). Vulnerability is a factor of natural cycles, trends and shocks, which are beyond individual control. Shocks include major natural events, disasters or other factors that disrupt individual or community activities [3]. All these influence migration decisions through changes in seasonality, catch rates, prices for fish, and cost of living among others.

# 1.3. Fisher migration in East Africa

Whilst fisheries around the world are referenced in the literature, the focus in this paper is on artisanal fisheries in Pemba. Coastal fisheries in Tanzania are mainly artisanal 95% of which takes place inshore and are characterised by low technology including small or traditional fishing craft and gears which limit fishing to the area adjacent to the respective fisher communities [20,21]. However, the Bajuni, Kojani ethnic communities from Kenya and Tanzania, as well as the Macua and Vezo from Mozambique and Madagascar respectively, have practiced migration for hundreds of years. Important source areas for these fishers include Pemba Island, Unguja Island and Nampula. Fishers from Pemba migrate mainly to Kipini, Mayungu, Gazi, Shimoni, Vanga, Moa, Sahare, Mbweni and Kunduchi among other destinations [1,14]. Such fishing is subjected to temporal and spatial fluctuation through the influence of monsoonal wind patterns [22]. More specifically, the geographical location of Pemba and Kojani Islands exposes the East Coast to direct tidal action, currents and strong winds particularly during the South East Monsoon (SEM) when the East Africa Coastal Current (EACC) achieves speeds of up to 0.5-0.7 ms [22]. Seasonal circulation is manifest as strong winds and precipitation during the SEM (June-September) and calm during the North East Monsoon (NEM) (November-February). The occasionally increased turbulence due to strong winds enforces reduced fishing activity on the islands during the SEM thereby limiting fisheries production [22]. On the contrary, fishers migrate to 'follow fish' as the formation of upwelling zones at the convergence of EACC and Somali Coastal Current (SCC) creates exceptionally high marine productivity in the northern Kenya coast [22]. Consequently, fishers make seasonal migrations northward matching the formation of the upwelling.

The present study develops a framework linking factors driving and influencing fisher migration and the socioeconomic and ecological impacts in the place of origin of migrant fishers (Fig. 1). The study explores factors that affect fisher migration by employing the SLF and the concept of livelihood spaces. Essentially, the SLF is employed to understand fisher migration from the point of the community of origin by 1) identifying social, economic and ecological drivers of migration among fishers, 2) establishing the social, economic and ecological impacts of migration, 3)

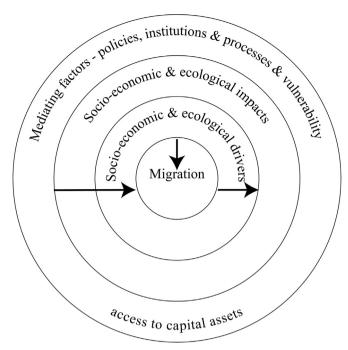


Fig. 1. Fisher migration in the context of Sustainable Livelihoods Framework and Livelihood Spaces.

investigating the influence of mediating factors and exposure to external factors on migrant fishers and relate factors of migration to location and its characteristics (the 'livelihood space').

## 2. Methods

# 2.1. Study area

Three sites in Pemba Island (Fig. 2) were chosen following a preliminary survey that identified villages with a high proportion of migrant fisher population. The study was conducted in June and July 2011 when most migrant fishers had returned to their home fishing grounds.

# 2.2. Data collection

Data collection was done in stages; first, local elders, village leaders and local government officials from the ministry of fisheries were interviewed with the aim of identifying important source areas for migrant fishers in Pemba. Next, 13 Key informant interviews (KIs) (Table 1) and 5 focus group discussions (FGDs) were done. One focus group was organised in each village with local elders, local leaders, women from a migrant fisher household and experienced fishermen. Two FGDs were held with fisheries department staff, the first one with senior staff, and another with field staff in charge at study sites. Informants were identified based on their broad knowledge of migrant fishers particularly in providing information on the history of migration, decisions and motivations to migrate, implications of fisher migration, fishing organisation and operations, perceptions towards migration, local governance, and fisheries policy.

In addition, fishers were randomly sampled and interviewed at Kiuyu Mbuyuni (n=21), Kojani (n=22) and Tumbe (n=23) as they arrived. Prospective respondents were required to have migrated before to qualify for an interview. Survey questions were designed to examine factors influencing migration and choice of destination, perceptions of impacts of migration on communities,

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