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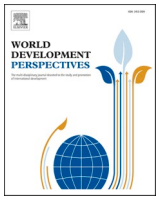

Research paper

# Beyond growth? Understanding the grassroots entrepreneurship of women fish processors in Ghana

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ABSTRACT

Fish processing is crucial for women and households for its economic and food-related benefits in Sub-Saharan Africa. In Ghana, entrepreneurial women involved in fish processing operate at the intersection of different growth agendas and interventions that will directly or indirectly determine the future of the sector. Blue Economy investments in Ghana are disconnected from the small-scale fisheries sector, focusing on large-scale development projects. Concurrently, interest in the post-harvest, women-led, fish processing sector is growing on the side of NGOs and international agencies that invest on the premise of an untapped potential of the sector. This paper aims to problematize what growth is for small-scale women fish processing entrepreneurs within this diverse and rapidly changing landscape of investments and priorities for the growth of the broad ocean-based sector. Drawing on insights from anthropology of entrepreneurship, innovation, skill and learning, we look at organization of space, management and utilization of resources, and application of skills and technology needed for the enterprises to operate; we show entrepreneurship as an assemblage of practices, visions and aspirations (for growth) that hinge on spatial, relational, and temporal contextual dimensions, between smaller fishing communities and larger urban centres along the coast. Accounting for the complex and diverse nature of post-harvest relations in the fish processing sector is critical for policies and interventions that are tailored to the needs and aspirations of women in different contexts. As growth takes centre stage in all dominant development agendas in Africa, this paper responds to the necessity for new tools to apprehend how African players position themselves on the global stage.

## 1. Introduction

Small-scale fisheries in Africa remain a significant social and economic sector, providing millions of people with income and employment and contributing to poverty alleviation and food security (Belhabib et al., 2015; Béné et al., 2007). Fish processing and trade is a crucial activity for many women in coastal communities in Africa, particularly where there are few other alternative sources of employment (Atkins et al., 2021; Galappaththi et al., 2021; Okafor-Yarwood et al., 2022).

This article draws attention to entrepreneurial women involved in fish processing in Ghana's coastal communities by looking at the context in which they operate with a focus on *growth* of their enterprises. Entrepreneurial women today operate at the intersection of different interventions and development agendas that have potential to directly or indirectly determine the future of the sector. The small-scale post-harvest, women-led fish processing sector has drawn the attention of NGOs and international agencies that invest in the sector on the premise of its untapped potential for *growth*. These initiatives tend to advance the argument of 'empowerment' and 'growth' through investments in technological development (e.g. improved ovens) (Owusu, 2019), women's capacity building to enhance their post-harvest processing such as training in bookkeeping, branding and marketing, and business management skills (Torell et al., 2019), as well as technical support in terms of handling and hygiene (Owusu, 2019; Standen, 2025). Concurrently, oil and gas, infrastructure expansion such as port development, coastal tourism and aquaculture are emerging at the forefront

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of Blue Economy agendas in the country, contributing to long-standing representations of the small-scale fisheries and post-harvest sector as 'behind' and in need of 'modernization' (Ayilu et al., 2023; Overå, 2011).

The diverse, rapidly changing, and historically knotty landscape of investments and priorities for the growth of the broad ocean-based sector, in Ghana as across Africa, urge novel analytical tools to assess what growth is, and how it happens for small-scale actors at the grassroots level. In this paper, we spotlight local engagements with growth related practices, ambitions, and ideas by unpacking what growth means for women fish processors in Ghana. We examine this through the lens of an anthropology of entrepreneurship, which approaches entrepreneurship as a *human* phenomenon (Pfeilstetter, 2022) with economic and non-economic dimensions of value, and in its *context* (Briody & Stewart, 2019; Verver and Koning, 2024). We focus particularly on the *context* or 'embeddedness' of technology adoption, innovation, skills, and learning, determined by degree of urbanity (small fishing communities to large centres) and centrality (e.g. proximity to large markets and key fish processing and trading sites). We utilise insights and analytical tools from anthropology of innovation, skill and learning (Breda-Verduijn & Heijboer, 2016; Gudeman, 2001; Ingold, 2000, 2018; Portisch, 2010; Prentice, 2008; Toleubayev et al., 2010) to analyse the organization of space, management and utilization of resources, and application of skills and technology of these fish processing enterprises, to understand the range of objectives women set for themselves and their enterprises, including how these change through time in their different stages of life.

Through a case study approach, we advance an understanding of the multi-faceted contribution of the post-harvest small-scale fishing sector grounded in the realities of Ghanian women fish processors, and within the context of emergent Blue Economy and Growth agendas. By highlighting the nuances around the value of the fish processing sector, we address the criticism these agendas have attracted for paying limited attention to social considerations and non-economic dimensions of growth such as community economic and social well-being, social relations, identity and culture (Bennett et al., 2021; Cisneros-Montemayor et al., 2019; Okafor-Yarwood et al., 2020). More fundamentally, this paper tackles questions of African development and new waves of African 'optimism' that have heralded Africa as the last frontier of global capitalism (Ouma, 2024), bolstering a technocentric model of 'inclusion' of small-scale actors into pro-poor 'appendixes' of capitalism (Allegretti, 2022; Dolan, 2012; Green, 2015a). As Africa and its leaders increasingly exercise their agencies in setting development priorities (Soulé, 2020), a better understanding is needed of how a diversity of African actors at the grassroots level shape their future.

## 2. Narratives of growth and the growth-entrepreneurship link in Africa

Growth is at the core of all dominant development agendas, including in Africa, urging new wisdom to apprehend how African players at a local level can position themselves on the global stage (Mbembe & Sarr, 2022; Ouma, 2017, 2024). Growth agendas are as much about creating conditions for capitalist development as they are about mobilising architectures of knowledge, and the institutions that support the interests and interpretive tools behind growth discourses (Cherif et al., 2024; Green, 2015a; Ouma, 2017). Historically, growth agendas and debates within the continent have come under the influence of international and multilateral donor organizations based in the West, and other large organizations such as corporations and philanthropic organizations (Green, 2015a). The post-Millenium Development Goals agenda in Africa has seen a radical shift in how development is approached. Referred to as the 'new Washington consensus' (Gabor, 2021; Mitchell & Sparke, 2016), the new paradigm is characterised by the financialization of development and markets. This new paradigm has entailed a shift away from the role of the state to a greater role of financial investments, exploitation of natural resources, and technology as drivers of poverty eradication, poverty alleviation, and hunger reduction *through* growth (Binns & Nel, 2018; Green, 2015a). Growth has become synonymous with the term 'inclusive', and oriented towards 'modernisation' (Green, 2015a, 2015b).

As an activity inherently oriented towards growth (Carlsson et al., 2013; Pfeilstetter, 2022), entrepreneurship has come to take on a particularly important role in the growth agenda across the Global South, including in Africa. Entrepreneurship is conceived of as the catalyst of 'inclusion' of the more marginalised into value chains and markets (Allegretti, 2022; Dolan, 2012; Green, 2015b; Irani, 2019). Through 'inclusion', the entrepreneurial subject becomes incorporated into capitalism by way of 'untapping' market opportunities for the poor (Dolan, 2012). The 'woman entrepreneur' has risen to the forefront of the international development agenda as a particularly powerful, gendered development subject who, when 'empowered' to tap into the opportunities made available by the neoliberal capitalist regimes, can lift herself, families, and communities out of poverty (Boeri, 2018).

Current growth agendas such as the Africa 2063 or the recent African Continental Free Trade Area (AfCFTA) (UN WOMEN, 2019) have resulted from reappropriation of consultative proceedings by African states and their leaders who are now better positioned to exercise their agencies on the global political stage for attracting new investors and capital to the continent (Soulé, 2020). Novel ideas by African thinkers reinforce Afro-optimistic scenarios and accounts of unrealised (economic) opportunities, having shifted the narrative from Africa as a site of crisis to one of potentialities. However, these novel discourses call for more critical engagements with the mouldings of African modernities by African actors themselves (Mbembe & Sarr, 2022; Ouma, 2017; Sarr, 2020), opening spaces for analyses of growth anchored to experiences and practices at the grassroots level.

### 2.1. Blue growth imaginaries in African ocean development

Blue Economy and Growth agendas build on earlier ideas of a green economy which aligns with sustainable development as articulated by the UN, environmental policy, and practice (Childs & Hicks, 2019). Recent state-led and private efforts to expand the Blue Economy have been promoted as a sustainable means of growing the economy from ocean-based resources, while concurrently, promising solutions to problems afflicting fisheries, such as economic unproductivity and lack of state revenue (Okafor-Yarwood et al., 2020).

Numerous African nations, such as the Seychelles, Comoros, Madagascar, Mauritius, Mozambique, and South Africa, are seeking to integrate Blue Economy efforts into national industrial strategies (Bolaky, 2020). The African Union has named the years, 2015–2025 as the decade of African seas and oceans (AU-IBAR, 2019; Bolaky, 2020) and outlined a strategic agenda for Blue Economy development in its African Union Blue Economy Strategy (AU-IBAR, 2019). In Ghana, Blue Economy initiatives have been recognized as a national priority in the National Fisheries and Aquaculture policy (Mofad,2022), with national investments for port infrastructure expansions, industrial fishing, oil and gas exploration activities, and recently instituted closed season conservation measures (Ayilu, 2023; Ayilu et al., 2023). The fish processing sector has witnessed market-oriented investment in hygiene and quality standard improvement and certification in fishing processing, value addition, the establishment of fishing associations for better market access (Standen, 2025) as well as investments in sanitary and phytosanitary (SPS) infrastructures (laboratories, testing kits, cold chain systems, storage, processing facilities) to reduce post-harvest losses and foster sectoral growth (Okafor-Yarwood et al., 2024).

Blue Economy investments are changing the imaginaries and landscapes of coastal and ocean sectors and spaces globally (Barbesgaard, 2018; Brent et al., 2020); they promise to 'fix' the problems facing the oceans through sustainable means (Brent et al., 2020), 'unleash' entrepreneurial and innovative potential for sustainable growth (Mohanty & Dash, 2020; Senaratne et al., 2021), and create win–win situations

through investments and economic expansion of ocean sectors, such as offshore oil, tourism, and aquaculture (Barbesgaard, 2018). In Africa, these Blue Economy and Growth discourses and investments have failed to secure a just space for small-scale actors (Okafor-Yarwood et al., 2020), obscuring how these actors 'create meaning and value' (Childs & Hicks, 2019: 323). In this context, many researchers have called for analyses of material, interpretive, and spatial contingencies of ocean actors' experiences within ocean growth imaginaries which are set at a higher policy level (Germond-Duret, 2022; Midlen, 2021).

## 3. Materials and methods

### 3.1. Trade, markets, gender, and development: Understanding the context of women fish processing entrepreneurship in Ghana

Women's entrepreneurship in the fish processing sector is embedded in complex and multi-faceted webs of relations, trade, and market dynamics at different scales, from the local, through cross-border trades within West Africa, and beyond the region (Ayilu & Nyiawung, 2022; Overå et al., 2022; Standen, 2025). Due to the relative small-scale nature of most enterprises, women have limited power to influence market dynamics at national and regional level (Standen, 2025); however, their function within local or 'territorial' markets has been recognised to be essential in supplying relatively cheap and affordable fish to meet the nutritional needs of low capital consumers (Hassselberg et al., 2020; Overå et al., 2022; Standen, 2025). Women have developed strategies and personalised webs of relations for distribution, social capital with other trade partners, and critical processing skills to meet the taste and demand of consumers across locations in the country (Overå et al., 2022).

Women's operations have recently been affected by changes in the Ghanaian fish market, with increasing fish imports in the country (Hasselberg et al., 2020; Standen, 2025) to counterweigh decreasing national catches (Hasselberg et al., 2020). On the one hand, this has enabled some women to carve out an important market niche with a stabilizing function that ensures access to fish by consumers in times of low catches (Overå et al., 2022). On the other hand, these changing market dynamics have led to power imbalances, because the ability to access imported fish for processing depends on processors' economic and social connectedness with key players (Standen, 2025).

Within changing market circumstances, women's operations are significantly dependent on the shifting social and cultural nature of the fisheries sector in Ghana, in terms of space, context, locations, and socio-cultural arrangements. Traditionally, there is a significant gender division of labour in coastal communities, supported by societal norms that create gender identities in the fisheries (Britwum, 2009). The acquisition of capital through the activity of fishing is linked primarily to the gendered construction of successful males; however, through conjugal relations, women can create wealth for themselves and their households by relying on their own entrepreneurial skills in the fish processing sector (Britwum, 2009; Overå, 2003). In some cases, women own fishing canoes (otherwise known as 'fish mothers') or contribute to fishing expeditions by providing financial assistance (Adjei & Sika-Bright, 2019; Ameyaw et al., 2020; Torell et al., 2019). Because women are expected to manage the home using the profits made from (processed) fish sales, processing fish is commonly considered an extension of their domestic labour (Adjei, 2021).

These traditional arrangements are however not stable, and several factors affect women's ability to access fresh fish, highlighting the differing potentials for entrepreneurial growth across locations. Women fish processors and traders operate in a hierarchy which revolves around whether they can secure access to fresh fish. This is mediated along intersectional lines due to differences in age, familial and kinship relations, marital status, and processor-fisherman relations (Britwum, 2009; Standen, 2025), indicating the complex and diverse nature of post-harvest relations in the fish processing sector that underlie the analysis in this paper. Britwum (2009) describes how the Fish Queen (*Konkohembaa*), along with the Chief Fisherman, normally fix the price of fish at the beach. Next, fish mothers are able to secure direct or indirect access to fresh fish because they are often related to fishermen through marriage or other blood ties (Britwum, 2009). Fish mothers usually process fish for sale to middle-women who act as fish merchants in coastal villages. In certain contexts, fish mothers oversee both product processing and marketing, employing well-established networks to reach market hubs throughout Ghana and beyond (e.g. Togo and Benin) (Ayilu & Nyiawung, 2022). Other fish processors often do not have direct access to fresh fish and must negotiate access (to fresh fish) through socially embedded relations which are often dependent on trust (Overå et al., 2022).

These sociocultural and power dynamics mediate the level of economic success experienced by women in Ghana's fishing sector. Whether a woman processes fish as a domestic household task or as an independent entrepreneur depends on her capacity to manage these gendered and other forms of power relations. Also, geographical location in terms of degree of urbanity and centrality influences her productive relationships, as many women in urban fishing communities often transition from doing fish processing as domestic duties (often constrained by low availability of fish locally in small communities), to engaging in autonomous enterprises by capitalizing on better and more diversified supplies of fish (local catches and frozen imported fish in larger centres).

This complexity of socio-economic factors around women's operations have rarely been addressed in development policies and by international organizations such as USAID, the Netherlands Development Organisation, and Oxfam. Development agencies have increasingly become critical actors in the Ghanaian post-harvest fishery sector. Here, technology-based value addition interventions are introduced, such as technical skills in bookkeeping, creating standardised hygienic fish handling through market-led development (Ford & Peñarubia, 2020; Standen, 2025; USAID, 2022), and encouraging the use of new oven technologies that reduce post-harvest fish losses, time and fuel usage (Owusu, 2019). For instance, the recent USAID-led Safe Fish Certification and Licensing Scheme (SFCLS) launched in 2023 aims to ensure hygiene and quality standards certification in fish handling as a route to economically empower women fish processors and traders by allowing them to sell fish to higher-value markets (Laboja, 2024; Standen, 2025; USAID, 2022). The technocentric approach in development programmes has not accounted for the complex diversity of fish processing entrepreneurship described above, and necessitates an in-depth contextual analyses of entrepreneurship, with more emphasis on how innovation, skill, and learning play out in differing contextual localities and visions of growth.

### 3.2. Growth from the ground up: innovation, technology and skills

By utilizing insights from anthropology of entrepreneurship, we question the 'whetted and engineered' sort of entrepreneurship that external agents cultivate, supported by neoliberal market reforms and states. This development apparatus 'reconstitute[s] citizens along market lines' (Dolan, 2012), making entrepreneurship an inherently 'developmental' endeavour. A broadly diffuse field of inquiry across a multi-disciplinary landscape of research (Carlsson et al., 2013; Ireland & Webb, 2007), anthropology of entrepreneurship, despite its hazy boundaries, offers insights to reorient the study of entrepreneurship in the Global South, including in Africa, away from the technocentric 'pro-poor capitalism' model (Allegretti, 2022; Dolan, 2012; Green, 2015a, 2015b; Irani, 2019).

Rooted in the work of Polly Hill (1963) among farmers in southern Ghana (Dimand & Saffu, 2022) who 'singlehandedly created a cocoa industry from the ground up' (Dimand & Saffu, 2021: 286), economic and entrepreneurship anthropologists have rather focused on the everyday of (micro) agency (Pfeilstetter, 2014, 2022) *in context* as a

central tenet of the entrepreneurial activity (Briody & Stewart, 2019; Verver and Koning, 2024). As such, entrepreneurship trespasses the boundaries of the economic into the wider dimension of human enterprise (Pfeilstetter, 2022), and through entrepreneurship and the agency connected to its activities the entrepreneur can (re)claim and validate their personhood as a form of self-making (Marshall, 2018).

The anthropological lens on entrepreneurship sits on important historical trajectories towards an understanding of how the economy is 'embedded' in society. The so-called 'embeddedness paradigm' originates in some early work on markets in Africa by anthropologists such as Paul Bohannan and George Dalton (Bohannan & Dalton, 1962), and subsequently conceptually defined by Karl Polanyi (1957), to whom the concept of 'embedded economy' is normally attributed to (Langevang et al., 2015; Olivier de Sardan, 2013; Wigren-Kristofersen et al., 2019). In time, the social and cultural embeddedness of entrepreneurship has become a major preoccupation among business and entrepreneurship researchers who have underlined the necessity of accounting for the context of entrepreneurship. 'Context' (of entrepreneurship) is multifaceted, multi-layered, processual, and bears dynamic attributes (Dubois, 2016; Korsgaard et al., 2022; Langevang et al., 2015; Wigren-Kristofersen et al., 2019) to account for time and space dynamics (Langevang et al., 2015), and multiple webs of relations (Dubois, 2016).

To analyse the operations among women fish processors in this article, we utilize anthropological work and insights from anthropology of innovation, skill and learning (Gudeman, 2001; Ingold, 2000; Prentice. 2008; Toleubayev et al., 2010) to delve into the 'context' of entrepreneurship, to unearth how different women engage in entrepreneurship in diverse contextual situations, with attention to time (e.g. life stages of different women) and space (socio-demographics, geography, availability of fresh fish supplies). We focus on the dynamic organization of space, management, utilization of resources, and application of skills and technology as forms of 'crafting' (Ingold, 2010; Portisch, 2010) that are not inherently developmental but rather pertain to the human aspects of enterprising.

The analysis in this article revolves around how enterprising creates value that extends beyond the finished product (i.e. processed fish) and the monetary income from sales, encompassing the (value of the) relationships that, through processing, women can build and nurture. Furthermore, we show how innovation is contextual (Gudeman, 2001; Reichman, 2013; Welz, 2003), and can enable some women, particularly those who operate in larger urban centres, to achieve expansion through evolving forms of organization of space, management, and utilization of resources, leading to growth from the ground up. These evolving forms of enterprising are enabled by surrounding conditions such as availability of fish and technology, and the opportunity to incorporate labour from outside the traditional unit of the family, leading to changing patterns of 'enskillment' (Ingold, 2000, 2018) as the shifting context of learning (Breda-Verduijn & Heijboer, 2016; Simpson, 2006).

Ultimately, we consider how women fish processors do not necessarily intend to achieve the kind of growth-through-inclusion as prescribed by normative technocentric paradigms of entrepreneurship that define the contours of what entrepreneurship is and ought to achieve. Instead, women fish processing enterprises are *human* phenomena that pertain to the broader social and cultural realm in which these women are embedded. Economic growth does happen when the right conditions exist for expanding their enterprises once these essential needs are met, hence, traditional practices and knowledge become instrumental to economic expansion.

### 3.3. Study area and methods

The selection of the study communities along coastal Ghana represents and accounts for diversity of enterprises, from smaller and more peripheral local fishing communities such as Apam and Mumford, to larger urban areas in Accra such as the processing site of Chorkor and the harbour city of Tema (from now on referred to as 'Tema') (Map 1). The aim of the selection was to analyse how spatial, relational, and temporal contextual dimensions play out differently across enterprises. In doing so, we intended to capture the diversity of these enterprises in terms of size, and involvement in broader markets and networks, availability of fish supplies, so as to bring out different goals and ambitions, and benefits that fish processing brings to these women.

The locations differ substantially in size and scale of fish-related operations. In Tema, women can diversify their procurement strategies between fish caught by trawlers and fish imported from various countries in West Africa as well as Europe (Overå et al., 2022), the


**Map 1.** Coastal Ghana with research locations. Authors' own map produced with https://caltopo.com/.

second frozen in the many cold storage outlets. Chorkor is a neighbourhood in the Greater Accra region that has grown exponentially, and is today densely populated, with significant influxes of people who have settled in or commute daily to carry out their economic activities there (Atuobi, 2016). Mumford and Apam are significantly smaller fishing communities in the Central region of Ghana; the two communities are connected by private transport providers along paved road. The women fish processors in these two communities rely on the local catch of artisanal fishers (Nunoo et al., 2009) who have little storage facilities.

Twenty interviews with women fish processors that lasted between 45 min and 1 h were conducted by the first author of this article between November and December 2022, following ethical approval from the Faculty of Science and Technology Research Ethics Committee (FSTREC), Lancaster University, obtained in June 2019, and with latest amendments approved in March 2021. Interviews were distributed across the locations studied as follows: eight interviews in Mumford, and four interviews in each of the other locations (Apam, Chorkor, Tema).

Participants were purposively selected to cover the full range of enterprises' sizes and operations, from small family enterprises to large-scale processing businesses. Several factors contributed to the final distribution of selected enterprises across the range and locations; these were for instance the capacity of the researcher and the assistants to obtain consent for an interview, time availability of women to respond to the researcher's questions, and how the research team was perceived by the women fish processors. These factors worked in favour of conducting more interviews in Mumford, where women had relatively more time to offer given the subsistence nature of their activity. Access in Mumford and Apam was facilitated by a male research assistant, a Gomoa West District official (headquartered in Apam town) who was well positioned to negotiate informed consent on behalf of the researcher, and spoke the local language (*Fante*). In Chorkor and Tema, lengthier negotiations were necessary to obtain informed consent for an interview, and repeated visits were necessary to accommodate the busy schedule of the women entrepreneurs; a female research assistant, a graduate in nutritional sciences from the University of Ghana, accompanied the researcher but had less bargaining power to negotiate access, which ultimately biased the final selection of interviewees. Interviews were conducted in local languages in Mumford and Apam (translated by the research assistant), and a mix of local languages and English in Chorkor and Tema.

Each interview was conducted to explore the functioning of an enterprise, approached as a 'case study' following a five-stage research protocol; 1-Defining the case, 2-Selecting the case, 3-Collecting and analysing the data, 4-Interpreting, and 5-Reporting findings (Crowe et al., 2011). We defined enterprises as case studies, each in its spatial, relational and temporal dimensions (Bartlett & Vavrus, 2016), that is, as a bundle of relations and activities, how these pertain to the spatial context of the conditions that enable the enterprise to operate, as well as the relational context in which enterprises are embedded (e.g. operating as family units or incorporating other individuals through commoditized forms of labour). We also account for the temporal dimension by looking at the evolution of the activities of single enterprises in relation to women's life histories and stages.

Interviews were conducted inside or on the immediate outside of the premises where fish processing is done (households in the case of Mumford, Apam and Chorkor, and processing sites in Tema) following a flexible semi-structured approach. The researcher identified three broad categories of questions: a) Organization of space, b) Management and utilization of resources, and c) Application of skills and technology, having identified some basic questions for each area beforehand, but allowing for additional questions to emerge during the interviews. Data collected through the interviews were complemented with observations made by the researcher who invited interviewees to show them the tools, technologies, and fish stocks as they answered the questions. This semi-structured approach aided the researcher to delve into the overall management of the enterprise in terms of its size, people involved, fish procurement and storage, practices of processing, equipment and technology used, as well as women's objectives and the strategies to meet them. All data coming from the answers and observations were recorded through note-taking at the interviews and afterwards in English.

Notes collected in the field were processed with further reflections, also recorded through note-taking, in Ghana and upon return to the researcher's main station. The reviewing of the notes included analysis and interpretation of the data, which led ultimately to the thematic analysis of this article, based on the identification of three different categories of enterprises reported in the findings: 1-Smoking fish for subsistence, 2-Enhancing business through innovation, and 3- Achieving enterprise expansion and economic growth. These themes refer to a categorisation of enterprises according to contextual dynamics, indicating the complex and diverse nature of post-harvest relations in the fish processing sector.

## 4. Findings and discussion

### 4.1. Smoking fish for subsistence

Twelve enterprises were categorised as a form of an extension of women's domestic labour, all of them from small urban contexts, that is, eight in Mumford and four in Apam. The fish processing activity by these women is limited in size and networks, partly because of living and operating away from major markets, impacting on access to supplies of fresh fish. These enterprises have no clear-cut separation between the business operations, which are conducted within the family, and other household and non-business activities such as cooking, and consumption of fish.

The organization of material space within the household is the most evident reflection of the small-scale size of the fish processing activity of these women enterprises; observations conducted during interviews highlighted how the space and use of utensils for the fish processing and for household activities (cooking, eating) are not neatly separated, reflecting traditional household arrangements as opposed to more business-oriented spatial arrangements that will be analysed in sections 3.2. and 3.3. Across the twelve enterprises, fish processing is normally done on the immediate outside premises of the house, mostly with the use of a traditional mud oven and a limited set of utensils (Figs. 1 and 2).

**Fig. 1.** Fish processing household in Mumford.

**Fig. 2.** Traditional oven in Mumford.

These observations were confirmed in the interviews with some of the women; asked about how they manage space and material resources, for instance, a woman in Mumford argued:

> 'This is all I have; I do my business here at home, and the cooking for my family as well. It's a small house and I have all I need at hand, so I can process my fish here [outside] while I cook meals for the family on that fire over there'.

Blurred boundaries that exist around organization of space involve the utilization of fish as well, between sales of processed fish and the preparation of family meals. A second woman in Mumford also narrated:

> 'I smoke fish and put it in those baskets next to where I keep the fresh fish – when I have to cook and I have both fresh and smoked fish I decide which one to use, depending on what my family wants. The smoked fish is for business but sometimes we eat it to change food or when there is no fresh fish'.

Blurred separation between fish for business and fish for home consumption also emerge in relation to convivial activities of sharing meals with guests and neighbours. Another woman interviewed in Mumford explained how she draws from the basket of smoked fish at times to prepare meals for her guests:

> 'When neighbours come to eat here, I take some of the smoked fish and prepare it with spices and pepper – they really like my fish when I prepare it that way. I know what they like, so I decide to use smoked or fresh fish depending on their taste and preferences'.

The limited size of processing activity in Mumford is in part determined by the geographical context where women fish processors live, as well as local post-harvest relations which mediate access to limited supplies of fresh fish caught by local fishermen. Until three years prior to the interviews conducted for this research, Mumford did not have developed infrastructure for fishermen to dock, and fish supplies were unreliable; this meant that the women relied on canoe fishermen who caught small catches. Several of the women interviewed stated that prior to the construction of the docking facilities, the little fish often procured from local fishermen was rather used for home consumption than processed for business. With the new docking facilities, which has allowed for more semi-industrial vessels to dock at Mumford[1], flows of people coming in to get supplies has significantly increased. However, the increased supplies have not automatically turned into a scaling up of women's fish processing activity, indicating women's primarily subsistence-oriented objectives. As a woman in Mumford argued:

> 'When more fish became available, I started to buy fresh fish from the local fishermen and resell it to women who were coming to buy fish; it helped me get some money to meet our household needs'.

Increased supplies rather enhanced women's ability to nurture their existing networks beyond Mumford which were deemed important, as captured in the response of one woman in Mumford:

> 'I was happy when we got more fish here because I could call my friends to come here and buy fish; some of them now come to smoke fish and use my oven and I host them; I don't charge them; we help each other; sometimes I go to their homes when I want to smoke more fish and I don't pay anything'.

A low processing capacity observed through the interviews conducted for this study in Mumford is also influenced by the lower level of smoking technology available (e.g. mud ovens rather than more technologically advanced Chorkor ovens) or, in some contexts, reluctance to invest in new technologies (e.g. ovens) (Salifu at al. 2024) which determine the application of skills. While some women use the Chorkor oven and are able to access larger markets, the traditional mud oven is still the most widespread oven in Mumford. The Chorkor oven was introduced in Ghana in the early 1970′s (Ndiaye et al., 2014) by FAO to reduce smoke emissions and minimize the health risks associated with the smoke; it is also more efficient for using less wood, it enhances the quality of finished products, and reduces food losses. However, as it came up during the fieldwork, the Chorkor oven requires skilled labour for building and maintenance that is hard to find locally in Mumford as it requires professional carpenters from outside of the community.

The shift to the Chorkor oven requires adjustments as it operates differently from the traditional mud oven; while it is easier to regulate fire with the Chorkor oven, requiring less attention during the whole process than the traditional mud oven (Nerquaye-Tetteh, 1999), the Chorkor oven smokes fish more quickly to enable a higher processing capacity to be sustained. Because of the higher production capacity, the Chorkor oven requires additional labour for turning stacked trays, up to ten, every 45 min for fish to be ready within 6–8 h (Ndiaye et al., 2014). In Mumford, women rely on the skills they learned from their mothers in building traditional ovens to circumvent the added expenses, and to meet their objectives:

> 'I have the skills to build the traditional oven; I learned it when I was a young girl from my mother; the traditional oven is enough for us as we don't need to smoke a lot of fish to meet our expenses'.

More accessible improved technology in Apam has enabled some women to scale up their business to cater better for the family needs. For example, one elderly woman, during the interview recounted her personal experience of the transition from the traditional mud oven to the Chorkor oven which is now a common piece of technology among women fish processors in Apam:

[1] https://www.ghanaports.gov.gh/media/news-details/163/9P1NWNR9P73/MINISTER-OF-TRANSPORT-IMPRESSED-WITH-PROGRESS-OF-WORKS-ON-FISHING-LANDING-SITES-.

'When I was able to build my own Chorkor oven, it really helped me to scale up my business; back then I was struggling to sustain my family so when I was able to upgrade my ovens, it really changed my life for the better'.

The adoption of the new Chorkor technology, however, has not replaced the traditional mud oven, and women have developed strategies to up- or down-scale their operations through managing the use of the two ovens between sales of smoked fish and household consumption. The woman continued:

'Sometimes I use more the Chorkor, and other times I revert to the traditional mud oven; it really depends on what I want to do; when I have more needs and there is fish available I use the Chorkor because it is faster; I can store two or three bundles of fish and travel to a big market to make money to help a family member to pay for her children's school fees, but if I don't have major things to pay I use the mud oven to smoke a little fish for local markets and get some money for food'

The predominance of the traditional mud oven results in the reproduction of traditional routes of passing on fish processing skills from mothers to daughters in these communities. Most women in Mumford explained how they continue with the passing on of skills to their daughters, but the small-scale size of processing activity does not require a significant involvement of their daughters in their operations, which is different from the other cases reported in section 3.2. As one woman in Mumford explained:

'I am very happy to see my daughter learn how to smoke fish, at least I know that if she stays here she'll be able to sustain herself when I am no longer around'.

However:

'Their help is not necessary sometimes, and I let them help me whenever she wants to – I don't force her. If there are days she wants to do other things it's fine, because I know how to smoke fish on my own with the traditional oven; I have done it for such a long time, and we don't have a lot of needs besides food'.

With improvement of technology, arrangements around labour and involvement of young girls can be readjusted to accommodate the larger processing capacity of the Chorkor oven. Another elderly woman in Apam described her strategies of upscaling and downscaling operations according to needs. In addition to ovens, she benefitted from some training that USAID offered to women throughout the years. Experts in different fields, as she recounted, have been training women in Apam in accounting, record keeping, market research, advertising, as part of poverty alleviation efforts among women fish processors in Ghana. Being able to plan better expenditures, monitor profits, and identify the best market options helped her in scaling up her business when her daughters were of school age, and meet their school related expenses; at the same time, her daughters played an important role in helping her with the processing of fish with the Chorkor oven which is labour intensive requiring more manpower given the faster rate of processing. This however, created some conflict for them to meet their school commitments:

'When we were living together as a family, I had to teach my daughters to smoke fish because I couldn't have gained enough money to send them to school; it was hard for them during those years, because they were going to school in the morning and helping me in the afternoon with the fish business'.

She is glad that her daughters have moved to different businesses which help them to sustain their own family: 'I am happy that they have left and started their own businesses, this is hard work; I have had a tough life processing fish'. Now that she lives alone, she is no longer in need of making profit for her family, and she uses mostly the traditional oven as her needs do not require her to sustain a sizeable business:

'The Chorkor oven is better when you need to smoke a lot of fish for business, and you need somebody to help you. Now that my daughters have left, I don't have any help – all young girls here work for their mothers, everyone has their own business, they would not work for somebody else'.

And finally:

'I don't need to grow my enterprise anymore; now, I smoke fish because I like doing it, it's my life, it's been my life since I was a young girl. I feel happy when I process fish and I like sometimes travelling to other places for the business because I get to see my friends'.

In the end, most enterprises in small fishing communities are anchored to traditional channels and networks of knowledge passing on from generation to generation, and mutual support among local women for meeting subsistence objectives. Being in a larger centre such as Apam enables women to capitalize on better technology and other technical training as compared with Mumford. Yet, these are strategies that respond to class and cultural relations that are more peculiar to relatively close-knit communities where fish processing is considered an extension of domestic labour, rather than the result of careful planning or innovation as will be shown in the next section, and objectives continue to be aligned to those pertaining to the meeting of household needs.

### 4.2. *Enhancing business through innovation*

In between processing fish for subsistence and enterprises openly oriented towards economic growth that will be analysed in section 3.3, some women fish processors have been able to make a leap from subsistence to more innovative forms of enterprising while continuing to operate within the family or with the addition of few external individuals. This has occurred through a reorganization of space and use of material resources, labour, and improved organizational capacity of the enterprising unit. These rearrangements have enabled women to depart from traditional forms of fish processing built around traditional household arrangements, providing women more autonomy in their enterprises such as hiring labour from outside the family. The four enterprises analysed within this category were operating in Chorkor.

While poorer compared to other areas of Accra (Atuobi 2016), Chorkor in time has become one of the biggest processing sites in Ghana. The main advantage for fish processing women to reside in Chorkor is the reliable fish supplies, particularly medium to large size mackerel, which are possible because of several freezing facilities. All women interviewed in Chorkor happened to be originally from other parts of the country, indicating the bustling nature of the neighbourhood with influxes of people settling in or commuting for their activities there (Atuobi 2016). They had settled permanently in Chorkor to conduct their business by turning social and material resources into opportunities for innovation. After a time of adjustment, now they run their enterprises with a business-oriented mindset. A woman interviewed explained what readjustments she had to undertake in order to start her business in Chorkor:

'At the beginning it was hard; at first, I was hosted by relatives before I was able to rent my own place for myself and family. In the village I could ask for help from friends and family, but here I was all alone and had to build my own networks from scratch'

However, she explained how business in Chorkor is easier given the availability of resources in loco:

'I left my village because there is no way one can conduct a serious business there. It takes time to procure all the resources you need, and there is very little fish. But here things are much faster; as long as

you have your money you will get fish and there is always somebody you can turn to like a neighbour to buy a new rack from, or somebody who can come to repair your oven on a short notice'.

A sustained processing activity has resulted in a different organization of space within the households with the space set aside for the business activity being kept separate from the space of other ordinary household tasks such as cooking, or leisure (Fig. 3).

Households visited had one or two rooms specifically set apart where women would store the equipment that is needed to smoke fish such as racks, wire mess, aluminium pans, baskets, brown paper and wood as well as the smoked fish. Smoked fish is stored in baskets of different sizes and arranged in batches of 3–4 baskets. Unlike the previous cases where fresh and smoked fish had multiple uses (for business or household consumption), women in Chorkor maintain strict separation between the two. As one woman stated:

'When I buy fresh fish I can take out some of the fish for home consumption, but once it is smoked that's it – I have my own plans for each batch when it comes to the business, like specific clients or markets where I want to sell, so once it is smoked I don't take out fish for eating at home; smoked fish is for business only'.

As described above, technological opportunities intertwine with the organization of labour, particularly the role of family members within the unit. For example, a 40-year-old woman who moved to Chorkor around 10 years prior to interview, inherited the business from her mother and learned the skills from her since she was 10–11 years old, using the traditional mud oven, and through quite strict training that was part and parcel of her mother's parenting role: 'if you do it wrong you get beaten up by your parents', and she now tries to pass the knowledge and skills on to her own daughters so that 'when God calls me, she can take over from me'. As noted in section 3.1, the shift to the Chorkor oven requiring readjustments in organization of labour and resources, the woman has had to allow time for her daughter to adjust from the mud oven to the Chorkor oven:

**Fig. 3.** Fish processing household in Chorkor.

'The two ovens are very different; with the mud oven you can have only two or three trays and monitor the level of smoke constantly – with the Chorkor oven, time differs as you have more trays but smoke stays for longer. It takes adjusting, but because my daughter knew how to use the mud oven, it didn't take her very long to learn'.

She now organizes her time, that of her daughter, and occasional labour she hires in loco around shifts for a sustained operation of fish smoking; she arranges shifts up to a week in advance, accounting for her other commitments, to achieve her business objectives:

'Before I was giving my daughter more time and when she wanted to play instead, I would let her – but now, because we have decided together to put more efforts into our business, I run very tight schedules for all of us, and she needs to fill her slots – this is not a game anymore, we are here to make money'.

Knowledge and skills acquired through traditional circles have potential in Chorkor, and through informal training and apprenticeship, women access important manpower for their enterprises to enhance their business capacity:

'Chorkor is an area for business; people here come from all over Ghana, many come to learn the business and I have so much knowledge I gained from having used both mud oven and Chorkor oven; this is the kind of knowledge that so many people strive to get here in Chorkor. I want to find two or three young girls to train to process fish so that I can have more time to travel and expand my clientele while they stay home to smoke my fish'.

Generally, the women enterprises analysed in Chorkor are still fundamentally family-based units, but favourable surrounding conditions such as more stable supplies of fish and other social and material resources have been turned into opportunities for more effective production. Through more effective organization of household space, tailored management of fish supplies, improved effectiveness of household labour, and casual labour from outside the family, these enterprises differ from the previous cases in section 3.1 in Mumford and Apam where scaling up operations was motivated by the desire to meet basic needs for limited periods of time. Instead, here new arrangements become more stable in time with more growth-oriented objectives.

### *4.3. From product to service: Achieving enterprise expansion and economic growth*

The last set of women fish processing enterprises has distinctive features that set them apart from the family-run type of business that characterises both categories of enterprises discussed in sections 3.1. and 3.2. The women running such enterprises are independent entrepreneurs whose activity is distinctly separated from household arrangements, as they run their own processing sites (Fig. 4). Their independence has occurred through different routes: a) a significant incorporation and involvement of members from outside the family beyond just few additional individuals, either as labour or renters of ovens; b) a shift from the material activity of processing fish to the offering of services which enables women to avert the 'hard work' of fish processing fish; and c) critical transformations around the passing on of knowledge and skills for processing fish from traditional channels to commoditized forms of training as services offered through business-run apprenticeship. These enterprises operate in Tema, which has enabled women to capitalize on better and more diversified supplies of fish.

For instance, the case of a middle-aged woman shows how the combination of the first two features of these business run enterprises, that is, the breaking out of the traditional family business, and shift from processing to service, plays out within these enterprises. Over the years, she has diversified her activity by selling firewood to other women fish processors alongside processing fish herself. The combination of the two activities enabled her to save a sizeable amount of cash that she

reinvested around 10 years prior to interview into building a fish processing site in Tema and now she no longer needs to process fish herself. The processing site has got around fifteen Chorkor ovens that women from all over the country rent to process their own fish that they sell independently, and she has hired two full-time women to run the operations (Fig. 4).

The woman continues to trade in firewood that she sells to women renting her ovens, and she has also built a basic three-room guest house that she offers to women using her ovens for a small additional fee. Throughout her life, as a single mother of three, she has shown savvy entrepreneurial skills that she is very proud of given the struggle she had to go through since her young age:

> 'I was born here in Accra to a poor single mother; as a young girl I really struggled and could not finish school. But when you are in hardship you find in yourself the strength to carry on. Nobody taught me the firewood business, and yet, I was able to save money, and then I could diversify my business, and now I am an entrepreneurial woman who does not depend on anybody; I was even able to send my children to university!'.

She has been organising her processing site with a business mentality and plans to expand it by doubling the number of ovens and hiring more labour:

> 'I have made plans to expand my site; if I am able to save enough cash, by the next ten years I will have another ten or fifteen ovens, and will be able to offer more work to the women here in Tema who are struggling with their livelihoods'.

Yet, she remains considerate of other women's struggle in their business:

**Fig. 4.** Fish processing site in Tema.

> 'I have fixed rates for the ovens, but I usually consider women's personal situations; when a woman does not have enough money, I can let her stay with me for free for up to three months; I do that to help people, because I know how hard it is for women to do business; sometimes I even take care of their kids while they are busy with their work'

The leap from the activity of processing to the offering of services has changed women's envisioned future for their own daughters, as another woman in Tema confirmed:

> 'I am training my children to be business minded people; I don't want them to go through hardship, and I don't want my daughters to do fish processing; I know how hard it is, it's better to do other businesses'.

As women start envisioning a different future for their daughters, the passing on of knowledge and skills in fish processing turns into a commoditized form of service. This emerged quite strongly with the case of another 40-year-old woman, who runs her enterprise in Tema with around thirty ovens in partnership with her mother. They procure fish from local fishermen, but also purchase imported frozen mackerel originating from Ivory Coast and available in Tema for their processing activity; they have been able to register their own brand, so fish and other fish-based products (herring and shrimp powder for human consumption) is packaged and sold nationally or shipped to outside markets (UK, Germany, Canada).

Their operations involve women working for wages and renting ovens to process their own fish, as well as other women who gravitate to the site in search of short-term employment and/or to enhance their skills in fish smoking. The mother has been a fish processor since her young age, inheriting in turn the skills and knowledge from her grandmother; rooted in this intergenerational passing on of traditional knowledge and skills around fish processing, they now avert the 'hard work' of processing fish and have rather invested into offering trainings to young women who want to break into the business. The mother has become a 'trainer of trainers' with a team of trainers under her, each trainer with her own students, with herself as their head:

> 'Both I and my mum have worked very hard to put this business together, especially my mother has smoked fish since she was a young girl and thanks to her, I didn't have to go through the same struggle. I am so happy now that she doesn't have to smoke fish anymore, because I see how hard it is; she really enjoys training other women for them to earn their own living, and we reinvest the money we make into maintenance and expansion of our enterprise'.

Overall, these enterprises operate at the crossroads of traditional knowledge and networks of mutual support that have provided them the foundation for their business, and entrepreneurial strategies of diversification, reinvestment, and expansion that have enabled them to set themselves apart from family-run businesses.

## 5. Conclusion. Growth in context

In this article we presented a range of practices, ambitions, and aspirations of women fish processors in Ghana, and discussed the specific socioeconomic, material, and cultural context in which women operate. We thematically analysed the interviews of different women fish processing entrepreneurs and brought out the management strategies that enable women to achieve their 'growth' objectives; these include organization of space, management and utilization of resources, and application of skills and technology needed for the enterprises to operate. The growth trajectory of the local women fish processing entrepreneurs is broadly observed as an assemblage of practices and strategies that span from subsistence, through innovation and training, to achieving business expansion and growth with the offering of services.

In local coastal communities such as Mumford and Apam, this study

has highlighted the activities women engage in by relying on traditional methods to process fish primarily for local consumption and basic livelihood. In this case, growth-related ideas and practices respond to objectives that are mostly pertaining to the meeting of household needs in relatively close-knit communities. Through nurturing neighbourly convivial relations, and providing younger generations with basic processing skills, we show that the value of fish processing is not simply in the product (fish) and monetary income, but encompasses the (value of) relationships that, through processing, women can build and nurture. The practices that enable women to meet their objectives are rooted in class and cultural relations connected to subsistence-oriented forms of entrepreneurship; this highlights the non-economic value of enterprising (Pfeilstetter 2022) and the 'human' dimension of economic action that anthropologists have emphasized such as relationships of mutuality and the whole host of personal relations that are mediated by economic practices (Gudeman 2008; Hart et al., 2010).

As context changes in terms of resources (e.g. fresh fish supplies, availability and uptake of technology), the objectives also change. As women gain experience and access more resources in larger urban centres such as Chorkor and Tema, they begin to innovate, incorporating new techniques and technologies to improve efficiency of their operations. In this case, economic growth is enabled by innovation in terms of organization of resources and labour, leading to creation of economic value. These instances of innovation pertain to the broad socio-technical realm of innovation (Pfaffenberger 1992; Reichman 2013; Welz 2003) and emerge from the *context* of entrepreneurship that entrepreneurs 'do' 'through enacting the socio-cultural ties that "embody" this context' (Verver & Koning 2023: 1). Within the context in which they operate, women entrepreneurs studied here are able to generate *economic* value through enhanced productivity and taking advantage of opportunities for entering larger markets. Growth-related objectives, ideas, and practices, therefore, pertain to gaining livelihoods that do not depend on the 'hard work' of processing fish, and potentially offer alternative futures and paths to younger generations through for instance formal education. These enterprises are markedly separated from household activities, and lead to more enterprising independence and autonomy.

The analysis of fish processing through the lens of local processes of innovation, skill and learning that this paper proposed (Breda-Verduijn & Heijboer 2016; Ingold 2000, 2018; Simpson 2006) brings out how these are 'embedded in the context of a practical engagement in the world' (Ingold 2000: 416), reaffirming the necessity to understand these practical engagements in all their diversity and complexity in terms of management strategies, objectives, and aspirations Development strategies in the fish processing sector therefore need to be tailored to the contextual dynamics of enterprising to be effective.. For instance, the evolving of the passing on of processing skills with the rising of commoditized forms of apprenticeship analysed here is an indication of the already diverse context in which women operate, that is, women's different capacity to manage and mediate different forms of power relations for economic success and autonomy, such as their capacity to access supplies of fresh fish, or have control over the profits made from sales (Ameyaw et al., 2020; Britwum 2009). Policy makers and NGO actors need to consider novel dynamics of women entering the fish processing sector through unconventional routes by paying for training (i.e. not through traditional channels through their mothers) that this article has highlighted, particularly if interventions attract large numbers of people into an area to take advantage of these opportunities, changing the demographic make-up of these areas.

In addition, processes of social innovation in organizational capacity need to be considered for poverty reduction programmes grounded in technology adoption and technical training to be more effective; these need to respond to women's actual and contextual needs and prospects for growth, and account for non-technical aspects of technology adoption (Salifu et al., 2024) that were analysed here. As the context of technology adoption and innovation changes in larger urban centres where women have better access to fresh fish supplies, there is a need to account for the risk of a reduction of fish available for local consumers (Standen, 2025), as well as losing the broader relational dimensions and values embedded in subsistence forms of enterprise.

More fundamentally, this paper shows the necessity to move 'beyond growth' (Obeng-Odoom 2015), that is, beyond one-sided narratives and understanding of growth, and account for economic and non-economic dimensions of (holistic) human rather than simply economic development. This is urgent in the context of the rapidly shifting imaginaries around ocean development in the African continent that overshadow the contribution and lived experiences of small-scale fisheries actors; it can also be radically transformative in rethinking neoliberal entrepreneurship discourses and top-down growth models constructed around 'inclusivity' and 'empowerment' (Boeri 2018) that assign women a 'supernatural' capacity to lift themselves out of poverty (Okafor-Yarwood et al., 2022) through entrepreneurialism. Objectives and visions spelled out by new agendas and agreements such as the AfCFTA to support women in scaling up their enterprises in Africa (UN WOMEN 2019) need to consider the multi-faceted nature of (actual and envisioned) growth among entrepreneurial women that this article has spotlighted.

## Ethical approval

The research was conducted as part of the project 'FAIRFISH: Hidden Hunger, Forgotten Food', European Research Council, Starting Grant number 759457. The project obtained the appropriate research ethics approval from the Faculty of Science and Technology Research Ethics Committee (FSTREC), Lancaster University in June 2019, and with latest amendments approved in March 2021.

## CRediT authorship contribution statement

**Antonio Allegretti:** Writing – review & editing, Writing – original draft, Validation, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Raymond K. Ayilu:** Writing – review & editing, Writing – original draft, Validation. **Ifesinachi M. Okafor-Yarwood:** Writing – review & editing, Writing – original draft, Validation. **Sophie Standen:** Writing – review & editing, Writing – original draft, Validation. **Christina C. Hicks:** Writing – review & editing, Writing – original draft, Validation, Project administration, Funding acquisition.

## Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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