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Production of *prahok* under diminishing fish resources: Women as cultural custodians in Tonle Sap Lake, Cambodia

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ABSTRACT

Prahok (fermented fish paste) is a staple food for Cambodians. It is primarily produced by Cambodian women in fishing communities for both home consumption and sale. Analyzing how Cambodians produce *prahok* in the face of decreasing fish resources, this research found that the decisions made by women *prahok* producers were shaped not only by climate and economic considerations, but also by gender norms, livelihood alternatives, and family composition of respondents. Women's perceptions regarding *prahok* production and consumption are closely tied to their role as caregivers in the household, as well as their sense of professionalism as entrepreneurs. While *prahok* is well-known as a food source, a livelihood, and a business for women, this research shows that it is also a marker of identity and pride for Cambodian women.

KEYWORDS

Cambodia; fermented fish; fish resources; food; *prahok*; women

Introduction

“To identify a food one has to ‘think’ it.” (Fischler 1988, 284)

Food is a crucial part of each individual's life, and its meaning extends beyond mere survival, providing identities to people and defining culture (Sibal 2018). Fermented foods remain a significant component of global production, trade, diets, and cuisines, particularly in the Global South. This sector employs millions of people, particularly women (Belton et al. 2022). *Prahok* is a traditional salted and fermented freshwater fish paste widely used in Cambodian diets. *Prahok* is more than just an economic product for income generation; it is a cultural artifact. *Prahok* is largely produced by women, and each household has its own taste of *prahok*. This study explored how and why women *prahok* producers maintain production despite declining fish resources. We argue that women continue to make *prahok* even when it is not profitable, because the decision is

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based on a desire to maintain their identity. Climate change and overfishing have led to sharp decline in fish catch, which threatens the production of *prahok* (Teh et al. 2019). However, women re-create their narratives to justify their continuity or discontinuity of *prahok* production to match their identity as a good mother and housewife.

The paper first reviews literature on food and identity from a gender perspective. It then introduces the situation of fish and *prahok* consumption in Cambodia and the methodology of the study. Then, it describes the different ways in which producers respond to the resource constraints they face with respect to *prahok* production and analyzes how these decisions are being made.

Food and women's identity

Women's role in making food can be empowering for them (Mauriello and Cottino 2022). Buggenhagen (2012) and Poleykett (2023) studied how women create economic and cultural values through their cultivation and use of spices, referred to as flavor work. Women play an important function in food production and are in charge of ensuring their families' survival (Olopade 2012). McIntosh and Zey (1989) unpacked the gate-keeping role of women in food decisions in the household, and questioned the extent of control women have over the household food. Cairns, Johnston, and Baumann (2010) used West and Zimmerman (1987)'s concept of "doing gender" to show how such foodwork by women reacts to, enacts, and maintains existing gender relations. They argued that social and cultural meanings attached to food can perpetuate unequal gender relations. As Parsons, Harman, and Cappellini (2024, 938) emphasized, women's role in food preparation has various dimensions, and we need to recognize both the restricting and devaluing dimensions, as well as the powerful dimension in creating "non-commodifiable elements of foodwork" by creating identities that are beyond the logic of capital.

Regardless of whether women's role in foodwork—the labor that goes into procuring and preparing food (DeVault 1991)—empowers women or not, foodwork forms an important part of women's identity. Food is closely related to identities and how we make sense of ourselves (Rose 1995). It discloses meanings (Tobias and Dieterle 2023). Food is a system of communication that allows us to express ourselves (Barthes 2019). How we process food is deeply linked to the local and regional culture (Hasnidar et al. 2021). Women's identity is fostered through food practices that are passed down from one generation to the next (Monterrosa et al. 2020). Food processing, preparation, sharing, and consumption practices are deeply ingrained in people's cultural histories and have been passed down through generations in the form of unplanned, informal education,

especially from mothers to daughters (De Silva 2011; Sharif, Nor, and Zahari 2013; Wright et al. 2021). As food practices are passed down from generation to generation, the role of women is important in terms of food processing skills, creativity, a touch of art, tradition and taste in order to preserve their food culture (Hasnidar et al. 2021). Food preparation emphasizes the indispensable role of women as stewards of cultural traditions, family recipes, and cooking (Nyamnjoh 2018; Van Esterik 1985). Women play special roles in families' daily food and diet arrangements and in the maintenance of their food culture.

Women are primarily responsible for preparing food for their families in the majority of countries in the Global South (Grace et al. 2015). Their feeding-related responsibilities are linked to being a good mother and become central to their identities (Parsons, Harman, and Cappellini 2024). Women are in charge of cooking in the households and are often judged by whether they are good cooks, good mothers, or caretakers (Cairns, Johnston, and Baumann 2010). Various studies have shown how good cooking is associated with being a “good” woman (e.g. Javanese women in Pirus and Nurahmawati 2020; and Cambodia in Kusakabe 1999). Such is the strong relation between food and women's identity that the ways in which women exercise their agency in food production/preparation are linked to the identity and meanings that they attach to food (Abarca 2007).

Knowledge and traditions related to food culture are constantly exposed to change through various environmental and temporal factors, and knowledge of traditional ethnic foods might not be passed on to the next generation (Sharif, Nor, and Zahari 2013). The objective of this paper is to explore how environmental factors, such as lower fish catch, lead to changes in traditional food preparation through the case of *prahok* production in Cambodia. The linkage between food and identity from a gender perspective is the focus of analysis. As a traditional fermented fish product, *prahok* was once produced by women in most rural households around Tonle Sap Lake when fish were abundant. However, due to pollution, overfishing, and climate change, the fish catch in Tonle Sap Lake has recently decreased. This paper explores how women *prahok* producers cope with such depletion in natural resources. We argue that, regardless of economic viability, women continue to produce *prahok* because it is a way of demonstrating their skills as “good” cooks and, therefore, “good” homemakers and, consequently, “good” women. Women's pride in their skills and knowledge, as well as their identity as “good” women, shape their decision-making regarding *prahok* production. Hence, the decision to quit or continue *prahok* production is not only decided by economic reasons, but guided by their attachment and pride in *prahok* making. Since *prahok* is made both for home consumption and for the market, women producers' identity is connected to both—as a good mother and wife who

can produce good food for the family, as well as an income-earner and skilled entrepreneur of a traditional delicacy.

Women and prahok in Cambodia

Fermented foods are often an important product in dietary culture in Asia (Lee and Kim 2016), and are often processed at small-scale in households, providing vital economic opportunity (Materia et al. 2021). However, how they are produced changes with time. For example, in Korea, each family has traditionally had its own recipe of *kimchi*. With urbanization, time and space constraints have led women to purchase commercial *kimchi*, as they are unable to make it at home (Kim 2016). Similar change is seen for *prahok* in Cambodia.

Prahok is a popular ingredient in traditional Khmer cuisine, essential to Cambodian households (Kusakabe 2016; LeGrand, Borarin, and Young 2020; Lokuge et al. 2020; Nam et al. 2009). It is used in Cambodian cuisine as a seasoning or a condiment, particularly in soups or sauces. Poorer families who cannot afford fresh fish or meat eat *prahok* with rice, and thus it provides an important source of protein. *Prahok* is often given out as donations to victims of floods or droughts due to its long shelf-life.

Prahok making is laborious. Typically, small fish are used to make *prahok*. They need to be descaled, de-headed, and gutted (sometimes the skin is also removed), and then washed with water to remove excess oil. The meat is then lightly crushed and seasoned with salt. Typically, salt is added at a rate of 30–40% of the fish's weight. The salted fish is then drained two or three times before being placed into an earthen jar for fermentation. The jars must be stored in a cool, dry place. If the women do not have a secure place, they must constantly move the jars to ensure the right temperature for fermentation. For home consumption, women tend to keep adding new fish into the jar, but for commercial purposes, they make one jar at a time to ensure the quality of *prahok*. *Prahok* needs to be fermented for more than three months before consumption or sale (Norng et al. 2011). Well-prepared *prahok* can be stored for up to two years at room temperature.

Various fish species can be used to make *prahok*. These are called *trei riel*, which is a general term for any small fish. Snakehead fish can also be used, but the most prized is *trei kompleanh* (moonlight gourami or *trichogaster microlepis*) since it has less oil. Fish with less oil produces lighter colored fragrant *prahok*. In the market, this is 30–40% more expensive than other types of *prahok*. There are two kinds of *prahok* products: boneless *prahok* and *prahok* with bones (Nam et al. 2009). *Prahok* with bone is easier to produce. Boneless *prahok* requires deboning, making it more labor-intensive. Boneless *prahok* is more costly due to the extra

processing required and because it contains only meat. The choice between the two depends on consumer preferences and economic considerations.

Traditionally, almost all households in Cambodia produced *prahok*. During the rainy season, fish are abundant, and families catch fish and make sufficient *prahok* for annual home consumption (LeGrand, Borarin, and Young 2020). People living near Tonle Sap Lake have access to large fish. They make boneless *prahok*, since it is easier to debone large fish, and it is easier to eat *prahok* without bones. In other places, where fish are smaller, the whole fish is used to make *prahok*, eliminating the effort to remove the bones from small fish during production.

Good *prahok* is judged by its smell and color, as well as taste. Fermented *prahok* is normally grey in color, but lighter colored *prahok* is considered to be of better quality. Quality of *prahok* is not only judged by its color but also its pungent smell, which is described as “*chhngouy*” (a deep umami-based aroma) in Khmer. It is not a stinking rotten smell, but a distinct aroma that results from the optimal level of fermentation, similar to Camembert cheese; hence, *prahok* is often referred to as “Cambodian cheese” by non-Cambodians. It has a salty and umami-rich flavor that can add depth and complexity to Cambodian soups and other dishes. It should not be too salty, sour, or bitter, and not watery but chunky. In Khmer, the bad taste of *prahok* is described as “*kha*”—having a bitter or sour aftertaste. Some unscrupulous traders bleach *prahok* with chemicals to sell it as a good-quality product for a higher price (LeGrand, Borarin, and Young 2020). Hence, consumers are skeptical of the quality of *prahok* sold in the market, and prefer to buy directly from producers they trust.

On average, each household consumes 18kg of *prahok* per year (LeGrand, Borarin, and Young 2020). The annual production of fermented fish paste in 2018 was 29,881 tons, which is much higher than the production of other freshwater processed fish, such as dried salted fish and smoked fish (18,221 tons and 3,183 tons, respectively) (UNIDO and FIA 2021). Cambodian fish processors in general, and *prahok* makers in particular, have faced numerous challenges due to environmental and socioeconomic changes, which have led to a decline in the quantity of freshwater fish (UNIDO and FIA 2021). Chevalier et al. (2023) identified that the overall fish population declined by 87.7% between 2003 and 2019. This resulted in a 78% decrease in freshwater fish exports and a 94% reduction in fish processing (Sarah 2020).

Many small-scale, medium-scale, and modern/industrial-scale *prahok* processors are located in the provinces surrounding Tonle Sap Lake (LeGrand, Borarin, and Young 2020). In 2013, official production records indicated that more than 15,000 tons of *prahok* were produced in these areas for domestic consumption and export (LeGrand, Borarin, and Young 2020). A significant proportion of this is produced by micro- and

small-scale processors. The actual production might be even higher, as a significant amount of prahok is produced by fishing households and seasonal prahok makers for home consumption and direct sales to retailers and consumers during the peak season (LeGrand, Borarin, and Young 2020).

There are now large commercial producers and distributors of *prahok* in Cambodia. As of 2022, more than 180 enterprises were registered, producing for both domestic and international markets (Chhum 2023). Though they depend on small-scale producers for their materials, they only sell in urban supermarkets (Keo 2023). Commercial *prahok* is not distributed in rural areas, so people still depend on either homemade or locally produced *prahok*.

In Cambodia, as in many other Asian countries, women are typically responsible for food provision within the family. Cooking, cleaning, and managing the household finances are women's responsibilities. Being a good cook as well as being able to economize and make ends meet is an important quality for Cambodian women (ADB 2015). Women are also the main players in post-harvest fish processing, including *prahok* production. Among Cambodian fisher households, men go out fishing and, hence, are directly affected by the drop in fish catch. Women also fish, but only near their homes, as they need to return to attend to household chores and care work. Women are also engaged in post-harvest fish-related work, such as retailing fish and fish processing. Since women are responsible for managing household finances, they sometimes need to explore alternative livelihoods to make ends meet. Therefore, the stress from the drop in fish catch is experienced intensely by women, who must manage the household with reduced catch and income.

Methodology

This study employed qualitative methods to understand how *prahok* producers are coping with the decline in fish catch in Tonle Sap Lake. Tonle Sap Lake was selected as a study area since it is the main source of freshwater fish and a hub of *prahok* production. Tonle Sap Lake has a core area of 2,700 square kilometers, but during the rainy season, this expands to more than 6 times its size as a vast area around the Tonle Sap Lake is flooded. Many villages that experience seasonal flooding turn to fishing during the rainy season due to their easy access to water. There are some fishers who live in the core area of the Lake and fish throughout the year. The Cambodian government, due to environmental protection reasons, relocated these full-time fishers and settled them on the shore around the seasonally flooded areas. To compare the situation of those who used to have year-round access to fish and those who only have seasonal access, we have selected two communities from the seasonally

Table 1. Number of respondents categorized by changes in *prahok* production.

Patterns of change in <i>prahok</i> production	Number of respondents				
	Seasonally flooded areas		Relocated area		Total
	Male*	Female	Male*	Female	
Continue the business of commercial <i>prahok</i> production	3	6	1	2	12
From commercial to semi-processing	2	1	0	4	7
From commercial to only home consumption	2	3	1	0	6
Those who quit altogether	1	2	1	2	6
Subtotal	8	12	3	8	31
Total		20		11	31

Source: Field survey, October–December 2022.

*For male respondents, the patterns are based on the production carried out by their wives.

flooded area and two villages from relocation villages. There are ~45–50 *prahok* producers in the seasonally flooded area, and ~20 *prahok* producers in the relocated villages.

We conducted in-depth interviews with 31 fishers/fish processors (20 female and 11 male), 20 from seasonally flooded villages and 11 from relocated villages¹ (Table 1). All the respondents were aged 18 and above. The average age of male respondents is 38, while women is 51. There are more older women among the respondents, as many of the *prahok* makers are older women, while younger women often go out to work in factories or as hired labor. Although men do not make *prahok* themselves, they were interviewed to better understand the impact of diminishing fish catch on their families and communities, as well as its impact on *prahok* production. All respondents were informed of the study's purpose and provided consent to participate. The researchers used Khmer language to interview the respondents, following the in-depth interview guide. During the interviews, the researchers not only talked to the respondents but also observed how they make *prahok* and semi-processed *prahok*, and the respondents showed the researchers what a good *prahok* should look, smell, and taste like. In both locations, the researchers stopped interviewing when they achieved data saturation (that is, we have observed that we are not getting new information from further interviews). Some respondents were interviewed several times for further clarification. All respondents' names are pseudonyms.

The data collection was carried out from mid-October to the end of December 2022. The interviews were transcribed and translated by a Cambodian researcher into English. The entire transcribed text was reviewed, and initial codes were assigned to it. The codes were developed based on the study's objective and emerging patterns in the respondents' narratives. Codes were then organized and categorized into broader themes, such as responses to a decrease in fish catch and their perceptions toward *prahok* making. Verbatim accounts were selected to illustrate each theme

and represent the respondents' voices. The analysis also focused on cultural meanings and emotional expressions around *prahok* making, particularly in how women framed their pride and identity. By going through the patterns of response to diminishing fish catch, we categorized the respondents into four different types: (1) those who continue the *prahok* business as before; (2) those who used to produce *prahok* for sale but now changed to semi-processing (cutting fish heads, gutting, cleaning, washing, sometimes lightly salting, and selling to middlemen); (3) those who previously sold *prahok* but now only produce for home consumption; and (4) those who quit *prahok* production altogether. Table 1 shows the number of respondents in the four categories.

In the sections below, we discuss how producers reached decisions to continue or change production patterns.

***Prahok* producers who continue to produce commercially**

These respondents have consistently produced *prahok* for sale in relatively large quantities and have continued to do so despite declining fish resources. Income from *prahok* has been their main source of income. They buy fresh fish as well as semi-processed fish from others to produce *prahok*. They make both boneless *prahok* (*prahok sach*) and with bones (*prahok choeng*). Most of the work is done by family members, and they occasionally hire women workers to cut heads off fish. Women make sure that there is no waste from their *prahok* production. Waste from cleaning the fish is used as feed for aquaculture. Some respondents live in stilt houses on the water and raise fish in cages near their homes. Those who do not raise fish themselves sell the waste to others who do. The bulk of the *prahok* production is from fish purchased from other fishers, since the fish caught by their husbands/sons is insufficient. They sell their products to villagers, as well as to middlemen from the city and other provinces, and to traders from Vietnam.

Respondents report that it is becoming increasingly difficult to maintain production due to the lower availability and higher prices of fish. One of the respondents said that they used to produce 600 kg per year but have now decreased to 400 kg per year. Not only is the amount of fish diminishing, but those who formerly lived on the Lake but have now been relocated to the shore are also struggling to access fish, as transporting fish from the Lake to their homes has become more costly. Some women build processing huts on the water to receive fish. Phalla did not have such capital and had to struggle on the shore.

"As I am a professional prahok maker, the fish that I get from my family, I always keep for making prahok rather than selling. I also buy fish from others to make prahok. For

me, making prahok is a good career. The price of prahok increases occasionally, and it can be stored for a long time without damage. If I do not need money urgently, I will keep prahok and sell it when the price of prahok increases.” (Phalla, Female, 64, relocated area, 11 November 2022)

Because of the scarcity of fish, the price of *prahok* has increased. This led to a decrease in sales as poor consumers who cannot afford to buy their preferred *prahok* choose to buy less expensive *prahok* in the market. Therefore, this group of women produced less *prahok* than before.

“Five years ago, there were many prahok buyers. Currently, the price of prahok at the farm gate is more expensive; only those with higher incomes can buy prahok. Those who are poor may decide to buy prahok from the market, as the ones sold there are cheaper. The amount of prahok sold by my family has decreased.” (Vanny, Female, 50, seasonally flooded areas, 15 October 2022)

Faced with diminishing fish resources due to climate change, respondents are concerned that they will lose both their income and the traditional skills they have learned from their ancestors. This group of women producers learned how to produce *prahok* from their mothers, and they take pride in their skills. This is often their sole source of income, and they do not have other livelihood options. *Prahok* making is, therefore, closely linked to women’s professional career identity.

“Prahok production is my primary career and main source of income for my family. The quality of prahok is judged based on color and smell. I don’t want to boast about my prahok, but every time my clients come, they take all my prahok. Sometimes, I do not have enough prahok for sale. Prahok that I make is always sold out. Even though my husband does not want me to continue producing prahok [because of my health condition], I still want to continue making prahok because it is my career and it is easy to earn money for my family.” (Phalla, Female, 64, relocated area, 11 November 2022)

Phalla’s pride in her skill has led her to continue producing *prohok* on a commercial scale, despite her husband’s objections. For professional *prahok* makers, *prahok* is not only an important source of income that is closely linked to their pride as professionals but also tied to their traditional and familial memories.

“Making prahok reminds me of my childhood when I learned prahok making from my mother. When the peak season came, we started making prahok. It made us feel closer and closer to our tradition. From that good memory, I always make prahok with my children” (Phalla, Female, 64, relocated area, 11 November 2022)

Prahok producers who changed from commercial production to semi-processing

Since fish catch has decreased, some former commercial *prahok* makers have now turned to semi-processing of *prahok*, i.e. cutting off the head,

gutting, washing, and lightly salting them for a few days. Previously, they were commercial *prahok* producers, and the income from *prahok* was their primary household income, earned with the support of family members and some workers. There is now a growing market for semi-processed fish, driven by market changes, including the rise of large commercial *prahok* producers that sell in urban areas as well as for export. An increase in urbanization, along with improvements in transportation infrastructure, made it easier for large-scale producers to collect semi-processed fish and ferment them at their own factories. Even though the price per kg of semi-processed *prahok* is lower than that of fully processed *prahok*, producers can earn quickly and do not need to wait for months for *prahok* to ferment.

Currently, I have decided to produce semi-processed prahok because I need a daily income to support my family. Other prahok makers in my village also switched from producing prahok to producing semi-processed prahok. This is because middlemen who used to buy prahok now want to buy semi-processed prahok.” (Sokhom, Female, 60, relocated area, 2 November 2022)

Women producers who have insufficient capital and need immediate income changed from selling *prahok* to selling semi-processed *prahok*. Earlier, they were dependent on fishing and *prahok* production, but since their income from fish has decreased, they have diversified into selling fresh fish, working as hired laborers (at landing sites and cleaning fish), running grocery shops, and raising chickens or vegetables. To juggle these different income streams, respondents need a steady cash flow; thus, they prefer to sell semi-processed *prahok* daily rather than fully fermented *prahok* after a few months.

Their responsibility for household finances has left them unable to invest time and resources for three months to produce *prahok* for sale. Although this group of producers reluctantly gave up producing *prahok* for sale and transitioned to semi-processed *prahok*, they still maintain their attachment to *prahok* making and continue to preserve tradition by producing *prahok* for home consumption. Despite a shortage of capital to produce *prahok*, they continue to maintain their tradition to the extent possible.

Prahok producers from commercial production to home consumption

This group of respondents used to produce *prahok* for sale but now produces only for home consumption. This is not only because the husbands' fish catch has decreased, but also because they now have better income from other sources. Some *prahok* producers used the profits from *prahok* to start a new business. For these respondents, women's main occupations include selling fish, selling groceries, farming, raising chickens or fish,

and planting vegetables. They raise fish at the back of their house, purchasing feed from others, but they sell these fish fresh and do not use them for *prahok* making, as fresh fish fetch a better price. When they have some extra fish (which is more than they can sell or eat), they do not waste any of it. They clean and salt the fish for some days and finally add the salted fish to the jar of *prahok* for home consumption.

“Earlier, my family used to make approximately 20kg of prahok per year. At present, my family only makes 15kg of prahok for the whole year for home consumption, as I am busy selling fresh fish and vegetables, and my family only catches fish seasonally.” (Davy, Female, 37, seasonally flooded areas, 16 October 2022)

Although they quit making *prahok* for sale, respondents are keen to continue making it for home consumption. Some used to make *prahok* with bones for sale, but now they are making boneless *prahok* for home consumption. *Prahok* with bones is cheaper and easier to sell (especially in poorer provinces). Respondents prefer to eat boneless *prahok* because it is easier to consume. Even though *prahok* is not a source of income for these respondents, they do not give up production since homemade *prahok* is tastier and safer than *prahok* sold in the market, i.e. there are no added chemicals, and it is produced hygienically. Now that they produce less *prahok* than before, it is sometimes insufficient for home consumption, and they need to buy *prahok* from others. They prefer to buy from their fellow villagers rather than the market because they trust the processing and taste of their fellow villagers.

The women who have given up producing *prahok* professionally continue to feel a sense of loss, though they preserve their skills and traditions by producing *prahok* for home consumption. To assuage this sense of loss, they shared with pride the quality of their commercial *prahok* and its popularity among villagers.

“When I made prahok for sale, many of my villagers liked to buy my prahok. I sometimes do not have enough prahok for sale. My villagers told me that my prahok is delicious. They also trust that the prahok that I made is safe.” (Leakhena, Female, 61, relocated area, 1 November 2022)

Family members noted a decrease in the amount of *prahok* being produced at home, but the decision on production was left to the women.

“From my observation, the amount of prahok produced in my family slightly decreased because my wife is busy selling vegetables. I don’t mind whether she spends less or more time in prahok production.” (Saran, Male, 34, relocated area, 4 November 2022)

Women in this group have other options for earning a higher income, and so they have closed their commercial *prahok* production and produce only for their family’s consumption. They are not planning to quit *prahok*

production in the near future since *prahok* is an important part of their family's cuisine. Furthermore, making their own *prahok* has two benefits: providing high-quality *prahok* for family consumption and ensuring that fish is not wasted at home.

Prahok producers who quit making prahok altogether

This group of producers includes both those who made *prahok* for home consumption and those who produced it commercially at various scales. Currently, they have stopped making *prahok* and work as fresh fish sellers, hired workers to clean fish, or collectors of shells and snails for sale and agriculture. Since they do not produce *prahok* themselves, they now purchase it from others. They do not buy *prahok* from the market, but from other producers in the same village.

There are four reasons why producers decided to quit *prahok*-making. First, they now have better income-generating opportunities. Income and savings from *prahok* production have enabled them to open other businesses. Some opened their own small grocery stores, while others started businesses as *prahok* traders or rice traders.

"Though making prahok used to help me earn money to support my family, I can now find other jobs that can provide a better income to support my family. Thus, I no longer have enough time to make prahok. It is also difficult to store prahok. I need to move prahok jars from one place to another when the rainy season comes." (Bopha, Female, 30, seasonally flooded areas, 17 October 2022)

As Bopha noted above, *prahok* making is laborious and requires constant attention, as *prahok* jars must be stored in a cool and dry place. Therefore, if they are busy with other work, they do not have time to produce *prahok*.

Second, women in the relocated community cannot produce *prahok* any more since the household has quit or reduced fishing. Before relocation, they lived on Tonle Sap Lake and were able to fish all year round. Now that they are relocated far from the fishing grounds, it is more difficult for men to go to the lake to fish. Therefore, many men have begun working as hired laborers to earn a living. This change has impacted women who produce *prahok*. Women used to depend on their men's catch for a large part of their *prahok* production.

"After relocation, my sons did not go fishing often. Due to difficulty in fishing, my sons switched from fishing to working as hired workers [collecting shells or clams]. Now, I do not have enough fish to make prahok. Thus, I decided to stop producing prahok." (Rachana, Female, 54, relocated areas, 4 November 2022)

Thirdly, the number of household members has decreased. Small-scale *prahok* production relies heavily on family labor, both for fishing and for

the production process itself. Younger generations are moving out of villages due to a decrease in fish catch, better income-earning opportunities in cities, and life cycle changes, such as marriage. With fewer household members, *prahok* consumption at home is lower. This is one of the reasons why they decided to stop producing *prahok* for home consumption and buy *prahok* from other villagers.

“The amount of prahok we consume in my family has decreased due to the decrease in family members [following marriage and migration of children]. Previously, my family consisted of 9 people, and we consumed approximately 6 to 7kg of prahok per year. Now, my family has only 5 people, so we consume only 4kg or 5kg of prahok per year. We buy this prahok [from other villagers].” (Thida, Female, 48, seasonally flooded areas, 17 October 2022)

Fourthly, some respondents stopped making *prahok* due to age and health issues, as well as changes in household composition.

“Before, I used to make prahok for sale and consumption. Currently, I have stopped making prahok because my health is not good, and I don’t have my children around to help me. I live alone after my children are married.” (Sela, Female, 67, relocated area, 4 November 2022)

For these reasons, this group of former *prahok* producers quit *prahok* production; however, when interviewed, they expressed sorrow about not continuing to produce it anymore. They felt nostalgic about making *prahok*. Sela recalled fondly the time she was making *prahok* for a living.

“Making prahok was my life. Having 500kg of prahok looks like having one weight of gold. Making prahok is a very good career when fish and capital are available. For instance, by selling 20kg of prahok, I can get 250,000 riel to support my family for nearly one month. I started making prahok when I lived with my husband and children. Everyone inside and outside my village recognized that prahok in my village is good.” (Sela, Female, 67, relocated area, 4 November 2022).

Rachana highlighted how she feels at a loss without making *prahok* after she changed her occupation to hired labor because of cash needs.

“I feel sad that I have lost my career, but I do not know what to do as we need more money to support our livelihood after displacement.” (Rachana, Female, 54, relocated area, 4 November 2022).

Women who have given up *prahok* production completely have done so because of factors beyond their control, such as lack of access to fish following relocation. They are unhappy about the decision, despite having alternative income from other sources. Women who have access to fish continue to make *prahok* at whatever scale possible despite the other constraints and barriers they face. *Prahok* making is not just a livelihood, but it is closely linked to their identity, culture, and sense of self.

Discussion

Due to climate change, pollution, overfishing, and other factors, Tonle Sap Lake has experienced a significant decline in fish catch. Relocation away from the water affected access to fish for relocated fishers. This has affected the livelihoods of fishers and, subsequently, *prahok* making. *Prahok* producers shared varied responses. This study explored the basis of these different responses.

Prahok is a localized product, closely linked to women's identity and pride. Since *prahok* production is mainly done by women, identity construction around it is also gendered. Producing *prahok* is foodwork for women—it serves to earn money for household survival and for home consumption (DeVault 1991). It involves an elaborate process, and the method of making *prahok* is passed down from mother to daughter as a particular taste that women and their families take pride in and have an attachment to.

Prahok making is a culturally symbolic tradition, and women are its custodians. *Prahok* making is not only used for home consumption or for income generation, but is also an essential way to show individuals' identity and pride as *prahok* makers. Local people, as well as those who are familiar with *prahok* in the area, prefer to eat *prahok* from these fishing areas rather than from the market, since they do not know who made the *prahok*. This is based on the unique taste and quality of the product, as well as the trust that consumers place in the local product.

"Prahok is important for my family because it is a good preserved food and a necessary ingredient for traditional Khmer foods. When I do not have enough prahok for home consumption, I often buy prahok from my villagers. I have never bought prahok from the market because I do not think it is as delicious and safe as the one my neighbors produce. So, I can contribute to preserving my local product and the culture of prahok making in my area." (Sokhom, Female, 60, relocated area, 2 November 2022)

These women's expected roles in maintaining food culture align with findings from other countries regarding other food items. In addition to the *kimchi* example we referred to above (Kim 2016), Sharif, Nor, and Zahari (2013) studied traditional food in Malaysia (Chetti) and demonstrated the importance of women's roles in the transmission of traditional food knowledge from generation to generation, thereby maintaining food culture and community health. As Mohd Fikri, Abdul Rahman, and Noh (2021) argued in their study in Malaysia, women are gatekeepers of a particular community's culinary heritage, which is important for maintaining ethnic food identity and traditions. Van Esterik (1985)'s study in Thailand showed that women are the custodians of food tradition both spiritually and culturally.

We argue that the value and pride of *prahok* are linked to women's socially expected role as good housekeepers. First, women put more care and effort into the *prahok* that they eat at home than what they sell at the market. Some producers used to make *prahok* with bones (*prahok choeng*) to sell, since it sells better. It is cheaper, and people in other provinces prefer to buy *prahok* with bones. However, the locally preferred *prahok* is *prahok* without bones (*prahok sach*). When they transition from commercial production to home consumption, they produce much less, allowing them to put more care into the production and create *prahok* without bones to suit their family's preferences.

“Normally, I produce both prahok sach and prahok choeng. I often keep prahok sach for home consumption rather than selling, because it is easier to consume and can be stored for a long time. Prahok choeng is made for selling because it is easier to produce, and it is not as time-consuming as processing prahok sach.” (Sophea, Female, 38, relocated area, 3 November 2022)

Prioritizing the family and putting considerable effort into products for home consumption has been vividly expressed by Cheata:

“I often select big and fresh fish to produce prahok sach for my family. I carefully made it to obtain better taste and quality for my family.” (Cheata, Female, 60, seasonally flooded areas, 14 October 2022)

Secondly, women producers take pride in their own *prahok* taste. Many women who quit making *prahok* for sale or who turned to semi-processing continue to make *prahok* for home consumption because they felt that the *prahok* sold on the market was not as delicious or hygienically produced as homemade *prahok*. Among those who changed to only home consumption, one respondent said:

“Even though buying prahok from the market is sometimes cheaper than buying fish to make prahok, I still continue making prahok by myself. My family prefers homemade prahok rather than buying prahok from the markets because it is delicious and safe.” (Channy, Female, 51, seasonally flooded areas, 16 October 2022)

She expressed professional pride and confidence in her own work and in her traditional knowledge. Women producers take pride in the quality of their *prahok* and feel proud when consumers come to ask for their product. For producers, *prahok* is not just a commercial product for sale but has a special status in their family cuisine, highlighting that women being good cooks is linked to their status as women in the household (Kusakabe 1999). Our respondents proudly display their *prahok* and ask us to smell it, boasting that they do not bleach or add any chemicals to it. The pride is both a good cook for the household as well as a successful entrepreneur with regular clients. Showing their culinary skills is a way

for women to gain visibility and recognition, while still fulfilling familial and cultural obligations (Abarca 2007).

Thirdly, as a cultural product, *prahok* is also linked to the image of women as homemakers and household managers. While this reinforces traditional expectations, it also provides women with a platform to showcase their skills, devotion, and influence within their families and communities. For example, a respondent explained that even after she quit selling *prahok*, she still keeps the *prahok* jar. Whenever she has extra fish, she adds it to the jar and makes *prahok* for home consumption.

Prahok is an efficient way to utilize resources and minimize waste. The entire process of making *prahok* reflects good household resource management by women—all fish is utilized, and even the waste from gutting and deboning fish can be used for aquaculture. *Prahok* is also an important tool to showcase women's skills as homemakers, because it is an adaptable multi-purpose product with a long shelf-life (Materia et al. 2021). It can be used as both a seasoning and a condiment; many dishes can be produced from it, and it can also serve as emergency food.

Finally, the fact that the male respondents were not involved in decision-making regarding *prahok* production in their households further reinforces the close link between women's identity, autonomy, and *prahok* making in Cambodian culture. Gender norms and gender roles remain key factors in decision-making regarding *prahok* production alongside access to fish, the location of the home, alternative livelihoods, availability of time and labor, and other factors.

Although women producers struggled to maintain their cultural practices of *prahok* making, they are constantly reevaluating the benefits of producing *prahok* themselves. They enact their identity as good women and as holders of unique knowledge and skills by ensuring that the *prahok* they eat is either produced at home or within the village and by rejecting market-based *prahok*. By examining the changes in *prahok* production, we can see how the respondents are navigating the various environmental changes they face and adjusting their identity through their production and consumption of *prahok*. It is noted that all these processes of identity building through *prahok* are primarily undertaken by women through their foodwork (Cairns and Johnston 2015), as well as in "flavor work" (Buggenhagen 2012; Poleykett 2023). However, whether, as in the cases noted by Mauriello and Cottino (2022), women's role in foodwork—in this case, *prahok* making—changed gender relations in the household and empowered women is unclear. Rather, the effect seems to be more complex. As Parsons et al. (2024) argued, there are restrictive dimensions because they feel obligated to continue *prahok* production as part of their tradition, yet they derive power and pride from their reputation as a good producer, within their family, community, and customers. Women's role

in *prahok* making is not merely an income-generating activity, but an entrepreneurship that gives them both income and pride.

Conclusion

The study has highlighted the dilemma that women *prahok* producers face due to environmental and market changes. *Prahok*, in many ways, is a symbol of being a “good” housekeeper and a “good” woman—being good at cooking and being able to economize, earn an income, and manage household resources effectively. *Prahok* production has undergone changes due to declining fish catch and the availability of alternative income-generating activities that are more economically lucrative than making *prahok*. However, the decision to continue or quit *prahok* production is not made primarily in terms of economic cost, but has also been influenced by other social and cultural factors. Women’s engagement in *prahok* production was shaped by gender norms, linking *prahok* production to being a “good” woman—economizing, not creating waste, and being able to produce food that their families love. Women producers cherish the skills that have been passed down through generations and are hence reluctant to give up *prahok* production despite reduced access to fish.

Since *prahok* is not just a commercial economic product but one that is deeply linked to Cambodian women’s identity, women producers are trying to continue production in some way. *Prahok* production is most profitable for individuals who have some capital and do not need to rely on daily cash income. However, for women who lack capital, market developments, such as high demand for semi-processed products and the availability of multiple livelihood opportunities encourage them to move away from producing *prahok* toward selling semi-processed *prahok*. They now have to buy *prahok* from others. The markets have trapped *prahok* producers in a vicious cycle of semi-processed *prahok* production, causing women to become daily workers rather than proud *prahok* producers. However, they are still able to retain their identity and pride by preparing high-quality *prahok* for home consumption or purchasing locally-made *prahok*.

Such adaptation of women *prahok* producers is different from the case of *kimchi* where women turned to commercial *kimchi* when faced with competing time for women with other income earning opportunities (Kim 2016), or with the case of Malaysia, where women are the mainstay of preservation of traditional food knowledge from generation to generation (Sharif, Nor, and Zahari 2013). The *prahok* case highlighted the dilemma that women face between these two—a keen interest in continuing traditional production *versus* competing time demands to engage in other income-earning opportunities. What it also showed is that although *prahok* production provides women with pride as good cooks and entrepreneurs, it does not seem to influence gender relations in the household and

community, unlike what Mauriello and Cottino (2022) noted, that women's role in making food can be empowering. This study has contributed to the nuanced understanding of the changes in foodwork and its effects. Further studies are needed to explore recognition and revaluation of women's knowledge and skills on foodwork, as well as their empowerment through foodwork. Especially with the changing economic/political/environmental conditions, such a study is increasingly becoming more important.

Note

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