

## ***Padaek* distribution and business management in Vientiane capital, Lao PDR**

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### **Abstract**

This study presents distribution characteristics of a fermented freshwater fish paste product called *padaek* and the business management of *padaek* stakeholders in Vientiane capital in Lao PDR. *Padaek* stakeholders such as farmers, middlemen, and retailers were interviewed using a semi-structured questionnaire. The stakeholders' responses demonstrate that there are seven types of distribution spread over three patterns. A typical distribution channel takes place with a middleman-intervention pattern in which middlemen mediate between farmers and retailers. Regarding business conditions, farmers and retailers claim a higher gross margin than do middlemen. Furthermore, 70% of farmers face difficulties in obtaining fish, whereas 39% and 31% of retailers, 31% and 23% of middlemen, respectively, confront difficulties of insufficient funds and market competition in *padaek* business management.

### **Introduction**

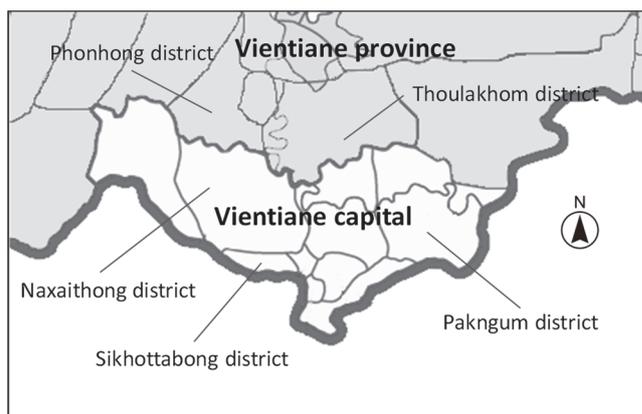
In Lao PDR, fermented freshwater fish paste product, called *padaek* in Laotian, is used daily as a seasoning for soups, salads, stews, and other dishes. *Padaek* is not only used as a seasoning but also as a half-decomposed fish meat from which people derive animal protein. Moreover, *padaek* contains lysine, an essential amino acid, which is seemingly otherwise deficient in the Laotian diet (Marui et al. 2018). Consequently, *padaek* is a necessary food product in the Laotian diet.

*Padaek* was domestically produced and consumed in most households at one time. Recently, the demand for *padaek* in the markets has nearly doubled compared with the demand 10 years ago (Ministry of Planning and Investment 2015). *Padaek* is expected to be a processed food using local resources as a product of the “One District One Product (ODOP)”<sup>1)</sup> (Marui et al. 2019). In addition, *padaek* has potential as an export food product because it is consumed in the neighboring countries of Thailand, Vietnam, Cambodia, and Myanmar (Adams et al. 1991). Nevertheless, few studies have examined *padaek* distribution and its business management. Important information is required for the further establishment and enforcement of a *padaek* supply chain.

The objectives of this study, therefore, are to examine the patterns, types, and channels of *padaek* distribution in the market and to examine gross margins and trade issues that stakeholders confront in the *padaek* business management. This information can elucidate the characteristics of *padaek* distribution and *padaek* business management affecting the market.

## Materials and Methods

Vientiane capital and the two adjacent districts of Vientiane Province were selected as research sites (Fig. 1). A survey was administered from June 2016 through February 2017, and data were collected using snowball sampling. First, interviews were conducted with retailers who sold *padaek* at main markets in Vientiane capital to obtain information about their *padaek* suppliers such as middlemen and farmers. Then, the middlemen introduced by the retailers were interviewed to obtain information about their *padaek* suppliers, the farmers. A semi-structured questionnaire was used for the interviews allowing multiple answers in some questions. Finally, 49 farmers, 12 middlemen, and 46 retailers were sampled (Table 1). They were interviewed about their *padaek* suppliers and customers, their activities in *padaek* distribution, their trading price, and their *padaek* business management issues.



**Fig. 1.** Location of the research sites

Source: Hasada et al. (2019) with modification

**Table 1.** Targeted stakeholders

Stakeholder	Number of interviewees	Research sites
Farmer	49	2 districts in the Vientiane capital (Naxaithong district and Pakngum district)
Middleman	12	3 districts in the Vientiane capital (Naxaithong district, Pakngum district, and Sikhottabong district) 2 districts in the Vientiane Province (Phonhong district and Thoulakhom district)
Retailer	46	16 markets in the central area of the Vientiane capital

## Results and Discussion

### *Padaek distribution patterns and types in Vientiane capital*

On the basis of interview results from the respondents, stakeholders and their activities in *padaek* distribution were elucidated. There are four main stakeholders in the *padaek* distribution of Vientiane capital, namely, farmers, middlemen, retailers, and consumers. *Padaek* distribution in Vientiane capital has six main activities: collecting fish and producing, fermenting, transporting, retailing, and consuming *padaek*. *Padaek* distribution is categorized into three patterns by focusing on stakeholders that mediate between producers and consumers: middleman-intervention, no-middleman-intervention, and farmer direct sales. Furthermore, four stakeholders were combined with six activities to describe seven distribution types (Fig. 2). For instance, in type 1, farmers collect fish at the waterside, middlemen produce *padaek* and transport it to retailers in a few weeks, retailers ferment the *padaek* received from the middlemen for a period between a few months and 6 months before sale, and consumers buy the *padaek* at the markets. This type is categorized as the middleman-intervention pattern (pattern 1) because middlemen mediate between farmers and retailers.

Among respondents, 28 farmers belonged to type 2 and 31 farmers belonged to type 3 in the middleman-intervention pattern (pattern 1). In the no-middleman-intervention pattern (pattern 2), 1 farmer belonged to type 5 and 2 farmers belonged to type 6. Lastly, 14 farmers belonged to type 7 in the farmer direct sales pattern (pattern 3). No farmer was found who belonged to type 1 or type 4. This finding implies that types 2 and 3 in the middleman-intervention pattern (pattern 1) are more popular in Vientiane capital.

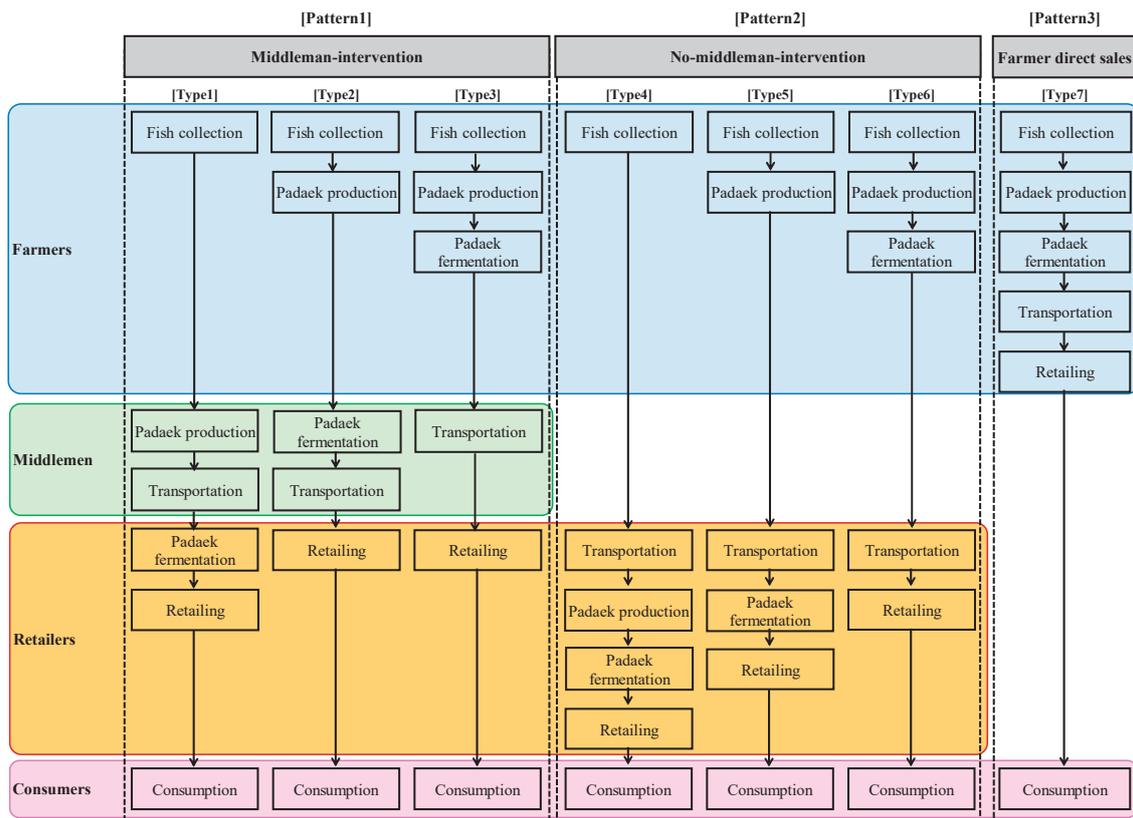


Fig. 2. Padek distribution patterns and types

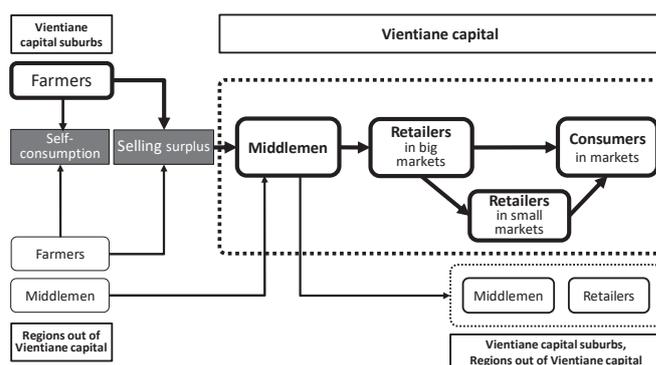
### Padaek distribution channels

Vientiane capital has three main distribution channels characterized by the above-mentioned types except types 1 and 4. Types 1 and 4 are excluded because farmers in these types do not produce *padaek* by themselves but merely sell fish to middlemen, or retailers. This kind of distribution is not targeted in this analysis. The distribution channels including supply and demand areas are described as distribution channels A, B, and C.

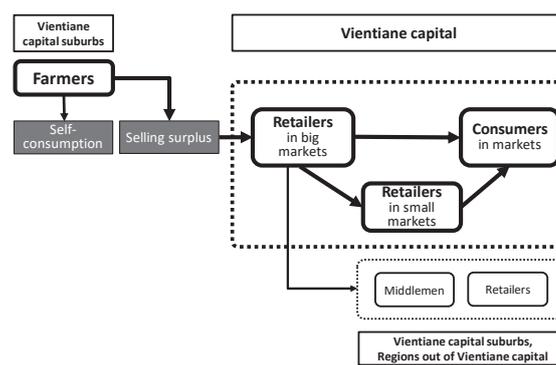
Distribution channel A (Fig. 3) is a typical channel characterized by types 2 and 3 in the middleman-intervention pattern. In this distribution channel, middlemen mainly purchase *padaek* from farmers living in the suburbs of Vientiane capital and sell it to retailers in big markets in Vientiane capital. Retailers in big markets sell *padaek* to retailers in small markets, or consumers in the big markets.

Distribution channel B (Fig. 4) is a typical channel characterized by types 5 and 6 without middleman-intervention. Retailers doing business in big markets purchase *padaek* directly from farmers living in the suburbs of Vientiane capital and sell it to small market retailers and general consumers.

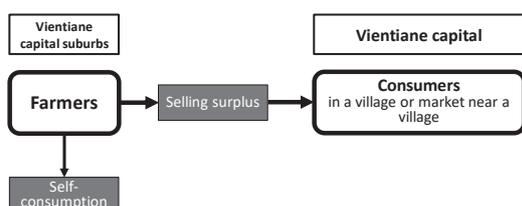
Lastly, in distribution channel C (Fig. 5), characterized by type 7, farmers make and sell *padaek* by themselves in their villages, or at a market near the village.



**Fig. 3.** Distribution channel A  
Source: Hasada et al. (2019)



**Fig. 4.** Distribution channel B  
Source: Hasada et al. (2019)



**Fig. 5.** Distribution channel C  
Source: Hasada et al. (2019)

### Trading prices and gross margins

Trading prices and gross margins<sup>2)</sup> of the respective stakeholders are the indicators used to evaluate the *padaek* value chain. Table 2 presents trading prices and gross margins of typical *padaek* fermented with mixed fish, salt, and rice bran in the three distribution channels. It shows the average buying price, average selling price, gross margin, and ratio of gross margin to consumer price, or retailers' selling price at the market.

In distribution channel A, the average selling price of farmers to middlemen, or the gross margin, was 5,657 kip/kg, whereas the gross margin of middlemen was only 708 kip/kg, substantially lower than that of farmers. The greater part of the gross margin of middlemen was apparently the distribution cost because they merely collected and distributed *padaek* without processing the *padaek* for adding value. The gross margin of retailers was 5,316 kip/kg, which is 7.5 times as much as that of middlemen. Regarding the ratio of gross margin to consumer price, the ratios for farmers and retailers were 46% and 43%, respectively, whereas that of middlemen was only 6%. This finding implies that farmers and retailers take a higher gross margin than middlemen do.

In distribution channel B, the average farmer selling price to retailers, or the gross margin, was 8,333 kip/kg, higher than the gross margin of farmers in distribution channel A. The ratio of gross margin to consumer price reached 71%. In contrast, the gross margin of retailers was 5,565 kip/kg, and the ratio of gross margin to consumer price was 48%, 5 points higher than that in distribution channel A. This means that there is no large difference in the gross margin of retailers, or its ratio to consumer price between these two distribution channels.

In distribution channel C, the average selling price of farmers to customers, or the gross

margin, was 9,833 kip/kg, the highest among all the distribution channels. Sales of *padaek* directly to customers are more profitable for farmers. However, considering the opportunity cost of seeking customers, or the cost of transportation to the markets, the sale of *padaek* to middlemen, or retailers might have been economically rational.

**Table 2.** Trading prices of *padaek* and gross margins

	Farmer			Middleman				Retailer			
	Selling price (kip/kg)	Gross margin (kip/kg)	Gross margin/Consumer price (%)	Buying price (kip/kg)	Selling price (kip/kg)	Gross margin (kip/kg)	Gross margin/Consumer price (%)	Buying price (kip/kg)	Selling price (kip/kg)	Gross margin (kip/kg)	Gross margin/Consumer price (%)
Distribution channel A	5,657	5,657	46	4,887	5,595	708	6	7,000	12,315	5,316	43
Distribution channel B	8,333	8,333	71	—	—	—	—	6,055	11,620	5,565	48
Distribution channel C	9,833	9,833	100	—	—	—	—	—	—	—	—

Source: Hasada et al. (2019) with modification

Note:

1. The sample size of *padaek* for the respective channel is as follows:

Distribution channel A: farmer 28, middleman 7, retailer 17.

Distribution channel B: farmer 3, retailer 9.

Distribution channel C: farmer 14.

Some stakeholders treated various *padaek* made from different types of fish.

2. The kip is the currency of Lao PDR. The exchange rate was 8,130 kip/US\$ as of 2016 (Ministry of Planning and Investment 2017).

### ***Issues of padaek business management***

Concerning stakeholders' business management, the survey data showed that 39 out of 49 farmers, 9 out of 12 middlemen, and 24 out of 46 retailers reported some issues related to *padaek* business management. Figure 6 presents the issues that these stakeholders faced.

Seventy percent of farmers faced lack of fish, the *padaek* raw material (resource issue). The population in Vientiane capital has increased, whereas rice-planted areas, which generally include some waterside areas such as canals, ponds, and streams, have remained almost unchanged. The population increase led to an increase of fish self-consumption in households, and fish for producing *padaek* decreased. Therefore, *padaek* sold to middlemen might have decreased (Hasada et al. 2019).

Lack of *padaek* (resource issue), lack of customers (market competition issue), and insufficient capital (capital/cost issue) were important issues for the middlemen. For middlemen, 31%, 23%, and 23%, respectively, confronted those issues. It is difficult for them to buy *padaek* from farmers if *padaek* production by farmers decreases because of the small fish catch. Middlemen cannot make consistent sales to retailers because they lack sales contracts with them. In addition, retailers occasionally refuse to buy their *padaek* because of its low quality. Middlemen struggle with capital because of significantly small gross margins from *padaek* trading and fewer opportunities to borrow capital from financial institutions (Hasada et al. 2019).

Main issues for the retailers were insufficient capital and the cost of sales (capital/cost issue). Thirty-nine percent of retailers confronted these issues. Another difficulty for retailers was the competition among retailers at markets (market competition issue). Most retailers sell *padaek* at markets. Consumer prices will rise if markets have few *padaek* supplies. However, retailers

cannot raise the price of *padaek* because of intense sales competition of *padaek* at the markets. The competition leads to low profits that cannot be invested in *padaek* business expansion. Thirty-one percent of retailers faced this issue.

These results indicate that the resource issue is most important in the upstream (production) phase of *padaek* distribution, whereas capital/cost issue and market competition issue are much more severe in the downstream (sales) phase of the distribution.

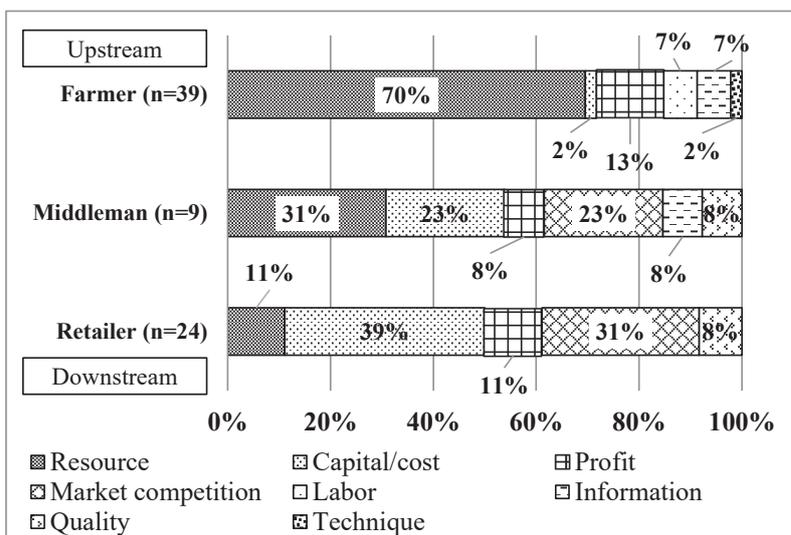


Fig. 6. Stakeholder issues in *padaek* business management

### Conclusion

The details concerning *padaek* distribution and its business management that are described in this study can be summarized as follows:

1. *Padaek* distribution in Vientiane capital was categorized into three patterns with seven types. A representative distribution pattern is a middleman-intervention pattern.
2. The gross margin for farmers and retailers was higher than the gross margin for middlemen in distribution channel A, whereas the gross margin for farmers was higher than gross margin for retailers in distribution channel B. The gross margin for farmers in distribution channel C was the highest among all the distribution channels.
3. In *padaek* business management, farmers faced resource issues, middlemen mainly confronted resource, market competition, and capital/cost issues. Retailers mainly confronted capital/cost and market competition issues. In summary, the resource issue is the most important issue in upstream distribution, whereas the market competition and capital/cost issues are much more severe in downstream distribution.

### End Notes

- 1) ODOP is a priority project by Laos government. It was started in December 2008 by the Laos government with the support of the Japan International Cooperation Agency in order to

promote local small businesses and to thereby improve the life of residents.

2) Gross margin is found using the following equation.

$$\text{Gross margin} = \text{Selling price} - \text{Buying price} = \text{Distribution cost} + \text{Profit}$$

### **Acknowledgements**

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