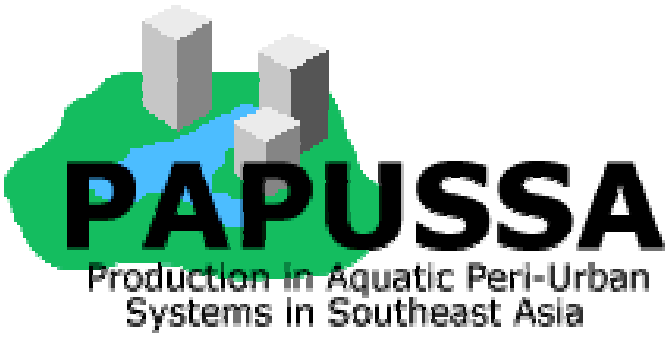

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Acronyms and terms

AIT	Asian Institute of Technology, Bangkok
KU	Kasetsart University, Bangkok
klong	Thai name for canal
KVL	Kgl. Veterinær-og Landbohøjskole
NIHE	National Institute of Health and Epidemiology, Hanoi
PAPUSSA	Production in Aquatic Peri-Urban Systems in outheast Asia
PAFPS	Peri-urban aquatic food production systems
PCA	participatory community assessment
PU	peri-urban
PUAFPS	peri-urban aquatic food production system
RIA1	Research Institute for Aquaculture No. 1, Hanoi
RUA	Royal University of Agriculture, Phnom Penh
SOS	State of the System
UAF	University of Agriculture and Forestry, Ho Chi Minh City
UD	University of Durham, UK
UOS	University of Stirling, UK

Table of Contents

List of Figures

1. Introduction

PAPUSSA is a collaborative research project between European and Asian partners. The project, which was funded by the European Union, aimed to enhance understanding of nature and importance of aquatic food production in and around some major cities in Southeast Asia. Started in January 2003, the project will continue for three years under collaboration with partners in Hanoi and Ho Chi Minh City (Vietnam), Phnom Penh (Cambodia), and Bangkok (Thailand).

The Faculty of Fisheries, Kasetsart University has been involved in the project since its initiation. The work carried out during the first year of the project consists of the following 3 parts,:

1. Market analysis,
2. Institutional analysis, and
3. Participatory community appraisal in 4 study sites.

2. Market Assessment and Analysis

2.1 Objectives:

The objectives of market assessment of aquatic food production in peri-urban Bangkok were as follow:

- To identify type of aquatic food products in peri-urban areas being sold and consumed.
- To determine potential production areas of these aquatic food products.
- To analyse market structure and mechanisms for aquatic food products.

2.2 Methodology

Market survey was conducted in 16 market places, located in and around Bangkok. They were comprised of three main types: large wholesale, mix wholesale with retail and retail market. Those markets include Talaad Thai, Si Moom Muang, Min Buri, Sai Netra, Nonthaburi, Bang Laen, Pak Nam, and Sam Rong. A total of 665 individuals from 16 market places were interviewed with questionnaires. They were consisted of 50 wholesalers, 180 middlemen, 185 retailers and 250 shoppers.

2.3 Results

2.3.1 Types of aquatic food products

Aquatic food products produced in peri-urban areas around Bangkok can be divided into following two main groups:

Aquatic plants

Several varieties of edible aquatic plants were found in markets. Among them, the most popular plants included morning glory, water mimosa and lotus.

Aquatic animals

Many cultured species of freshwater aquatic animals were found in the markets, including walking catfish, snakehead, black and red tilapia, silver barb and Chinese major carps.

2.3.2 Genders in market place

Figure 1 illustrates gender ratio of those involved in marketing freshwater aquatic food production. From the figure, larger proportion of middlemen were found to be male (about 55:45) while female constituted much greater proportion of shoppers (70:30). When combined these two groups, proportions of male and female were found to be relatively equal (40:60).

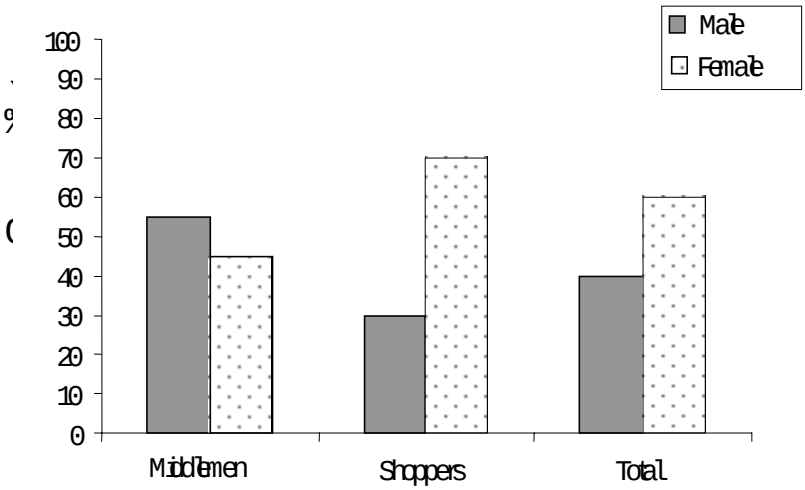

Fig. 1 Gender of middlemen and consumers involved in peri-urban aquatic food production systems.

2.3.2 Market channels

Freshwater aquatic products were generally transported from production areas, either by farm owners (producers) or middlemen, to large wholesale markets such as Talaad Thai, Si Moom Muang, Bang Laen and Prapathom Mongkol markets. At these markets, they were further brought by another groups of middlemen and transported to

buyers at other places (i.e. mixed wholesale-retail and retail markets). These buyers included wholesalers, retailers and normal customers.

There are several market channels of freshwater aquatic products, which can be illustrated as follow:

a). Producers → middlemen → wholesalers → middlemen →wholesalers/Retailers → consumers

b). Producers → wholesalers → middlemen → wholesalers/Retailers →consumers

c). Producers/Middlemen → wholesalers → wholesalers/Retailers → consumers

d). Producers → Retailers → Consumers

2.3.4 Production areas

Some peri-urban areas of Bangkok were found to be of significant importance for aquatic food production systems. These include Sai Noi and Bang Buathong District of Nonthaburi province, where morning glory is cultivated; Muang and Lam Luk Ka District of Pathumthani Province, where water mimosa and walking catfish are farmed, and Bang Sao Thong of sub-district in Samut Prakarn Province, where carp polyculture and water mimosa cultivation can be found.

2.3.5 Form of products sold

Almost all aquatic products were sold fresh. Some fish species such as catfish, red tilapia and snakehead were kept alive for selling, while others were preserved in ice. Some species such as tilapia, snakeskin gourami, silver barb and snakehead were often found preserved with salt before selling. Morning glory, water mimosa and lotus were normally sold fresh.

2.3.6 Transportation

Most products are transported by four-wheel utility trucks as identified by more than 90% of wholesalers, producers and middlemen. Only a small proportion of the products was transported by six-wheel lorries by middleman to bring the product to large wholesale markets (nearly 10%), however about half of retailers (51%) relied on middlemen for delivery (Fig. 2).

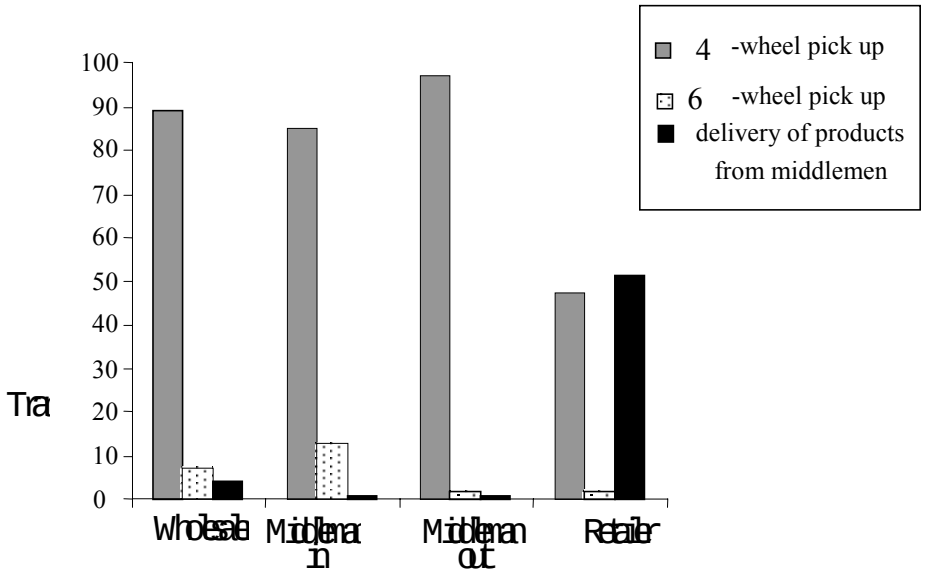

Fig. 2 Mode of transportation of aquatic products by various groups of traders.

2.3.7 Marketing cost

Information from various groups of traders (middlemen, wholesalers and retailers) identified that marketing cost of these products was around 10-20 Bt/kg. The cost varied according to types and sizes of products.

2.3.8 Factors affecting prices of aquatic products

There were several factors affecting price fluctuation of aquatic products (Fig.3). About 30% of respondents indicated that price variation is caused by quality of products, fish size and seasons. Roughly 10 % of respondents identified market mechanisms as an influencing factor on price.

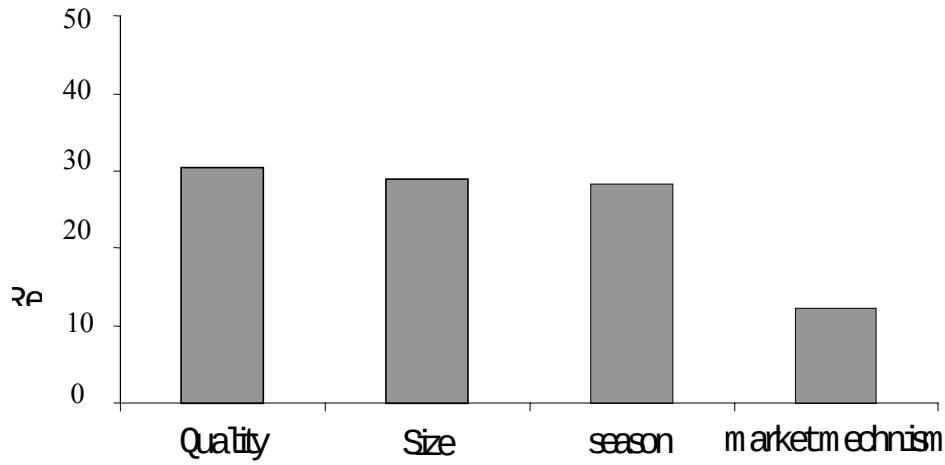

Fig. 3 Factors affecting prices of aquatic products in the market systems shown by % of respondents.

2.3.9 Market administration

All traders (middlemen, wholesalers and retailers) are required to pay for administrative fees, which differs from place to place.

2.3.10 Additional labour requirement

Entrepreneurs are normally family business which only hires additional labours when workload exceeds capacity of their family. Findings revealed that middlemen, who bring aquatic products to wholesaler, require more additional labour than others (43%). About one-third of wholesalers (36%) and 20% of middlemen who buy products from wholesalers, and 20% of retailers were found to hired additional labour also (Fig. 4).

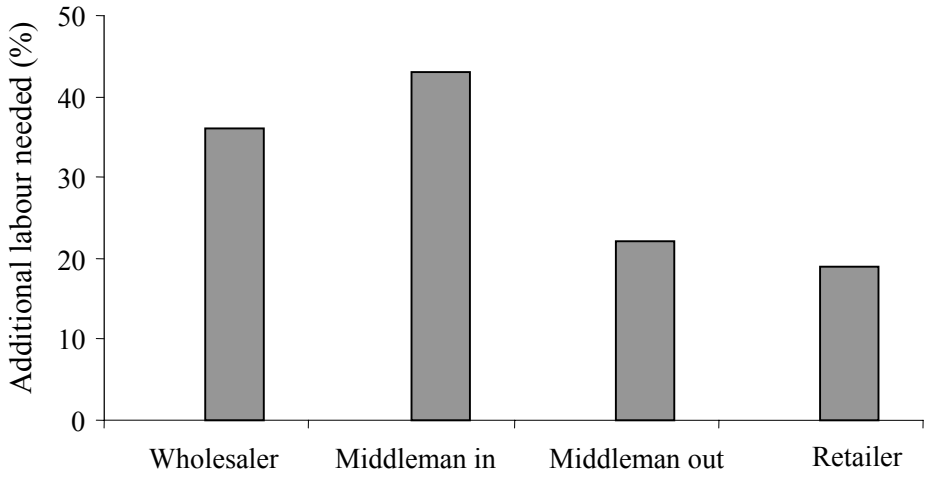

Fig. 4 Additional labourers required by various groups of traders in the market systems.

2.3.11 Quantity of purchased aquatic products

Information on the quantity of purchased aquatic products were similar to that of labour requirement. Middlemen were found to purchase larger amount of products for wholesale in the markets. In such case, wholesalers and retailers purchased the products in lesser quantity, who brought from wholesalers and retailers. The amount of fishes bought was also found to be greater than that of vegetables. About one half of middlemen purchased more than one ton of fish for wholesale markets at a giving occasion, while roughly one-third of them bought around 0.5-1 ton of vegetable each time.

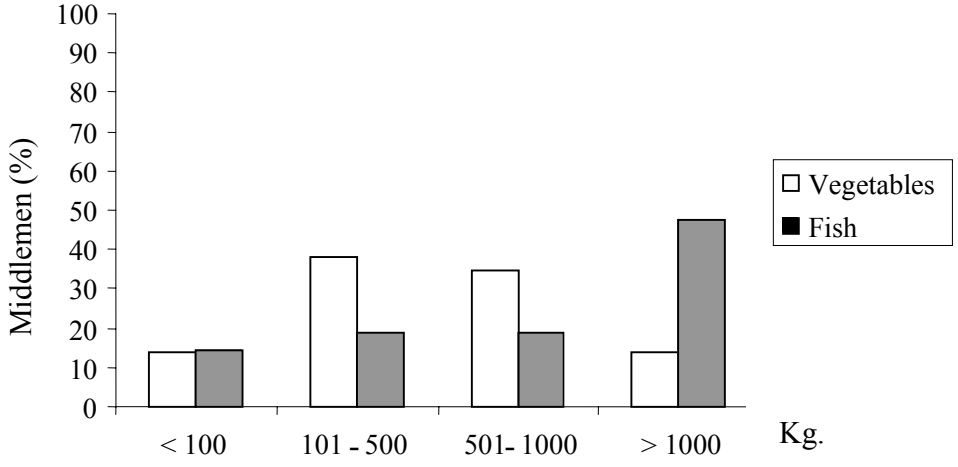

Fig. 5 The wide range of quantity of aquatic products purchased (kg) by middlemen from farmers.

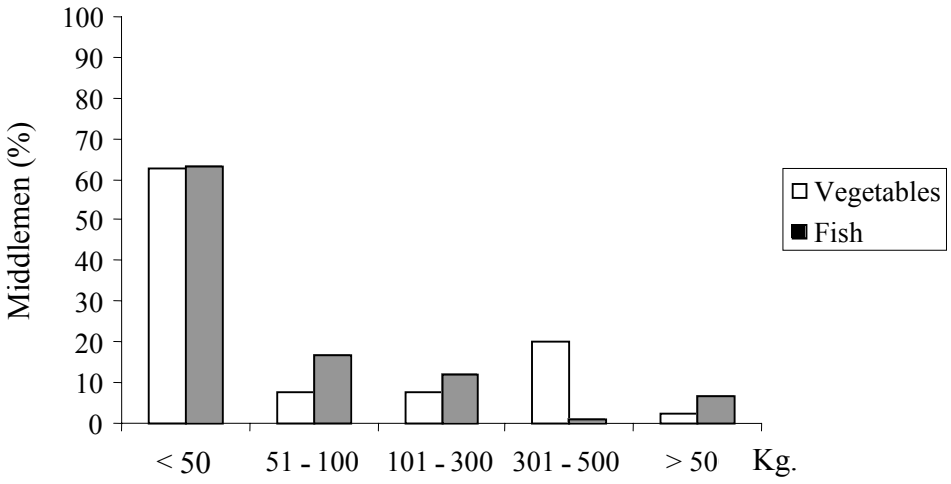

Fig. 6 The wide range of quantity of aquatic products purchased (kg) by middlemen from wholesalers.

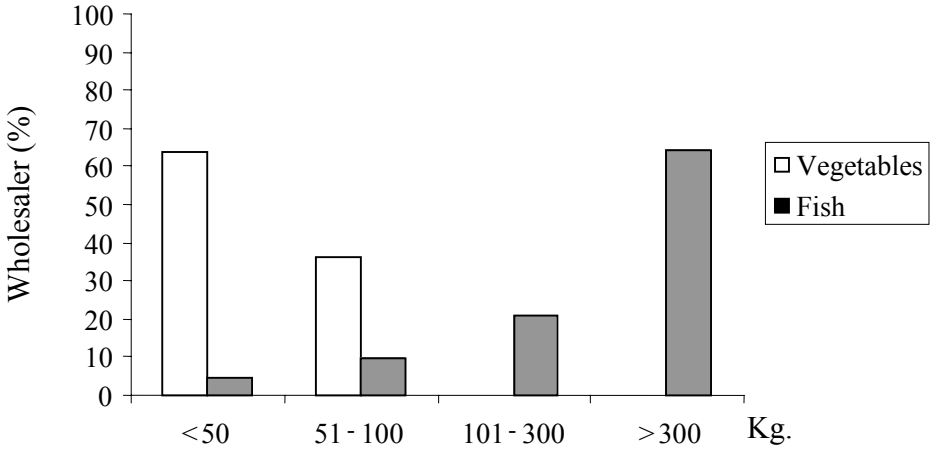

Fig. 7 The wide range of quantity of aquatic products purchased by wholesalers.

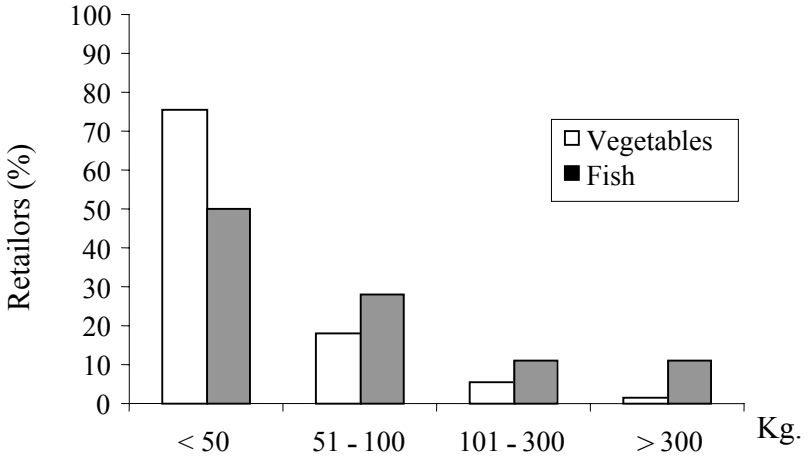

Fig. 8 The wide range of quantity of aquatic products purchased by retailers.

2.3.12 Business trends

Most traders (94-99%) stated that they will stay in business. About 6% of wholesalers indicated that they will quit their businesses, while only 1% of middlemen and 2 % of retailers expressed possibility of being out of the business (Fig. 9).

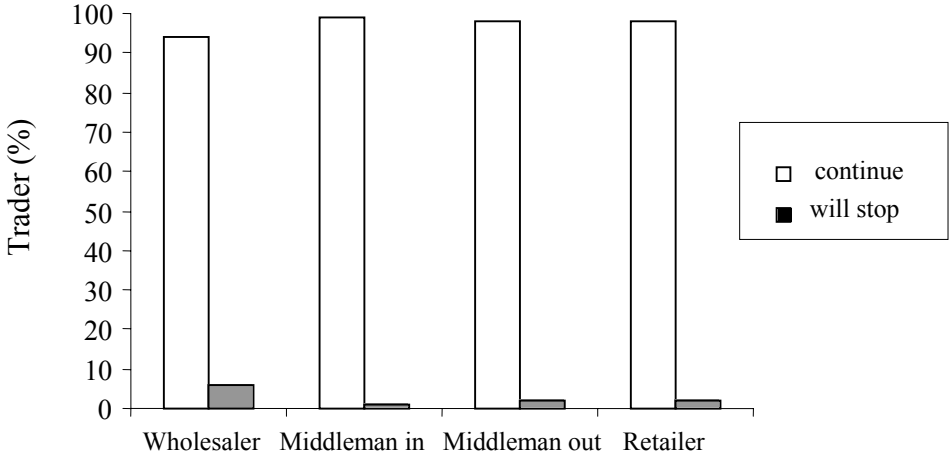

Fig. 9 Business trend of various groups of traders.

2.3.13 Purchasing purpose of consumers

Over one half of consumer respondents (about 60%) were found to purchase the products for home consumption while roughly a quarter of them bought for stocking smaller food shops. About 16% of the consumers further sold the purchased products, while 2% released fish free in accordance to their Buddhist faith (Fig. 10).

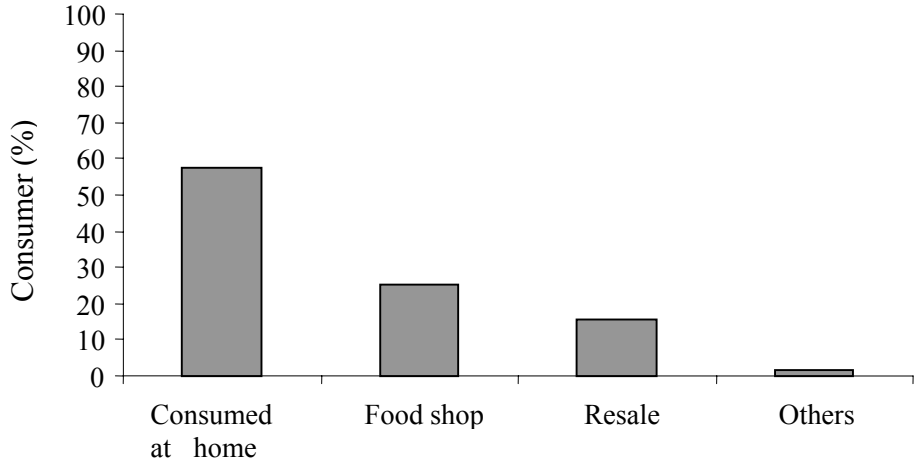

Fig. 10 Purchasing purpose of consumers (%).

2.3.14 Marketing problems

Some notable problems in the market systems of aquatic products were addressed by wholesalers in the study including such as high cost of rents, over supply (production), too many traders and weather conditions.