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# The *Dai Bongkong* fishery for giant river prawns, *Macrobrachium rosenbergii*, in southeastern Cambodia

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## ABSTRACT

Prey Veng Province is located in the Mekong Delta region of Southeastern Cambodia. In this lowland area, agriculture (especially rice growing) and fisheries are the most important sectors for the livelihoods of people. Prey Veng has many kinds of freshwater fisheries; mainly fishing lots (barrages) and mobile gears typically found in Cambodia. This province also has fisheries for catadromous shrimps or prawns, amongst which the bagnet or *dai* (stationary trawl) fishery for *Bongkong* (*Macrobrachium rosenbergii*) is the largest. The fishery consists of 13 single *Dais* operated in one Mekong tributary, the Tonle Touch. The fishery is aimed at the capture of wild *Bongkong* for sale in markets in Cambodia, but fish are also caught. Little is known about this fishery because no data collection system is in place. The aim of the study was to collect primary data on catches and their monetary value from all *Dais* in the fishery. Primary data are required to establish a reliable and cost-effective data collection scheme in the future, and provide information for management.

This paper reports on the results of a monitoring study over the main fishing season (October to December) in 2004. Data collectors recorded catches and their value based on random sampling of each *Dai*, and recorded sub-samples for assessment of species composition. Prices of each species were also recorded based on information from *Dai* operators. *Dai* owners and provincial fishery officers were interviewed about their operations, and about general aspects of the fishery.

The *Dais* caught a total of about 1.5 tonnes of *Bongkong*, (31-274 kg/*Dai*) over the main fishing season. *Bongkong* sold for about 30,000 Riel per kg on average, making it the most valuable species caught in the inland fishery of Cambodia. *Bongkong* catches have reportedly fallen in recent years and now the *Dais* catch mainly fish, including at least 153 species, amongst which *Labiobarbus kuhlii*, was the most abundant (25% of the total catch). Generally the *Dais* furthest upstream recorded the highest catches. *Dais* were classified into high- or low-catch units for sampling purposes.

The study highlights many issues that should be addressed. The operators do not fully comply with their license conditions relating to *Dai* dimensions and the time of operation. Mobile gear operators ignored rules about fishing near the *Dais*, and so have come into conflict with the *Dai* owners. The high price for *Bongkong* is causing overfishing and a decline in the wild catch, so for this species aquaculture should be promoted in Cambodia as it has been in other countries.

KEY WORDS: Cambodia; Tonle Touch; *Bongkong*, *Dai Bongkong*; Catch; Value; Conflict

## INTRODUCTION

Prey Veng Province is located in the Mekong Delta region of Southeastern Cambodia. In this lowland area, agriculture (especially rice growing) and fishing, are still considered the most important sectors for supporting rural livelihoods. Prey Veng hosts many kinds of freshwater fisheries; mainly fishing lots (barrages) and mobile gears. It is noteworthy that the province has a fishery for catadromous prawns or shrimps, amongst which *Dai* fishery for *Bongkong* is the largest. The fishery consists of 13 stationary *Dais* and targets *Bongkong*. However, since the total landings

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of *Bongkong* have declined in recent years, the fishery has become diversified to target both *Bongkong* and fish.

Prey Veng is one of the few places in the country where *Bongkong* is available, especially from October to December, but little is known about the fishery. Furthermore, *Bongkong* is economically important locally, and has good consumer acceptance. Due to its high demand, *Bongkong* has gained popularity as a marketable item. This has attracted many people to the fishery resulting in an increase in the numbers of fishing gear in use, particularly hook and lines (*Santouch Bongkong*) and traps (*Lop Bongkong*).

Catch statistics for wild *Bongkong* reported by the Provincial Fisheries Office is unreliable as these are totally dependent on fishers who underreport landings because they are required to pay taxes for exclusive fishing rights. Unreliable statistics, when used for planning, will inevitably create problems in implementing policy for fishery management. There is a requirement for a data collection program to be in place, which is scientifically acceptable in order to produce reliable statistics for national level planning. An intensive data collection process from each fishery station is vitally important to identify its capacity in catching fish and *Bongkong*, that is, the volume of its catch and monetary value. This data will allow a sampling strategy to be implemented at all the *Dai Bongkong* units for the Department of Fisheries, particularly for the Prey Veng Provincial Fisheries Office, which is responsible for annual data collection of the fishery for the Ministry of Agriculture, Forestry and Fisheries.

This study aims to document all relevant information on the *Dai Bongkong* fishery with an emphasis on recording data on catches and monetary values of the fishery so that they can be classified for status and sampling purposes.

## DESCRIPTION OF THE FISHERY

### *Location of the Dai Bongkong Fishery*

Tonle Touch is a Mekong tributary and branches away from the Mekong near Kampong Cham Province in a southerly direction towards Viet Nam. At the point near Neak Luong ferry crossing in Prey Veng Province the river divides again into two main branches; the Tonle Touch and Prek Trabek Rivers (see Ngor *et al.*, 2005). The *Dai Bongkong* fishery operates along the Tonle Touch River from the point where it branches away from Prek Trabek River down to the Cambodian-Viet Nameese border (see Figure 1. and Appendix 1).

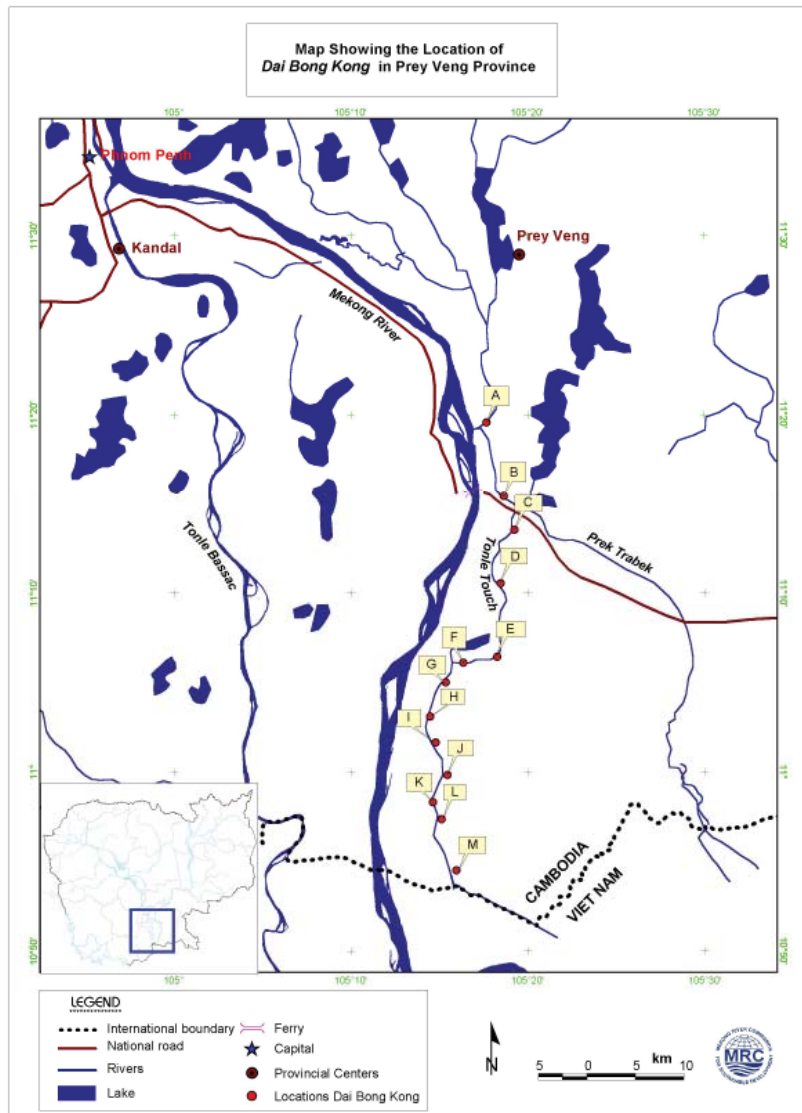


Figure 1. Map showing the location of *Dai Bongkong* fishery in Prey Veng Province

### History and Licensing

Similar to the *Dai Trey Linh* fishery (Ngor et al., 2005), the *Dai Bongkong* fishery began operating in 1981. Between 1981 and 1986, the fishery was operated under a solidarity group, and it was privatized as a large-scale fishery in 1987. Normally, exclusive rights for operating each *Dai Bongkong* unit is given to the highest bidder covering a two-year period through auctioning. The official fee of each *Dai Bongkong* unit varies from about 0.8 to 8.1 million Riels according to locations (see Table 1).

Table 1. Official auctioning fee for Dai Bongkong

Dai Bongkong	Auctioning fee (Riel)	Year of operation
1A	5,500,000	2004–2006
1B	5,400,000	2004–2006
1C	4,200,000	2003–2005
1D	1,700,000	2003–2005
1E	4,400,000	2003–2005
1F	4,125,000	2004–2006
1G	8,150,000	2004–2006
1H	810,000	2003–2005
1I	1,800,000	2003–2005
1J	1,820,000	2003–2005
1K	300,000	2003–2005
1L	300,000	2003–2005
1M	4,500,000	2004–2006

Note: Source: Prey Veng Fishery Office

#### Season of operation

The open season for fishing in Cambodia is from October to June. During this period, all fisheries are allowed to operate under the Cambodian Fishery Law. The operation of most large-scale fisheries takes place over a six to nine month period. For example, the *Dai Trey Linh* fishery in the Tonle Touch (6-7 months), the *Dai* fishery in Tonle Sap River (5-6 months) and the barrage fishery/fishing lot (6-9 months). However, the season of the *Dai Bongkong* fishery takes place over a relatively short period from October to December. Licensing conditions for operation of the fishery are similar to those of other large-scale fisheries in Cambodia.

Recently fishers have tended to start fishing operations in September to target small cyprinids that migrate from surrounding floodplains back to the *Tonle Touch* River. The peak catch of *Bongkong* takes place in November.

#### *Dai Bongkong* structure

The *Dai Bongkong* is a stationary bag net positioned in the river to target mainly *Macrobrachium rosenbergii*. Each row of the *Dai Bongkong* allows only one unit, leaving space for navigation. In the past, *Dai Bongkong*'s structure was designed to catch only giant river prawns that migrate down the Tonle Rouch River from the surrounding floodplains. However, the fishing gear has recently been modified to target both fish and giant river prawn.

The old *Dai Bongkong* is comparatively shorter, about 8-12 metres long and closed at the bag end. It has a mesh size of 3-4 cm. The mouth of the bag net is rectangular with a width of about 20 to 35 metres and a height of 3-4 metres. It is opened by two bamboo poles, which are tied to small bamboo rafts or 500 litre metal or plastic drums. To prevent the giant river prawns that have

entered the bag net from leaving the bag net, curved-backward bamboo stays are used to attach the surrounding ropes, except for the upper rope, to the net. Wooden poles at either sides of the river are fixed and metal wires are used to tie the bag net to the wooden poles in order to make the bag net stationary and stabilised. To collect giant river prawns and fish fauna, the bag end of the net needs to be cut open and subsequently repaired when putting back into the river (see figure 2).

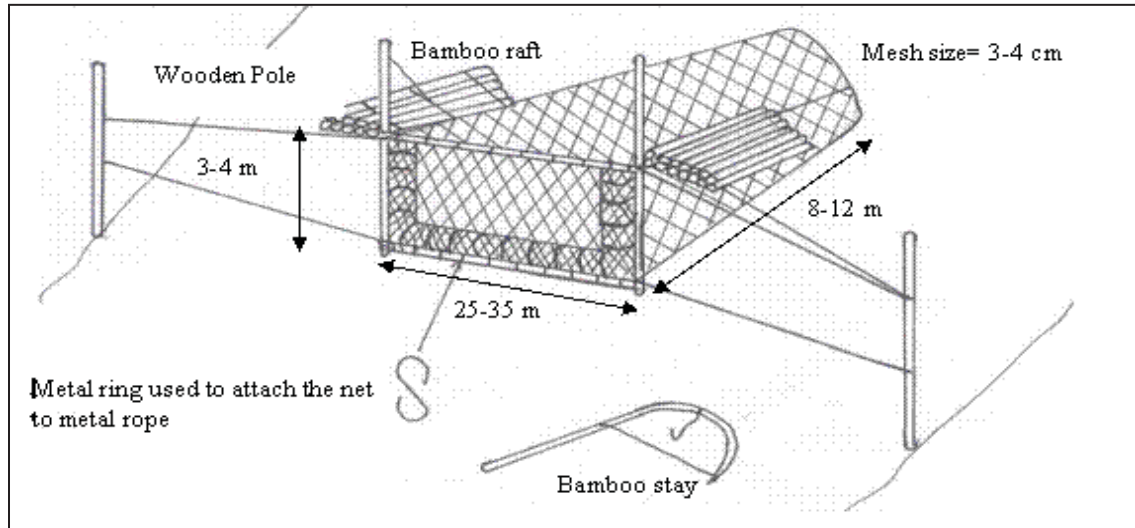


Figure 2. Old design of *Dai Bongkong*

The modern, modified *Dai Bongkong* has the same basic structure as the old one. The difference is that it is about 45 to 50 metres long and the net has a smaller mesh size of about 3 cm at the mouth of the *dai* to only 1.5 cm at the cod-end (Figure 3).

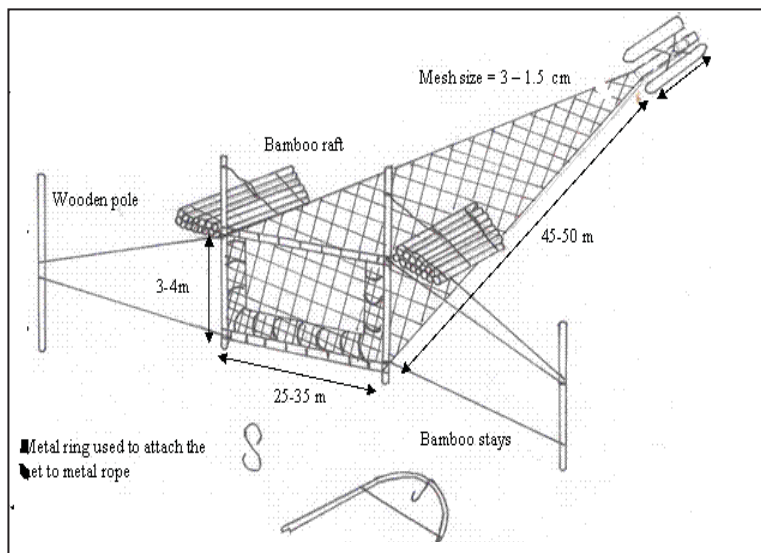


Figure 3. New design of *Dai Bongkong*

In addition, the cod-end of the new bag net is designed in such a way that giant river prawn and fish can easily be removed without the need to cut open the dai. The cod-end of the new *Dai Bongkong* is similar to that of the *Dai Trey Linh* fishery (more details see Ngor et al., 2005) and *Dai* fishery in the Tonle Sap River (more details see Deap et al., 2003).

Old structure *Dai Bongkong* was designed for the situation when wild giant river prawns were still abundant. Since there has been a drastic decline in giant river prawn production, fishers started to modify the fishing gears to be more convenient to operate and highly effective in catching both freshwater prawns and fish. Another benefit of the new *Dai Bongkong* is that fishers can remove the giant river prawn and fish any time they wish to order to keep fish alive and in good quality. This is different from the old *Dai Bongkong* in that fishers collect fish only one time during the night.

### *Giant River Prawn Fisheries*

Giant river prawns are popularly captured by several fishing gears including hook and lines, traps, *Dai Bongkong* fishery and the barrage fishery or fishing lots.

#### **Hook and lines**

Hook and line fishing occur in July and August and from January to May. In July and August, the fishing gears are operated only at night in floodplains when sediment and debris are settled down and the flood waters become less turbid; whereas, from January to May, the fishing gears operate only the Cambodian Lower Mekong River. The fishers use nails with 3 cm long as a hook. Coconut is the most usual bait used by fishers to capture giant river prawns. Alternatively, fishers also use crabs, *botia sp.*, boiled pig skin, corns etc. as bait. The giant river prawns captured by hook and lines in July and August often carry eggs while those that are captured from January through May are small size (about finger sizes).

#### **Traps**

Traps are the most popular fishing gears used by fishers in Prey Veng Province to catch giant river prawns. It is reported that traps for giant river prawns has dramatically increased. According to fishers, there were about 5,600 traps from 70 boats in operation in commune 2 and about 1,500 traps from 25 boats in operation in commune 3 and 4 of *Peam Ror* district of Prey Veng Province. The season of trap fishing is from July to October, during which traps are operated mainly in the floodplains, and from January to May through which traps are operated only in the main river of the Cambodian Lower Mekong from ferry crossing (*Neak Loung*) down to Cambodian-Viet Nameese border (see figure 1). The peak time of trap fishing occurs in September when giant river prawns carry eggs and are ready to migrate to the brackish water for spawning whereas the giant river prawns caught in January through May in the Mekong River are in small size.



### **Dai Bongkong and fishing lots/barrage fisheries**

*Dai Bongkong* and fishing lots/barrage fishery begin in October and end in December and June respectively. *Dai Bongkong* operates only in the Tonle Rouch River to capture giant river prawns that migrate down the river; whereas, fishing lots or barrage fisheries operate in the floodplains or lakes by blocking canals or streams which connect to rivers to capture all fish fauna including giant river prawns. The catch of giant river prawn from fishing lot or barrage fishery normally end in February. It is generally seen that giant river prawns captured by the large-scale fisheries during these periods are in large size and very few individuals carry eggs.

From hook and lines, trap fishing and *Dai Bongkong* and fishing lots/barrage fishery, it is suggested that the giant river prawns, *Macrobrachium rosenbergii*, may migrate down the river to the brackish water areas for spawning in September. Ngor et al, 2005 monitored *Dai Trey Linh* fishery in the Tonle Touch River along the Cambodian-Viet Nameese border. They found out that 268 kg (64kg in September, 50kg in October, 62kg in November and 92kg in December) of *Macrobrachium Rosenbergi* were captured. The giant river prawns migrate back to the Cambodian waters in January as they are captured by traps and hook and lines (with small size) in the Lower Mekong River close to the Cambodian-Viet Nameese border. It was also reported by fishers that between January and May, trawls that are operated in the Viet Nameese waters captures a comparatively large amount of finger-sized *Macrobrachium rosenbergii*.

### METHODOLOGY

The study was conducted over the period from October to December 2004. Data on the fishery was collected on a daily basis for the purpose of understanding catches and values of the fishery. The main data items recorded were catch, price, and species and their length frequency. The main steps in the research process were: (1) designing sample data sheets, (2) training data collectors on data collection methodology, (3) Collecting data from every station of the fishery and (4) analyzing the collected data.

To begin, sample data sheets were designed in order to facilitate the data collection process. Sample data sheets consisted of three types, which were used to record different data sets. The first sample data sheet was used to record catch composition of the fishery; the second was used to record fishing effort which was composed of a number of hauls (times) fishers cleared their bag net, time intervals between successive hauls and the total catch per haul, and the third data sheet was used to record length frequency of Bongkong (prawn) or fish.

Next, before the actual data collection was started, all the data collectors were trained in data collection methodology and on the identification of the fish species. Data collectors were first trained on how to fill in each of the sample data sheets. Then, the training was started with data collection methods which consisted of how to sample the catch from the fishery and sort the sub-

sample by species. The methods also included the ways of how to measure the total length of fish and Bongkong. Data collectors were also trained on how to identify fish species before recording onto the sample data sheets. To make it easier for this, a photo flipchart of over 200 species based on Mekong Fish Database (Mekong Fish Database, 2003) was compiled.

The third step was the actual data collection process. In total, there were 13 *Dai Bonkongs*; therefore, 13 data collectors were needed and each of them was stationed at each *Dai* for all weekdays (26 days per month). Sample data sheets were handed out to all the data collectors. To estimate catches of each *Dai*, the total catch from randomly selected hauls was recorded. Each 24 hours on each *Dai*, the total catch from 10 daytime hauls and 5 night-time hauls was recorded, and used to estimate total catches for the day. To estimate catch by species of each *Dai*, samples for analysis of species composition were taken from at least 4 hauls/day. A sub-sample of fish was sorted by species and each species was weighed on calibrated balances. The price of each species was also recorded, based on information from the *Dai* operators. For some common species, total lengths were measured using a measuring board accurate to 1 mm. To get relevant information on the fishery, *Dai* owners and provincial fishery officers were interviewed about the operation of their business, and about general aspects of the fishery such as hydrology and biology.

The last step was data entry and analysis. All the sample data sheets were collected back from the data collectors on a monthly basis. These sample data sheets were sorted by date, and coded before the data entry was started. Collected data from the fishery were primarily stored, processed and analyzed using computer software called *Artfish* for Windows (Stamatopoulos and Jarrett, 2000). Later, the data was exported to Electronic Spreadsheet for final analysis.

## RESULTS OF THE MONITORING

Appendices 2, 3 and 4 give monthly details of the quantity, total value and unit price of all the species recorded during the survey.

### *Size of catch*

Table 2 shows the catches of *Dai Bongkong* ranked by each unit (station) over a three-month period from October to December 2004 in Prey Veng Province. From this table, it can be seen that giant river prawns contribute only about 1.2 percent (1,531 kg) to the total catch of 125,911 kg. The rest of the catch is fish fauna. Totally, about 88 percent of the catch was taken by *Dai Bongkong* 1A, 1B and 1C, which are the most upstream units. The other units shared between only 0.2 to just over 2.5 percent.

Therefore for the sampling purposes, rather than collecting all the data from each of the stations, it can be suggested that all the stations be divided into two main strata. Stratum 1 consists of 1A, 1B and 1C and the rest can be classified as stratum 2. The other option is basing the stratification on



the percentage of the catches of each station. Those that contribute approximately between 3 to 71 percent to the total catch can be put in stratum 1, between 1 and 2.99 percent in 2 and the other will be in stratum 3.

Table 2. Monthly and annual Dai Bongkong catch in 2004

Station	Catch of giant river prawn (kg)	Catch of fish (kg)	Total (kg)	%
1A	113	89,350	89,463	71.05%
1C	228	17,045	17,273	13.72%
1B	274	3,820	4,094	3.25%
1M	148	3,076	3,224	2.56%
1I	74	2,155	2,229	1.77%
1J	39	2,049	2,088	1.66%
1H	91	1,870	1,961	1.56%
1E	125	1,343	1,468	1.17%
1G	79	1,070	1,149	0.91%
1D	142	981	1,123	0.89%
1F	137	827	964	0.77%
1K	50	570	620	0.49%
1L	31	224	255	0.20%
Total	1,531	124,380	125,911	100.00%

#### Composition of catch

Table 3. Catch composition giving total weight (kg) of the ten most abundant species

Khmer name	Scientific name	Oct	Nov.	Dec.	Catch	%
Khngang veng	<i>Labiobarbus kuhli</i>	30,560	61	18	30,639	24.33
Khlang hai	<i>Belodontichthys truncatus</i>	10,121	1,467	101	11,689	9.28
Pruol/kralang	<i>Cirrhinus microlepis</i>	7,984	118	11	8,113	6.44
Chra keng	<i>Puntioplites waandersi</i>	4,661	715	134	5,510	4.38
Kaek	<i>Labeo chrysophekadion</i>	4,434	549	77	5,060	4.02
Sanday	<i>Wallago attu</i>	3,210	989	56	4,255	3.38
Kanhchrouk chhnot	<i>Botia helodes</i>	3,928	293	4	4,225	3.36
Riel awng kam	<i>Cirrhinus lobatus</i>	3,894	48	9	3,951	3.14
Krom	<i>Osteochilus melanopleura</i>	3,164	487	25	3,676	2.92
Chhkok	<i>Cyclocheilichthys enoplos</i>	3,227	390	23	3,640	2.89
Other (144 species)		29,231	13,977	1,945	45,153	35.86
Total (all species)		104,414	19,094	2,403	125,911	100.00

There were 154 species recorded in the catch of *Dai Bongkong* (see Appendix 2), including the giant river prawn. The top ten species that made up almost 65% of the total catch are listed in Table 3. A small cyprinid, *Labiobarbus kuhli*, was the most abundant species, accounting for around 24 percent in the catch composition of *Dai Bongkong*. It is interesting to note that although the

fishery is operated under the name of giant river prawn fishery, this species was not one amongst the top ten.

#### Value of catch

Table 4. Monthly and annual Dai Bongkong total value (R1000s) in 2004

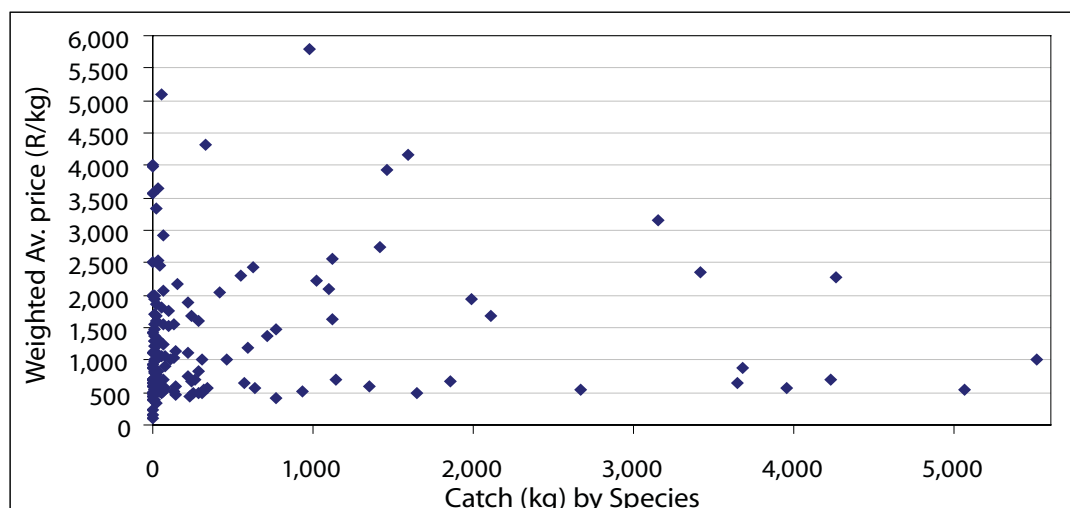
Station	Value of giant river prawn	Value of Fish	Total	Percentage
1A	4,920	116,737	121,657	58.54%
1C	2,577	23,515	26,092	12.56%
1B	9,698	3,131	12,829	6.17%
1M	4,440	4,454	8,894	4.28%
1E	3,868	2,734	6,602	3.18%
1D	4,726	860	5,586	2.69%
1F	4,310	1,308	5,618	2.70%
1H	2,584	2,713	5,296	2.55%
1I	1,983	3,098	5,081	2.45%
1G	2,403	1,356	3,759	1.81%
1J	718	2,700	3,418	1.64%
1K	1,132	750	1,882	0.91%
1L	723	368	1,091	0.53%
Total	44,083	163,722	207,805	100.00%

The total value, which is given in table 4, provides a corresponding answer to what has been found in the total catch. The most upstream *Dai Bongkong* units (1A, 1B and 1C) are the most productive, forming substantially about 77 % of the total sale value; while, the others add up to only about 23 percent (Table 4). Almost 80% of the total sales were from 153 non-prawn species combined.

Table 5. Total value of catches (R1000s), showing the ten most valuable species (by total value) from October to December 2004.

Khmer name	Scientific name	Oct.	Nov.	Dec.	Total	%
<i>Bongkong</i>	<i>Macrobrachium rosenbergii</i>	19,819	21,385	2,879	44,083	21.21
<i>Khlang hai</i>	<i>Belodontichthys truncatus</i>	29,528	3,054	211	32,793	15.78
<i>Khngang veng</i>	<i>Labiobarbus kuhli</i>	15,440	39	10	15,489	7.45
<i>Ros/ptuok</i>	<i>Channa triata</i>	1,352	7,567	1,042	9,961	4.79
<i>Sanday</i>	<i>Wallago attu</i>	7,152	2,410	152	9,713	4.67
<i>Chhpin</i>	<i>Hypsibarbus lagleri</i>	6,974	986	74	8,033	3.87
<i>Pruol/kralang</i>	<i>Cirrhinus microlepis</i>	7,695	129	8	7,832	3.77
<i>Khchoueng</i>	<i>Macrogathus maculatus</i>	3,434	2,852	374	6,660	3.20
<i>Kes prak</i>	<i>Kryptopterus limpok</i>	5,600	123	12	5,735	2.76
<i>Kray</i>	<i>Chitala blanci</i>	528	4,551	554	5,633	2.71
Other (144 species)		42,035	17,316	2,520	61,872	29.77
Total		139,558	60,410	7,837	207,805	100.00

Even though giant river prawn production contributed only 1.2 percent to the total catch, its total sale value at the *Dai Bongkong* formed a large proportion of just over 21% (44,083,000 Riels) of the total sale (see Table 5), which was 207,805,000 Riels. The second most valuable species was *Belodontichthys truncatus*, which accounted for almost 16% of the total sales; the remaining 144 taxa combined contributed only about 30%.



Note: Three species are excluded from this graph for clarity, as their weighted average price and catches are off-scale

Figure 4. Weighted average price (R/kg) versus total catch (by species).

Figure 4 shows the weighted average price of each species plotted against total catch of each species. The weighted average price of *Macrobrachium rosenbergii* and the total catches of *Belodontichthys truncatus* and *Cirrhinus microlepis* are excluded from the graph for clarity as they are off-scale. The weighted average price and catches of these species are given in detail in appendices 2 and 4.

Table 6. The ten most valuable species in the Dai Bongkong fishery

Khmer name	Scientific name	Catch (kg)	Price (Riel/kg)
Bongkong	<i>Macrobrachium rosenbergii</i>	1,531	28,793
Kray	<i>Chitala blanci</i>	973	5,789
Khchoueng	<i>Macragnathus taeniagaster</i>	56	5,090
Khchoueng	<i>Mastacembelus favus</i>	329	4,306
Khchoueng	<i>Macragnathus maculatus</i>	1,596	4,173
Chhpin krahorm	<i>Hypsibarbus wetmorei</i>	2	4,000
Antong	<i>Monopterus albus</i>	3	3,993
Kes prak	<i>Kryptopterus limpok</i>	1,462	3,923
Carp sor	<i>Silver carp</i>	31	3,648
Antong	<i>Ophisternon bengalense</i>	23	3,327

It can be seen from Figure 2 that most of the species caught at *Dai Bongkong* fishery were sold at between 100 and 2,500 Riels per kg. In contrast, few species could be sold at between 3,000 and 6,000 Riels per kg.

Table 6 shows that the price of giant river prawn ranked first, sold at about 29,000 Riels per kg (or about US\$7/kg) on average. The second most expensive was *Chitala blanci*, which could be sold at about 5,800 Riels per kg at the *Dai* sites. *Macrognathus spp.* came to the third place sold at between 4000-5000 Riels per kg, and followed by the price of *Monopterus spp.* at 3-4000 Riels per kg. It is noteworthy that *Macrobrachium rosenbergii*, *Macrognathus spp.*, and *Kryptopterus limpok* were the most abundant amongst the top ten most valuable species.

Practically, when sold, giant river prawns were classified into three grades (see Table 7).

Table 7. Local price of giant river prawn classified by grades

Grade	Weight (g)	Price at the landing site (Riel/kg)	Local price sold by middlemen (Riel/kg)
1	≥150	40,000	42,000
2	100 - 150	30,000	34,000
3	< 100	20,000	24,000

This data was a result of the interview with local middlemen who bought and sold giant river prawns in the fishing season of 2004. Giant river prawns were kept alive in basket. Their price of giant river prawns was even higher and could be sold at between US\$15 to 20 per kg when transported alive to Phnom Penh.

Table 8. Monthly weighted average prices (Riel/kg) for the ten species which made up the highest proportion of the total sale value.

Khmer name	Scientific name	Weighted average price			
		Oct	Nov	Dec	Overall
<i>Bongkong</i>	<i>Macrobrachium rosenbergii</i>	25,344	32,352	32,713	28,793
<i>Kray</i>	<i>Chitala blanci</i>	6,359	5,710	5,960	5,789
<i>Khchoueng</i>	<i>Macrognathus maculatus</i>	3,551	5,120	5,199	4,173
<i>Kes prak</i>	<i>Kryptopterus limpok</i>	3,972	2,560	3,000	3,923
<i>Ros/ptuok</i>	<i>Channa striata</i>	2,523	3,240	3,708	3,160
<i>Khlang hai</i>	<i>Belodontichthys truncatus</i>	2,917	2,082	2,089	2,805
<i>Chhpin</i>	<i>Hypsibarbus lagleri</i>	2,340	2,482	2,054	2,354
<i>Sanday</i>	<i>Wallago attu</i>	2,228	2,437	2,705	2,283
<i>Pruol/kralang</i>	<i>Cirrhinus microlepis</i>	964	1,091	753	965
<i>Khnamg veng</i>	<i>Labiobarbus kuhli</i>	505	632	567	506
Weighted average price for all species		1,314	1,696	1,925	1,455

Table 8 shows that the prices did not change much between months. From the data in this table, it suggested that a large proportion of giant river prawn captured were Grade 1 and 2.

### Size of Giant River Prawn

Appendix 5 provides details of frequencies, mean length, variance and standard deviation of 31 common species captured at the *Dai Bongkong* fishery.

It can be seen from the graph that most of giant river prawns were caught at the length 12 cm over a three-month period from October to December, 2004. On average, giant river prawns were captured at 14.5 cm with standard deviation  $\pm 3.2$ .

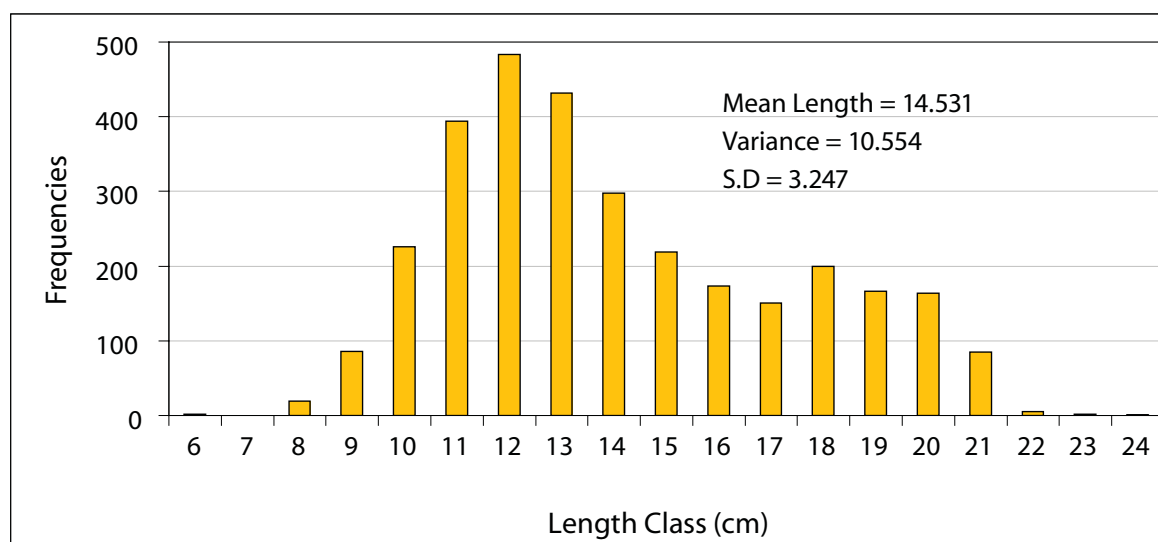


Figure 5: Frequencies versus length classes of giant river prawn (October to December, 2004)

### Conflicts in the Dai Bongkong fishery

Several conflicts may occur in every fishing season of *Dai Bongkong*. The conflicts often occurred amongst *Dai Bongkong* operators, *Dai Trey Linh* operators and mobile gear operators.

***Dai Bongkong* owners:** since the production of wild giant river prawn has remarkably declined, some *Dai Bongkong* operators, especially the most upstream ones, tend to start installing the bag net (newly introduced ones) in September, which is the peak time of *Dai Trey Linh* fishery, to capture small cyprinids that are forced to leave the floodplains as the water quality deteriorates (Welcomme, 1985 and Ngor et al., 2005). There are 5 units of *Dai Trey Linh* legally in operation in the Tonle Touch River from July to December; therefore, when *Dai Bongkong* operators begin their fishing before October, conflicts may arise. This is because certain quantities of fish that are supposed to migrate downstream are taken by *Dai Bongkong* upstream. Sometimes, the problems can be solved through oral agreement between the *Dai Trey Linh* and *Dai Bongkong* operators.

In addition, according to anecdotal evidence, there were cases that *Dai Bongkong* operators confiscated villagers' boats and fishing gears and destroyed when those villagers operated those fishing gears nearby or inside the *Dai Bongkong* sites, especially during the peak period, without any cooperation from fishery officers. There were also cases that *Dai Bongkong* operators arrested

mobile gear fishers outside their exclusive exploitation area (200 metres up- and downstream from the location of the each *Dai Bongkong*). Furthermore, there was also a requirement of payment for those who want to operate mobile gears such as drift gillnets, giant cast net etc. These activities caused serious conflicts among them.

**Mobile gear operators:** as there were cases villagers being violated by *Dai Bongkong* owners, some villagers took chance to revenge. Moreover, since there has been a policy reform, mobile gear operators' rights are better aware of and protected. Some villagers seem to use their rights inappropriately to fish in the areas of *Dai Bongkong* fishery. These create conflicts between the mobile gear operators and the *Dai Bongkong* owners.

## DISCUSSION AND CONCLUSIONS

The catch of *Dai Bongkong* is much smaller than that of the other *Dai* fisheries such as *Dai* fishery in the Tonle Sap River and *Dai Trey Linh* fishery in the Tonle Touch River. This is because the fishing season occurs in a relatively short period and the fishery operates only in a Mekong tributary. For instance, in the fishing season of 2004-5, the *Dai* fishery's production in the Tonle Sap River was 16,207 tonnes (MRC/DoF monitoring data); whereas, the production of *Dai Bongkong* in 2004 was only 125 tonnes. However, the *Dai Bongkong* fishery is unique in that it captures giant river prawn the most. In 2004 fishing season, giant river prawn contributed to about 1.22 (1,531 kg) and 21.21 percent (R 44,083,000) to the total catch and value respectively. Almost none of the giant river prawns are captured at the *Dai* fishery in the Tonle Sap River. As with other fisheries, except for the *Dai Trey Linh* fishery, *Dai Bongkong* catch is mainly 1+ fish and 1+ giant river prawn (see appendix 5). Apart from catching by the *Dai Bongkong*, considerable quantities of wild giant river prawns are usually taken by barrage/fishing lot fisheries, mobile gear fisheries (traps and hooks and lines) in the Mekong Delta in Prey Veng and Takeo Provinces.

Catch of wild giant river prawn has dramatically declined. It is reported that each unit of *Dai Bongkong* could catch up to 4 or 5 tonnes of giant river prawn per night during the peak period in 1980s. *Dai Bongkong* operators purely targeted only on giant river prawns, not fish. During that period, it was quite common that wild giant river prawns were captured by the *Dai* fishery or barrage fishery in the Tonle Sap River or they were caught by other mobile gear fisheries in the Cambodian upper Mekong in Kratie Province. According to group discussion with trap fishers for giant river prawn in Prey Veng Province, if 40-50 traps were used, they could capture 4-5 kg of giant river prawns per day in 1980s. The production of giant river prawns showed sign of decrease in 1996, when they could capture 1-2 kg per day per 100 traps. In 2004, most fishers could capture less than 1 kg per day per 100 traps. The main reasons behind this decline may be the result of dramatic increase in fishing efforts especially traps, hooks and lines, and other illegal fishing practices. Environmental degradation also plays a part to this decline, for example, hectares of inundated forest in Mekong Delta has been cleared for agriculture purposes. More importantly, it



is a trans-boundary issue, when giant river prawns have to migrate to brackish water for spawning, where they pass through Viet Nam and migrate back to Cambodian floodplains for sheltering, feeding, and growing.

To conserve the fishery and to reduce conflicts, a number of measures should be taken. Firstly, traps and hook and lines should not be operated in the closing fishing season, giving chance to giant river prawns to spawn. Secondly, both *Dai Bongkong* operators and villagers have to follow the fishing regulations, in particular, conditions in the burden books and logbooks. Thirdly, the artificial breeding and culturing of giant river prawns (*Macrobrachium rosenbergii*) are successful in other countries than in Cambodia; thus, introducing such technology and re-stocking the species into the wild may help recover the national stock. Fourthly, it is a trans-boundary issue, which needs international cooperation to conserve this species. Finally, the quantities of wild giant river prawns captured by other fisheries such as traps, hook and lines, and fishing lots are not reliably known. The study of these fisheries may be important to understand the status of giant river prawn fishery countrywide. The data and information from this study may be important to suggest intervention measures for the management of the fishery.

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APPENDICES

Appendix 1: *Coordinates of Dai Bongkong location*

Location	North end	East end
1A	N11°19.623'	E105°17.671'
1B	N11°15.488'	E105°18.646'
1C	N11°13.596'	E105°19.251'
1D	N11°10.597'	E105°18.465'
1E	N11°06.496'	E105°18.261'
1F	N11°06.166'	E105°16.346'
1G	N11°05.057'	E105°15.361'
1H	N11°03.148'	E105°14.478'
1I	N11°01.707'	E105°14.778'
1J	N10°59.900'	E105°15.451'
1K	N10°58.377'	E105°14.634'
1L	N10°57.422'	E105°15.118'
1M	N10°54.562'	E105°15.952'

Appendix 2: Total catch (Kg) by species by months for Dai Bongkong fishery Prey Veng Province (October to December, 2004)

No	Khmer name	Scientific name	Month			Total	
			Oct	Nov.	Dec.	Catch	%
1	Khnanng veng	<i>Labiobarbus kuhli</i>	30,560	61	18	30,639	24.33
2	Khlang hai	<i>Belodontichthys truncatus</i>	10,121	1,467	101	11,689	9.28
3	Pruol/kralang	<i>Cirrhinus microlepis</i>	7,984	118	11	8,113	6.44
4	Chra keng	<i>Puntioplites waandersi</i>	4,661	715	134	5,510	4.38
5	Kaek	<i>Labeo chrysophekadion</i>	4,434	549	77	5,060	4.02
6	Sanday	<i>Wallago attu</i>	3,210	989	56	4,255	3.38
7	Kanhchrouk chhnot	<i>Botia helodes</i>	3,928	293	4	4,225	3.36
8	Riel awng kam	<i>Cirrhinus lobatus</i>	3,894	48	9	3,951	3.14
9	Krom	<i>Osteochilus melanopleura</i>	3,164	487	25	3,676	2.92
10	Chhkok	<i>Cyclocheilichthys enoplos</i>	3,227	390	23	3,640	2.89
11	Chhpin	<i>Hypsibarbus lagleri</i>	2,980	397	36	3,413	2.71
12	Ros/ptuok	<i>Channa triata</i>	536	2,335	281	3,152	2.50
13	Arch kok	<i>Labiobarbus siamensis</i>	2,521	137	8	2,666	2.12
14	Chhlanhg	<i>Hemibagrus spilopterus</i>	1,060	926	127	2,113	1.68
15	Andat chhke	<i>Cynoglossus feldmanni</i>	1,015	799	168	1,982	1.57
16	Kanhchrouk	<i>Botia morleti</i>	1,848	3	1	1,852	1.47
17	Changwa chunchuok	<i>Crossocheilus reticulatus</i>	1,397	253	1	1,651	1.31
18	Khchoueng	<i>Macrogathus maculatus</i>	967	557	72	1,596	1.27
19	Bongkong	<i>Macrobrachium rosenbergii</i>	782	661	88	1,531	1.22
20	Kes prak	<i>Kryptopterus limpok</i>	1,410	48	4	1,462	1.16
21	Kray	<i>Chitala ornata</i>	1,147	260	9	1,416	1.12
22	Riel tob	<i>Cirrhinus siamensis</i>	1,279	50	20	1,349	1.07
23	Kampoul bay	<i>Cosmochilus harmandi</i>	272	742	126	1,140	0.91
24	Kes	<i>Micronema apogon</i>	452	594	79	1,125	0.89
25	Kampot	<i>Tetraodontidae sp.</i>	642	457	20	1,119	0.89
26	Pra	<i>Pangasianodon hypophthalmus</i>	1,075	16	4	1,095	0.87
27	Rusc hek	<i>Acantopsis sp.</i>	886	114	16	1,016	0.81
28	Kray	<i>Chitala blanci</i>	83	797	93	973	0.77
29	Sloeuk russey	<i>Paralaubuca typus</i>	927	9	1	937	0.74
30	Po	<i>Pangasius larnaudii</i>	632	132	7	771	0.61
31	Bandol ampoav	<i>Clupeichthys sp.</i>	166	525	78	769	0.61
32	Ampil tum	<i>Systemus orphoides</i>	449	210	60	719	0.57
33	Kulreang/kahor	<i>Catlocarpio siamensis</i>	636	1	1	638	0.51
34	Slat	<i>Notopterus notopterus</i>	427	170	33	630	0.50
35	Chra keng	<i>Puntioplites falcifer</i>	45	493	50	588	0.47
36	KAHe loeung	<i>Barbodes schwanenfeldii</i>	472	85	19	576	0.46
37	Kes	<i>Kryptopterus micronema</i>	97	351	96	544	0.43
38	Chhveat	<i>Pangasius macronema</i>	179	275	9	463	0.37
39	ANDAt chhke	<i>Cynoglossus puncticeps</i>	179	204	32	415	0.33
40	Changwa moul	<i>Rasbora aurotaenia</i>	332	9	1	342	0.27
41	Khchoueng	<i>Mastacembelus favus</i>	275	52	2	329	0.26
42	Linh	<i>Thynnichthys thynnoides</i>	202	120	1	323	0.26
43	Sloeuk russey	<i>Oxygaster anomalura</i>	311	0	0	311	0.25
44	Kros	<i>Osteochilus hasseltii</i>	219	83	1	303	0.24
45	KANTROrb	<i>Pristolepis fasciata</i>	37	243	10	290	0.23

The Dai Bongkong fishery for giant river prawns, *Macrobrachium rosenbergi*, in southeastern Cambodia

No	Khmer name	Scientific name	Month			Total	
			Oct	Nov.	Dec.	Catch	%
46	<i>Kahe krorthorm</i>	<i>Barbodes altus</i>	99	174	12	285	0.23
47	<i>Phkar kor</i>	<i>Cirrhinus proseion</i>	266	17	1	284	0.23
48	<i>Lolork sor</i>	<i>Osteochilus schlegeli</i>	266	0	0	266	0.21
49	<i>Khman</i>	<i>Hampala macrolepidota</i>	216	19	13	248	0.20
50	<i>Chhpin</i>	<i>Hypsibarbus malcolmi</i>	207	21	9	237	0.19
51	<i>Dang khteng</i>	<i>Macrochirichthys macrochirus</i>	207	21	9	237	0.19
52	<i>Kanhchos</i>	<i>Mystus wolffi</i>	229	1	1	231	0.18
53	<i>Kranh</i>	<i>Anabas testudineus</i>	201	16	3	220	0.17
54	<i>Andat chhke</i>	<i>Achiroides leucorhynchus</i>	1	181	33	215	0.17
55	<i>Kamphliev</i>	<i>Kryptopterus hexapterus</i>	34	176	5	215	0.17
56	<i>Andat chhke</i>	<i>Synaptura marginata</i>	58	59	39	156	0.12
57	<i>Kambot chramos</i>	<i>Amblyrhynchichthys truncatus</i>	49	90	5	144	0.11
58	<i>Kamphleanh phluk</i>	<i>Trichogaster microlepis</i>	143	0	0	143	0.11
59	<i>Chhdor/diep</i>	<i>Channa micropeltes</i>	127	12	0	139	0.11
60	<i>Kanhchrouk loeung</i>	<i>Botia lecontei</i>	60	71	0	131	0.10
61	<i>Chun chouk dai /smok</i>	<i>Gyrinocheilus</i> spp.	74	53	2	129	0.10
62	<i>Chhveat</i>	<i>Pangasius polyuranodon</i>	62	55	10	127	0.10
63	<i>Chhpin prak</i>	<i>Barbodes gonionotus</i>	107	1	0	108	0.09
64	<i>Khman</i>	<i>Hampala dispar</i>	74	10	13	97	0.08
65	<i>Kanhchrouk krahorm</i>	<i>Botia modesta</i>	14	79	3	96	0.08
66	<i>Chanteas phluk</i>	<i>Parachela williaminae</i>	71	4	1	76	0.06
67	<i>KANHCHOs kdaong</i>	<i>Heterobagrus bocourti</i>	3	59	13	75	0.06
68	<i>Kantrang preng</i>	<i>Parambassis wolffii</i>	30	38	5	73	0.06
69	<i>Chhlonh</i>	<i>Macrognathus siamensis</i>	39	29	2	70	0.06
70	<i>Changwa nonong</i>	<i>Lobocheilus quadrilineatus</i>	17	51	0	68	0.05
71	<i>Kes</i>	<i>Micronema bleekeri</i>	44	19	4	67	0.05
72	<i>Kul chek</i>	<i>Epalzeorhynchus frenatum</i>	67	0	0	67	0.05
73	<i>Andeng tun</i>	<i>Clarias meladerma</i>	45	18	1	64	0.05
74	<i>Kanhchos bay</i>	<i>Mystus albolineatus</i>	1	42	19	62	0.05
75	<i>Andeng tun</i>	<i>Clarias macrocephalus</i>	13	40	6	59	0.05
76	<i>Kanhchrouk</i>	<i>Botia beauforti</i>	10	40	6	56	0.04
77	<i>Khchoueng</i>	<i>Macrognathus taeniagaster</i>	37	7	12	56	0.04
78	<i>Sraka kdam</i>	<i>Cyclocheilichthys lagleri</i>	6	29	16	51	0.04
79	<i>Kamphliev stoeung</i>	<i>Kryptopterus cheveyi</i>	47	1	0	48	0.04
80	<i>Damrey</i>	<i>Oxyeleotris marmorata</i>	7	27	8	42	0.03
81	<i>Kaok</i>	<i>Hemipimelodus bicolor</i>	14	19	6	39	0.03
82	<i>Kamphliev</i>	<i>Kryptopterus moorei</i>	34	2	1	37	0.03
83	<i>Chanteas phluk</i>	<i>Parachela siamensis</i>	28	6	0	34	0.03
84	<i>Carp sor</i>	Silver carp	10	20	1	31	0.02
85	<i>Andat chhke</i>	<i>Brachirus panoides</i>	24	5	1	30	0.02
86	<i>Andeng roeung</i>	<i>Clarias batrachus</i>	0	10	20	30	0.02
87	<i>Kanhchos chhnnot</i>	<i>Mystus mysticetus</i>	2	27	1	30	0.02
88	<i>Pra khchoa</i>	<i>Pangasius bocourti</i>	17	8	3	28	0.02
89	<i>Andat chhke</i>	<i>Brachirus harmandi</i>	6	15	4	25	0.02
90	<i>Khsan</i>	<i>Channa gachua</i>	9	14	2	25	0.02
91	<i>Kanh chanh chras thom</i>	<i>Parambassis apogonoides</i>	4	12	8	24	0.02
92	<i>Kanhchos</i>	<i>Mystus singaringan</i>	2	15	7	24	0.02

The Dai Bong fishery for giant river prawns, *Macrobrachium rosenbergi*, in southeastern Cambodia

No	Khmer name	Scientific name	Month			Total	
			Oct	Nov.	Dec.	Catch	%
93	<i>Kanhchos chhnot</i>	<i>Mystus atrifasciatus</i>	8	14	2	24	0.02
94	<i>Antong</i>	<i>Ophisternon bengalense</i>	0	10	13	23	0.02
95	<i>Kanhchos krawbey</i>	<i>Glyptothorax fuscus</i>	0	16	7	23	0.02
96	<i>Kanhchos thmor</i>	<i>Leiocassis siamensis</i>	3	16	4	23	0.02
97	<i>Prama</i>	<i>Boesemania microlepis</i>	14	9	0	23	0.02
98	<i>Kampeus</i>	<i>Caridea</i> spp.	4	12	4	20	0.02
99	<i>Chanteas phluk</i>	<i>Parachela maculicauda</i>	3	16	0	19	0.02
100	<i>Kanhchos chhnot</i>	<i>Mystus multiradiatus</i>	8	10	1	19	0.02
101	<i>Chek tum</i>	<i>Bagrichthys macracanthus</i>	12	5	1	18	0.01
102	<i>Kaok</i>	<i>Hemipimelodus borneensis</i>	2	13	2	17	0.01
103	<i>Kros</i>	<i>Osteochilus lini</i>	3	11	3	17	0.01
104	<i>Pava mokmuoy</i>	<i>Labeo dyocheilus</i>	1	15	1	17	0.01
105	<i>Chhkok tituy</i>	<i>Albulichthys albuloides</i>	16	0	0	16	0.01
106	<i>Kros</i>	<i>Osteochilus waandersii</i>	0	4	12	16	0.01
107	<i>Phtinh</i>	<i>Hyporhamphus limbatus</i>	16	0	0	16	0.01
108	<i>Changwa chhnot</i>	<i>Rasbora espei</i>	0	14	0	14	0.01
109	<i>Khla /bey kamnat</i>	<i>Systemus partipentazona</i>	14	0	0	14	0.01
110	<i>Pra /bonglao</i>	<i>Pangasius krempfi</i>	1	12	1	14	0.01
111	<i>Trasork</i>	<i>Probarbus jullieni</i>	14	0	0	14	0.01
112	<i>Pra kandol</i>	<i>Helicophagus waandersi</i>	2	7	4	13	0.01
113	<i>Ta aun</i>	<i>Ompok hypophthalmus</i>	3	2	8	13	0.01
114	<i>Changwa chhnot</i>	<i>Boraras urophthalmoides</i>	7	4	1	12	0.01
115	<i>Andat chhke</i>	<i>Brachirus orientalis</i>	4	3	4	11	0.01
116	<i>Phkar kor/chhnot</i>	<i>Cirrhinus molitorella</i>	10	0	0	10	0.01
117	<i>Carp samanh</i>	<i>Cyprinus carpio</i>	6	2	1	9	0.01
118	<i>Kbork</i>	<i>Tenualosa thibaudeaui</i>	4	3	1	8	0.01
119	<i>Pror lung/chrawlang</i>	<i>Leptobarbus hoevenii</i>	8	0	0	8	0.01
120	<i>Andeng tunle</i>	<i>Plotosus canius</i>	6	0	1	7	0.01
121	<i>Changwa chhnot</i>	<i>Rasbora paviei</i>	6	0	1	7	0.01
122	<i>Changwa phlieng</i>	<i>Esomus longimana</i>	0	7	0	7	0.01
123	<i>Chhmar</i>	<i>Setipinna melanochir</i>	1	6	0	7	0.01
124	<i>Krormorm</i>	<i>Ompok bimaculatus</i>	2	4	1	7	0.01
125	<i>Kamphliev</i>	<i>Kryopteris schilbeides</i>	4	2	0	6	0.00
126	<i>Kampream</i>	<i>Polynemus multifilis</i>	4	2	0	6	0.00
127	<i>Phtong</i>	<i>Xenentodon cancila</i>	0	6	0	6	0.00
128	<i>Po pruy</i>	<i>Pangasius sanitwongsei</i>	5	1	0	6	0.00
129	<i>Sloeuk russey</i>	<i>Paralaubuca barroni</i>	0	5	1	6	0.00
130	<i>Bang kuoy</i>	<i>Luciosoma bleekeri</i>	3	2	0	5	0.00
131	<i>Chhkok phleung</i>	<i>Cyclocheilichthys furcatus</i>	3	2	0	5	0.00
132	<i>Kamphliev khlanh</i>	<i>Kryopteris kryopteris</i>	0	5	0	5	0.00
133	<i>Angkat prak</i>	<i>Puntius aurotaeniatus</i>	4	0	0	4	0.00
134	<i>Changwa nonong</i>	<i>Lobocheilos davisii</i>	3	1	0	4	0.00
135	<i>Angkat prak</i>	<i>Puntius brevis</i>	0	0	3	3	0.00
136	<i>Antong</i>	<i>Monopterus albus</i>	1	1	1	3	0.00
137	<i>Changwa</i>	<i>Rasbora hobelmani</i>	1	2	0	3	0.00
138	<i>Sloeuk russey</i>	<i>Paralaubuca harmandi</i>	1	2	0	3	0.00
139	<i>Sraka kdam</i>	<i>Cyclocheilichthys apogon</i>	0	1	2	3	0.00

The Dai Bongkong fishery for giant river prawns, *Macrobrachium rosenbergi*, in southeastern Cambodia

No	Khmer name	Scientific name	Month			Total	
			Oct	Nov.	Dec.	Catch	%
140	<i>Andeng ngaing</i>	<i>Clarias nieuhofi</i>	0	0	2	2	0.00
141	<i>Chhpin</i>	<i>Hypsibarbus pierrei</i>	0	2	0	2	0.00
142	<i>Chhpin krahorn</i>	<i>Hypsibarbus wetmorei</i>	0	0	2	2	0.00
143	<i>Kanhcheak sla</i>	<i>Toxotes chatareus</i>	1	1	0	2	0.00
144	<i>Kaok</i>	<i>Arius caelatus</i>	1	1	0	2	0.00
145	<i>Keat srorong</i>	<i>Balantiocheilos melanopterus</i>	0	0	2	2	0.00
146	<i>Chanluon moan</i>	<i>Coilia lindmani</i>	0	1	0	1	0.00
147	<i>Chhkok pokmoat bey</i>	<i>Cyclocheilichthys heteronema</i>	1	0	0	1	0.00
148	<i>Kamphleanh samrei</i>	<i>Trichogaster trichopterus</i>	0	1	0	1	0.00
149	<i>Kanhchorn chey</i>	<i>Channa lucius</i>	1	0	0	1	0.00
150	<i>Khya</i>	<i>Mystus wycki</i>	0	1	0	1	0.00
151	<i>Kros</i>	<i>Osteochilus microcephalus</i>	0	1	0	1	0.00
152	<i>Sloeuk russey</i>	<i>Paralabuca riveroi</i>	1	0	0	1	0.00
153	<i>Sraka kdam</i>	<i>Cyclocheilichthys repasson</i>	1	0	0	1	0.00
154	<i>Trasork sor</i>	<i>Probarbus labeamajor</i>	0	1	0	1	0.00
Total			104,414	19,094	2,403	125,911	100.00



Appendix 3: Total sale price (R1000s) by species by months for Dai Bangkong fishery Prey Veng Province (October to Dec, 2004)

No	Khmer name	Scientific name	Months			Total	
			Oct.	Nov.	Dec.	Value	%
1	Bongkong	<i>Macrobrachium rosenbergii</i>	19,819	21,385	2,879	44,083	21.21
2	Khlang hai	<i>Belodontichthys truncatus</i>	29,528	3,054	211	32,793	15.78
3	Khnanng veng	<i>Labiobarbus kuhlii</i>	15,440	39	10	15,489	7.45
4	Ros/ptuok	<i>Channa triata</i>	1,352	7,567	1,042	9,961	4.79
5	Sanday	<i>Wallago attu</i>	7,152	2,410	152	9,713	4.67
6	Chhpin	<i>Hypsibarbus lagleri</i>	6,974	986	74	8,033	3.87
7	Pruol/kralang	<i>Cirrhinus microlepis</i>	7,695	129	8	7,832	3.77
8	Khchoueng	<i>Macrognathus maculatus</i>	3,434	2,852	374	6,660	3.20
9	Kes prak	<i>Kryptopterus limpok</i>	5,600	123	12	5,735	2.76
10	KRAY	<i>Chitala blanci</i>	528	4,551	554	5,633	2.71
11	Chra keng	<i>Puntioplites waandersi</i>	5,008	497	78	5,583	2.69
12	Kray	<i>Chitala ornata</i>	3,074	792	14	3,880	1.87
13	Andat chhke	<i>Cynoglossus feldmanni</i>	1,584	1,861	383	3,828	1.84
14	Chhlanhg	<i>Hemibagrus spilopterus</i>	1,532	1,799	231	3,563	1.71
15	Krom	<i>Osteochilus melanopleura</i>	2,320	849	23	3,191	1.54
16	Kanhchrouk chhnot	<i>Botia helodes</i>	2,558	378	5	2,940	1.42
17	Kes	<i>Micronema apogon</i>	1,163	1,511	218	2,892	1.39
18	Kaek	<i>Labeo chrysophekadion</i>	2,342	357	55	2,754	1.33
19	Chhkok	<i>Cyclocheilichthys enoplos</i>	1,911	399	18	2,329	1.12
20	Pra	<i>Pangasianodon hypophthalmus</i>	2,267	16	3	2,286	1.10
21	Ruschek	<i>Acantopsis sp.</i>	1,960	246	50	2,255	1.09
22	Riel awng kam	<i>Cirrhinus lobatus</i>	2,192	24	9	2,225	1.07
23	Kampot	<i>Tetraodontidae sp</i>	861	925	36	1,822	0.88
24	Slat	<i>Notopterus notopterus</i>	916	542	75	1,532	0.74
25	Arch kok	<i>Labiobarbus siamensis</i>	1,296	155	2	1,453	0.70
26	Khchoueng	<i>Mastacembelus favus</i>	1,172	235	10	1,417	0.68
27	Kes	<i>Kryptopterus micronema</i>	356	669	231	1,255	0.60
28	Kanhchrouk	<i>Botia morleti</i>	1,220	4	1	1,226	0.59
29	Po	<i>Pangasius larnaudii</i>	881	238	9	1,128	0.54
30	Ampil tum	<i>Systemus orphoides</i>	618	324	45	987	0.47
31	Andat chhke	<i>Cynoglossus puncticeps</i>	323	451	75	850	0.41
32	Changwa chunchuok	<i>Crossocheilus reticulatus</i>	703	117	0	820	0.39
33	Riel tob	<i>Cirrhinus siamensis</i>	663	115	12	790	0.38
34	Kampoul bay	<i>Cosmochilus harmandi</i>	164	549	75	788	0.38
35	Chra keng	<i>Puntioplites falcifer</i>	46	537	121	704	0.34
36	Sloeuk russey	<i>Paralaubuca typus</i>	479	5	1	484	0.23
37	Chhveat	<i>Pangasius macronema</i>	94	369	9	471	0.23
38	Kantrorb	<i>Pristolepis fasciata</i>	53	397	14	463	0.22
39	Andat chhke	<i>Achiroides leucorhynchus</i>	0	335	68	403	0.19
40	Chhpin	<i>Hypsibarbus malcolmi</i>	360	30	11	401	0.19
41	Kahe loeung	<i>Barbodes schwanenfeldii</i>	297	69	11	377	0.18
42	Kulreang/kahor	<i>Catlocarpio siamensis</i>	361	0	1	362	0.17
43	Andat chhke	<i>Synaptura marginata</i>	111	124	106	341	0.16
44	Bandol ampoav	<i>Clupeichthys Sp.</i>	94	215	12	322	0.15
45	Kros	<i>Osteochilus hasseltii</i>	192	116	1	308	0.15

No	Khmer name	Scientific name	Months			Total	
			Oct.	Nov.	Dec.	Value	%
46	<i>Khchoueng</i>	<i>Macrornathus taeniagaster</i>	179	34	72	285	0.14
47	<i>Kamphliev</i>	<i>Kryptopterus hexapterus</i>	30	200	10	240	0.12
48	<i>Kahe krorhorm</i>	<i>Barbodes altus</i>	81	140	15	236	0.11
49	<i>Kanhchrouk loeung</i>	<i>Botia lecontei</i>	68	135	0	203	0.10
50	<i>Kes</i>	<i>Micronema bleekeri</i>	112	71	13	196	0.09
51	<i>Changwa mou</i>	<i>Rasbora aurotaenia</i>	190	4	2	196	0.09
52	<i>Lolork sor</i>	<i>Osteochilus schlegeli</i>	189	0	0	189	0.09
53	<i>Linh</i>	<i>Thynnichthys thynnoides</i>	97	78	2	177	0.08
54	<i>Khman</i>	<i>Hampala dispar</i>	117	16	39	172	0.08
55	<i>Kranh</i>	<i>Anabas testudineus</i>	144	16	4	163	0.08
56	<i>Dang khteng</i>	<i>Macrochirichthys macrochirus</i>	139	14	7	160	0.08
57	<i>Chhdor/die</i>	<i>Channa micropeltes</i>	103	54	0	157	0.08
58	<i>Sloeuk russey</i>	<i>Oxygaster anomalura</i>	150	0	0	150	0.07
59	<i>Kanhchrouk kra</i>	<i>Botia modesta</i>	10	132	4	147	0.07
60	<i>Chhlonh</i>	<i>Macrornathus siamensis</i>	61	78	5	144	0.07
61	<i>Phkar kor</i>	<i>Cirrhinus proseion</i>	133	7	1	141	0.07
62	<i>Chhveat</i>	<i>Pangasius polyuranodon</i>	60	57	14	130	0.06
63	<i>Khman</i>	<i>Hampala macrolepidota</i>	86	27	8	121	0.06
64	<i>Carp sor</i>	<i>Silver carp</i>	46	66	1	113	0.05
65	<i>Chhpin prak</i>	<i>Barbodes gonionotus</i>	109	0	0	109	0.05
66	<i>Andeng tun</i>	<i>Clarias macrocephalus</i>	10	83	14	106	0.05
67	<i>Damrey</i>	<i>Oxyeleotris marmorata</i>	9	72	22	103	0.05
68	<i>Kanhchos</i>	<i>Mystus wolffi</i>	101	1	1	102	0.05
69	<i>Andeng tun</i>	<i>Clarias meladerma</i>	48	51	1	100	0.05
70	<i>Kambot chramos</i>	<i>Amblyrhynchichthys truncatus</i>	26	51	8	85	0.04
71	<i>Kul chek</i>	<i>Epalzeorhynchus frenatum</i>	83	0	0	83	0.04
72	<i>Kantrang preng</i>	<i>Parambassis wolffi</i>	29	42	5	77	0.04
73	<i>Antong</i>	<i>Ophisternon bengalense</i>	0	38	38	77	0.04
74	<i>Andeng roeung</i>	<i>Clarias batrachus</i>	0	21	55	76	0.04
75	<i>Kamphleanh phluk</i>	<i>Trichogaster microlepis</i>	68	0	0	68	0.03
76	<i>Kanhchos kdaong</i>	<i>Heterobagrus bocourti</i>	2	53	13	67	0.03
77	<i>Chun chouk dai /smok</i>	<i>Gyrinocheilus spp.</i>	34	32	1	66	0.03
78	<i>Kanhchrouk</i>	<i>Botia beauforti</i>	9	36	15	60	0.03
79	<i>Andat chhke</i>	<i>Brachirus harmandi</i>	18	19	9	47	0.02
80	<i>Chanteas phluk</i>	<i>Parachela siamensis</i>	20	25	0	45	0.02
81	<i>Chanteas phluk</i>	<i>Parachela williaminae</i>	38	3	3	44	0.02
82	<i>Kanhchos bay</i>	<i>Mystus albolineatus</i>	1	32	10	43	0.02
83	<i>Changwa nonong</i>	<i>Lobocheilos quadrilineatus</i>	7	28	0	35	0.02
84	<i>Kampeus</i>	<i>Caridea</i>	2	26	6	34	0.02
85	<i>Andat chhke</i>	<i>Brachirus panoides</i>	21	9	3	33	0.02
86	<i>Chanteas phluk</i>	<i>Parachela maculicauda</i>	1	29	0	31	0.01
87	<i>Khla /bey kamnat</i>	<i>Systemus partipentazona</i>	28	0	0	28	0.01
88	<i>Prama</i>	<i>Boesemania microlepis</i>	13	15	0	28	0.01
89	<i>Sraka kdam</i>	<i>Cyclocheilichthys lagleri</i>	3	15	8	26	0.01
90	<i>Kamphliev stoeung</i>	<i>Kryptopterus cheveyi</i>	24	1	0	25	0.01
91	<i>Kamphliev</i>	<i>Kryptopterus moorei</i>	21	1	2	24	0.01
92	<i>Pra khchoa</i>	<i>Pangasius bocourti</i>	9	11	3	23	0.01
93	<i>Kaok</i>	<i>Hemipimelodus bicolor</i>	7	10	3	20	0.01

The Dai Bong fishery for giant river prawns, *Macrobrachium rosenbergi*, in southeastern Cambodia

No	Khmer name	Scientific name	Months			Total	
			Oct.	Nov.	Dec.	Value	%
94	<i>Kanhchos chhnnot</i>	<i>Mystus mysticetus</i>	1	18	1	20	0.01
95	<i>Pava mokmuoy</i>	<i>Labeo dyocheilus</i>	1	17	1	18	0.01
96	<i>Pra /bonglao</i>	<i>Pangasius krempfi</i>	1	17	1	18	0.01
97	<i>Kanhchos thmor</i>	<i>Leiocassis siamensis</i>	1	11	6	18	0.01
98	<i>Andat chhke</i>	<i>Brachirus orientalis</i>	6	5	6	17	0.01
99	<i>Kaok</i>	<i>Hemipimelodus borneensis</i>	1	12	4	17	0.01
100	<i>Kanhchos krawbey</i>	<i>Glyptothorax fuscus</i>	0	9	8	17	0.01
101	<i>Ph tinh</i>	<i>Hyporhamphus limbatus sp</i>	16	0	0	16	0.01
102	<i>Ta aun</i>	<i>Ompok hypophthalmus</i>	3	3	10	15	0.01
103	<i>Kanhchos chhnnot</i>	<i>Mystus atrifasciatus</i>	4	10	1	14	0.01
104	<i>Chhmar</i>	<i>Setipinna melanochir</i>	2	12	0	14	0.01
105	<i>Khsan</i>	<i>Channa gachua</i>	4	7	1	12	0.01
106	<i>Kanhchos</i>	<i>Mystus singaringan</i>	1	8	4	12	0.01
107	<i>Antong</i>	<i>Monopterus albus</i>	4	3	5	12	0.01
108	<i>Krormorm</i>	<i>Ompok bimaculatus</i>	5	6	1	12	0.01
109	<i>Ph tong</i>	<i>Xenentodon cancila sp</i>	0	12	0	12	0.01
110	<i>Chek tum</i>	<i>Bagrichthys macracanthus</i>	6	4	1	11	0.01
111	<i>Kamphliev khlanh</i>	<i>Kryptopterus kryptopterus</i>	0	10	0	10	0.00
112	<i>Kros</i>	<i>Osteochilus lini</i>	1	6	2	10	0.00
113	<i>Kanhchos chhnnot</i>	<i>Mystus multiradiatus</i>	3	5	2	9	0.00
114	<i>Carp samanh</i>	<i>Cyprinus carpio</i>	6	2	1	9	0.00
115	<i>Changwa chhnnot</i>	<i>Rasbora espei</i>	0	9	0	9	0.00
116	<i>Andeng tunle</i>	<i>Plotosus canius</i>	6	0	3	9	0.00
117	<i>Po pruy</i>	<i>Pangasius sanitwongsei</i>	5	2	2	9	0.00
118	<i>Pra kandol</i>	<i>Helicophagus waandersi</i>	1	4	4	9	0.00
119	<i>Changwa phlieng</i>	<i>Esomus longimana</i>	0	8	0	8	0.00
120	<i>Kros</i>	<i>Osteochilus waandersii</i>	0	2	6	8	0.00
121	<i>Sloeuk russey</i>	<i>Paralauca barroni</i>	0	6	2	8	0.00
122	<i>Chhp in krahorm</i>	<i>Hypsibarbus wetmorei</i>	0	0	8	8	0.00
123	<i>Chhkok tituy</i>	<i>Albulichthys albuloides</i>	8	0	0	8	0.00
124	<i>Kanh chanh chras thom</i>	<i>Parambassis apogonoides</i>	2	4	2	8	0.00
125	<i>Changwa chhnnot</i>	<i>Boraras urophthalmoides</i>	4	2	1	6	0.00
126	<i>Kbork</i>	<i>Tenualosa thibaudeaui</i>	2	3	1	6	0.00
127	<i>Changwa chhnnot</i>	<i>Rasbora paviei</i>	4	0	2	6	0.00
128	<i>Trasork</i>	<i>Probarbus jullieni</i>	6	0	0	6	0.00
129	<i>Kamphliev</i>	<i>Kryptopterus schilbeides</i>	2	3	0	5	0.00
130	<i>Keat srorong</i>	<i>Balantiocheilos melanopterus</i>	0	0	5	5	0.00
131	<i>Phkar kor/chhnnot</i>	<i>Cirrhinus molitorella</i>	5	0	0	5	0.00
132	<i>Changwa nonong</i>	<i>Lobocheilos davisi</i>	2	3	0	5	0.00
133	<i>Pror lung/chrawlang</i>	<i>Leptobarbus hoevenii</i>	4	0	0	4	0.00
134	<i>Andeng ngaing</i>	<i>Clarias nieuhofi</i>	0	0	4	4	0.00
135	<i>Kampream</i>	<i>Polynemus multifilis spp.</i>	2	1	0	3	0.00
136	<i>Kaok</i>	<i>Arius caelatus</i>	1	2	0	3	0.00
137	<i>Angkat prak</i>	<i>Puntius brevis Sp.</i>	0	0	3	3	0.00
138	<i>Sraka kdam</i>	<i>Cyclocheilichthys apogon</i>	0	1	2	3	0.00
139	<i>Bang kuoy</i>	<i>Luciosoma bleekeri</i>	2	1	0	3	0.00
140	<i>Chhkok phleung</i>	<i>Cyclocheilichthys furcatus</i>	1	1	0	2	0.00
141	<i>Angkat prak</i>	<i>Puntius aurotaeniatus</i>	2	0	0	2	0.00

The Dai Bongkong fishery for giant river prawns, *Macrobrachium rosenbergi*, in southeastern Cambodia

No	Khmer name	Scientific name	Months			Total	
			Oct.	Nov.	Dec.	Value	%
142	<i>Sloeuk russey</i>	<i>Paralaubuca harmandi</i>	1	1	0	2	0.00
143	<i>Changwa</i>	<i>Rasbora hobelmani</i>	0	1	0	1	0.00
144	<i>Kanhcheak sla</i>	<i>Toxotes chatareus</i>	1	1	0	1	0.00
145	<i>Chhpin</i>	<i>Hypsibarbus pierrei</i>	0	1	0	1	0.00
146	<i>Chhkok pokmoat bey</i>	<i>Cyclocheilichthys heteronema</i>	1	0	0	1	0.00
147	<i>Kanhchorn chey</i>	<i>Channa lucius</i>	1	0	0	1	0.00
148	<i>Trasork sor</i>	<i>Probarbus labeamajor</i>	0	1	0	1	0.00
149	<i>Sraka kdam</i>	<i>Cyclocheilichthys repasson</i>	1	0	0	1	0.00
150	<i>Kamphleanh samrei</i>	<i>Trichogaster trichopterus</i>	0	1	0	1	0.00
151	<i>Sloeuk russey</i>	<i>Paralaubuca riveroi</i>	0	0	0	0	0.00
152	<i>Chanluon moan</i>	<i>Coilia lindmani</i>	0	0	0	0	0.00
153	<i>Khya</i>	<i>Mystus wycki</i>	0	0	0	0	0.00
154	<i>Kros</i>	<i>Osteochilus microcephalus</i>	0	0	0	0	0.00
Total			7,837			207,805	100.00

Appendix 4: Monthly average price (R/Kg) by species by months for Dai Bongkong fishery Prey Veng Province (October to December, 2004)

N°	Khmer name	Scientific name	Weighted Average			
			Oct	Nov	Dec	Overall
1	Bongkong	<i>Macrobrachium rosenbergii</i>	25,344	32,352	32,713	28,793
2	Kray	<i>Chitala blanci</i>	6,359	5,710	5,960	5,789
3	Khchoueng	<i>Macrognathus taeniagaster</i>	4,839	4,857	6,000	5,090
4	Khchoueng	<i>Mastacembelus favus</i>	4,261	4,522	5,000	4,306
5	Khchoueng	<i>Macrognathus maculatus</i>	3,551	5,120	5,199	4,173
6	Chhpin krahorm	<i>Hypsibarbus wetmorei</i>			4,000	4,000
7	Antong	<i>Monopterus albus</i>	3,978	3,000	5,000	3,993
8	Kes prak	<i>Kryptopterus limpok</i>	3,972	2,560	3,000	3,923
9	Carp sor	<i>Silver carp</i>	4,567	3,321	1,000	3,648
10	Antong	<i>Ophisternon bengalense</i>		3,830	2,940	3,327
11	Ros/ptuok	<i>Channa triata</i>	2,523	3,240	3,708	3,160
12	Kes	<i>Micronema bleekeri</i>	2,544	3,760	3,125	2,924
13	Khlang hai	<i>Belodontichthys truncatus</i>	2,917	2,082	2,089	2,805
14	Kray	<i>Chitala ornata</i>	2,680	3,045	1,567	2,740
15	Kes	<i>Micronema apogon</i>	2,573	2,544	2,761	2,571
16	Andeng roeung	<i>Clarias batrachus</i>		2,130	2,750	2,543
17	Keat srorong	<i>Balantiocheilos melanopterus</i>			2,500	2,500
18	Damrey	<i>Oxyeleotris marmorata</i>	1,307	2,672	2,700	2,450
19	Slat	<i>Notopterus notopterus</i>	2,144	3,186	2,258	2,431
20	Chhpin	<i>Hypsibarbus lagleri</i>	2,340	2,482	2,054	2,354
21	Kes	<i>Kryptopterus micronema</i>	3,673	1,905	2,401	2,308
22	Sanday	<i>Wallago attu</i>	2,228	2,437	2,705	2,283
23	Ruschek	<i>Acantopsis sp.</i>	2,212	2,156	3,120	2,220
24	Andat chhke	<i>Synaptura marginata</i>	1,911	2,106	2,712	2,185
25	Pra	<i>Pangasianodon hypophthalmus</i>	2,109	1,019	650	2,088
26	Chhlonh	<i>Macrognathus siamensis</i>	1,572	2,690	2,390	2,058
27	Andat chhke	<i>Cynoglossus puncticeps</i>	1,807	2,213	2,336	2,047
28	Andeng ngaing	<i>Clarias nieuhofi</i>			2,000	2,000
29	Kamphliev khlanh	<i>Kryptopterus kryptopterus</i>		2,000		2,000
30	Khla /bey kamnat	<i>Systomus partipentazona</i>	2,000			2,000
31	Phtong	<i>Xenentodon cancila sp</i>		1,982		1,982
32	Andat chhke	<i>Cynoglossus feldmanni</i>	1,561	2,329	2,277	1,931
33	Chhmar	<i>Setipinna melanochir</i>	1,500	2,000		1,929
34	Andat chhke	<i>Achiroides leucorhynchus</i>	298	1,852	2,062	1,877
35	Andat chhke	<i>Brachirus harmandi</i>	3,000	1,295	2,330	1,870
36	Andeng tun	<i>Clarias macrocephalus</i>	732	2,074	2,300	1,801
37	Khman	<i>Hampala dispar</i>	1,586	1,578	2,962	1,770
38	Krormorm	<i>Ompok bimaculatus</i>	2,500	1,425	1,260	1,709
39	Chhpin	<i>Hypsibarbus malcolmi</i>	1,739	1,441	1,167	1,691
40	Kampeus	<i>Caridea</i>	500	2,130	1,550	1,688
41	Chhlanhg	<i>Hemibagrus spilopterus</i>	1,446	1,943	1,820	1,686
42	Kampot	<i>Tetraodontidae sp</i>	1,341	2,024	1,777	1,628
43	Chanteas phluk	<i>Parachela maculicauda</i>	398	1,840		1,612
44	Kantrorb	<i>Pristolepis fasciata</i>	1,420	1,634	1,382	1,598
45	Andeng tun	<i>Clarias meladerma</i>	1,071	2,812	1,200	1,563

The Dai Bongkong fishery for giant river prawns, *Macrobrachium rosenbergi*, in southeastern Cambodia

N°	Khmer name	Scientific name	Weighted Average			
			Oct	Nov	Dec	Overall
46	<i>Andat chhke</i>	<i>Brachirus orientalis</i>	1,497	1,740	1,490	1,561
47	<i>Kanhchrouk loeung</i>	<i>Botia lecontei</i>	1,136	1,903		1,551
48	<i>Kanhchrouk krahorm</i>	<i>Botia modesta</i>	748	1,675	1,403	1,531
49	<i>Po pruy</i>	<i>Pangasius sanitwongsei</i>	1,000	1,920		1,487
50	<i>Po</i>	<i>Pangasius larnaudii</i>	1,395	1,801	1,217	1,463
51	<i>Kaok</i>	<i>Arius caelatus</i>	796	2,060		1,428
52	<i>Ampil tum</i>	<i>Systemus orphoides</i>	1,377	1,543	747	1,373
53	<i>Sloeuk russey</i>	<i>Paralaubuca barroni</i>		1,240	2,000	1,367
54	<i>Chanteas phluk</i>	<i>Parachela siamensis</i>	700	4,210		1,319
55	<i>Andeng tunle</i>	<i>Plotosus canius</i>	1,000		3,000	1,286
56	<i>Pra /bonglao</i>	<i>Pangasius krempfi</i>	700	1,389	600	1,284
57	<i>Kul chek</i>	<i>Epalzeorhynchus frenatum</i>	1,240			1,240
58	<i>Prama</i>	<i>Boesemania microlepis</i>	920	1,667		1,212
59	<i>Changwa phlieng</i>	<i>Esomus longimana</i>		1,210		1,210
60	<i>Chra keng</i>	<i>Puntioplites falcifer</i>	1,019	1,090	2,410	1,197
61	<i>Ta aun</i>	<i>Ompok hypophthalmus</i>	927	1,250	1,208	1,149
62	<i>Chhdor/diep</i>	<i>Channa micropeltes</i>	812	4,500		1,130
63	<i>Changwa nonong</i>	<i>Lobocheilos davisii</i>	500	3,000		1,125
64	<i>Kamphliev</i>	<i>Kryptopterus hexapterus</i>	887	1,134	1,960	1,114
65	<i>Andat chhke</i>	<i>Brachirus panoides</i>	877	1,764	3,000	1,095
66	<i>Pava mokmuoy</i>	<i>Labeo dyocheilus</i>	700	1,138	600	1,081
67	<i>Kanhchrouk</i>	<i>Botia beauforti</i>	932	890	2,500	1,070
68	<i>Kantrang preng</i>	<i>Parambassis wolffii</i>	979	1,115	1,098	1,058
69	<i>Chhveat</i>	<i>Pangasius polyuranodon</i>	968	1,032	1,358	1,026
70	<i>Chhveat</i>	<i>Pangasius macronema</i>	523	1,342	973	1,018
71	<i>Kros</i>	<i>Osteochilus hasseltii</i>	875	1,398	860	1,018
72	<i>Carp samanh</i>	<i>Cyprinus carpio</i>	1,000	1,150	850	1,017
73	<i>Chra keng</i>	<i>Puntioplites waandersi</i>	1,074	696	583	1,013
74	<i>Chhpin prak</i>	<i>Barbodes gonionotus</i>	1,016	150		1,008
75	<i>Kaok</i>	<i>Hemipimelodus borneensis</i>	500	923	2,000	1,000
76	<i>Phtinh</i>	<i>Hyporhamphus limbatus sp</i>	995			995
77	<i>Pruol/kralang</i>	<i>Cirrhinus microlepis</i>	964	1,091	753	965
78	<i>Angkat prak</i>	<i>Puntius brevis Sp.</i>			933	933
79	<i>Kanhchos kdaong</i>	<i>Heterobagrus bocourti</i>	640	897	964	898
80	<i>Krom</i>	<i>Osteochilus melanopleura</i>	733	1,743	911	868
81	<i>Sraka kdam</i>	<i>Cyclocheilichthys apogon</i>		600	1,000	867
82	<i>Kamphliev</i>	<i>Kryptopterus schilbeides</i>	500	1,500		833
83	<i>Pra khchoa</i>	<i>Pangasius bocourti</i>	554	1,341	1,033	830
84	<i>Kahe krorthorm</i>	<i>Barbodes altus</i>	820	804	1,280	830
85	<i>Changwa chhnot</i>	<i>Rasbora paviei</i>	612		2,000	810
86	<i>Kanhchos thmor</i>	<i>Leiocassis siamensis</i>	459	658	1,420	765
87	<i>Kranh</i>	<i>Anabas testudineus</i>	715	973	1,363	742
88	<i>Kanhchos krawbey</i>	<i>Glyptothorax fuscus</i>		563	1,120	732
89	<i>Kbork</i>	<i>Tenualosa thibaudeaui</i>	500	960	900	723
90	<i>Lolork sor</i>	<i>Osteochilus schlegeli</i>	710			710
91	<i>Chhkok pokmoat bey</i>	<i>Cyclocheilichthys heteronema</i>	700			700
92	<i>Kanhchorn chey</i>	<i>Channa lucius</i>	700			700



The Dai Bong fishery for giant river prawns, *Macrobrachium rosenbergi*, in southeastern Cambodia

N°	Khmer name	Scientific name	Weighted Average			
			Oct	Nov	Dec	Overall
93	<i>Trasork sor</i>	<i>Probarbus labeamajor</i>		700		700
94	<i>Kanhchrouk chhnot</i>	<i>Botia helodes</i>	651	1,289	1,240	696
95	<i>Kampoul bay</i>	<i>Cosmochilus harmandi</i>	602	740	598	692
96	<i>Kanhchos bay</i>	<i>Mystus albolineatus</i>	700	773	500	688
97	<i>Dang khteng</i>	<i>Macrochirichthys macrochirus</i>	670	690	786	676
98	<i>Kanhchrouk</i>	<i>Botia morleti</i>	660	1,390	900	662
99	<i>Pra kandol</i>	<i>Helicophagus waandersi</i>	475	563	925	661
100	<i>Kahe loeung</i>	<i>Barbodes schwanenfeldii</i>	630	814	583	655
101	<i>Kanhchos chhnot</i>	<i>Mystus mysticetus</i>	549	650	860	650
102	<i>Changwa chhnot</i>	<i>Rasbora espei</i>		650		650
103	<i>Sraka kdam</i>	<i>Cyclocheilichthys repasson</i>	646			646
104	<i>Chhkok</i>	<i>Cyclocheilichthys enoplos</i>	592	1,024	777	640
105	<i>Kamphliev</i>	<i>Kryptopterus moorei</i>	628	400	1,500	639
106	<i>Chek tum</i>	<i>Bagrichthys macracanthus</i>	498	780	1,270	619
107	<i>Kanhchos chhnot</i>	<i>Mystus atrifasciatus</i>	460	709	420	602
108	<i>Kanhcheak sla</i>	<i>Toxotes chatareus</i>	597	600		598
109	<i>Kambot chramos</i>	<i>Amblyrhynchichthys truncatus</i>	529	565	1,682	591
110	<i>Riel tob</i>	<i>Cirrhinus siamensis</i>	518	2,299	609	585
111	<i>Kros</i>	<i>Osteochilus lini</i>	432	567	787	582
112	<i>Chanteas phluk</i>	<i>Parachela williaminae</i>	537	815	2,500	577
113	<i>Changwa mou</i>	<i>Rasbora aurotaenia</i>	572	400	2,000	572
114	<i>Kulreang/kahor</i>	<i>Catlocarpio siamensis</i>	568	100	800	568
115	<i>Sloeuk russey</i>	<i>Paralauca harmandi</i>	700	500		567
116	<i>Riel awng kam</i>	<i>Cirrhinus lobatus</i>	563	497	1,004	563
117	<i>Pror lung/chrawlang</i>	<i>Leptobarbus hoevenii</i>	551			551
118	<i>Linh</i>	<i>Thynnichthys thynnoides</i>	482	648	1,500	547
119	<i>Arch kok</i>	<i>Labiobarbus siamensis</i>	514	1,130	260	545
120	<i>Kaek</i>	<i>Labeo chrysophekadion</i>	528	650	714	544
121	<i>Kampream</i>	<i>Polynemus multifilis spp.</i>	500	600		533
122	<i>Sloeuk russey</i>	<i>Paralauca typus</i>	517	511	500	517
123	<i>Changwa nonong</i>	<i>Lobocheilos quadrilineatus</i>	400	555		516
124	<i>Chun chouk dai /smok</i>	<i>Gyrinocheilus spp.</i>	453	598	600	515
125	<i>Kanhchos</i>	<i>Mystus singaringan</i>	600	510	500	515
126	<i>Kaok</i>	<i>Hemipimelodus bicolor</i>	526	510	500	514
127	<i>Kros</i>	<i>Osteochilus waandersii</i>		550	500	513
128	<i>Kamphliev stoeung</i>	<i>Kryptopterus cheveyi</i>	500	1,000		510
129	<i>Khnanng veng</i>	<i>Labiobarbus kuhli</i>	505	632	567	506
130	<i>Sraka kdam</i>	<i>Cyclocheilichthys lagleri</i>	467	514	500	504
131	<i>Angkat prak</i>	<i>Puntius aurotaeniatus</i>	500			500
132	<i>Bang kuoy</i>	<i>Luciosoma bleekeri</i>	500	500		500
133	<i>Changwa chhnot</i>	<i>Boraras urophthalmoides</i>	500	500	500	500
134	<i>Chhpin</i>	<i>Hypsibarbus pierrei</i>		500		500
135	<i>Kamphleanh samrei</i>	<i>Trichogaster trichopterus</i>		500		500
136	<i>Phkar kor/chhnot</i>	<i>Cirrhinus molitorella</i>	500			500
137	<i>Changwa</i>	<i>Rasbora hobelmani</i>	199	650		500
138	<i>Khsan</i>	<i>Channa gachua</i>	458	504	650	499
139	<i>Chhkok tituy</i>	<i>Albulichthys albuloides</i>	497			497

N°	Khmer name	Scientific name	Weighted Average			
			Oct	Nov	Dec	Overall
140	<i>Changwa chunchuok</i>	<i>Crossocheilus reticulatus</i>	503	462	200	497
141	<i>Phkar kor</i>	<i>Cirrhinus prosemion</i>	500	388	1,200	496
142	<i>Khman</i>	<i>Hampala macrolepidota</i>	400	1,423	618	490
143	<i>Kanhchos chhnot</i>	<i>Mystus multiradiatus</i>	398	460	1,500	489
144	<i>Sloeuk russey</i>	<i>Oxygaster anomalura</i>	482			482
145	<i>Kamphleanh phluk</i>	<i>Trichogaster microlepis</i>	475			475
146	<i>Kanhchos</i>	<i>Mystus wolffi</i>	443	500	500	443
147	<i>Chhkok phleung</i>	<i>Cyclocheilichthys furcatus</i>	300	650		440
148	<i>Bandol ampoav</i>	<i>Clupeichthys Sp.</i>	568	410	160	419
149	<i>Sloeuk russey</i>	<i>Paralaubuca riveroi</i>	400			400
150	<i>Trasork</i>	<i>Probarbus jullieni</i>	398			398
151	<i>Kanh chanh chras thom</i>	<i>Parambassis apogonoides</i>	543	306	260	330
152	<i>Chanluon moan</i>	<i>Coilia lindmani</i>		230		230
153	<i>Khya</i>	<i>Mystus wycki</i>		150		150
154	<i>Kros</i>	<i>Osteochilus microcephalus</i>		100		100

Appendix 5: Mean Length (cm.) of Common Species Captured at the Dai Bongkong Fishery,

No.	Khmer Name	Species Name	Total catch (kg)	October				November				December			
				Freq.	M. Len.	Var	S.D	Freq.	M. Len.	Var	S.D	Freq.	M. Len.	Var	S.D
1	Ampil tum	<i>Systemus orphoides</i>	719					102	13.97	1.935	1.391	78	14.245	3.905	1.976
2	Andat chhke	<i>Cynoglossus feldmanni</i>	1,982	498	24.735	17.238	4.152	806	21.08	26.156	5.114	718	16.132	41.322	6.428
3	Arch kok	<i>Labiobarbus siamensis</i>	2,666	193.0	8.662	7.877	2.807								
4	Bangkong	<i>Macrobrachium rosenbergii</i>	1,531	1205	14.218	8.755	2.959	1574	14.508	11.203	3.347	327	15.793	12.073	3.475
5	Chanteas phluk	<i>Parachela williaminae</i>	76	49	10.185	0.574	0.758								
6	Chhkok	<i>Cyclocheilichthys enoplos</i>	3,640	384	9.015	5.155	2.270	157	14.667	5.568	2.360	65	15.004	7.126	2.669
7	Chhlang	<i>Hemibagrus spilopterus</i>	2,113	236	15.035	22.959	4.792	246	18.206	8.324	2.885	129	16.845	5.46	2.337
8	Chhpin	<i>Hypsibarbus malcolmi</i>	237	92	16.091	6.057	2.461	84	15.236	8.917	2.986	38	15.555	7.286	2.699
9	Chra keng	<i>Puntioptiles faleifer</i>	588	629	9.692	5.225	2.286	1016	10.974	3.326	1.824	561	9.728	5.683	2.384
10	Kaek	<i>Labeo chrysophekadion</i>	5,060	192	12.138	13.179	3.63	558	13.463	10.045	3.169	199	14.249	10.091	3.177
11	Kahe loeung	<i>Barbodes schwanerfeldtii</i>	576	16	10.825	5.183	2.277	31	12.579	1.583	1.258	40	11.825	2.907	1.705
12	Kambot chramos	<i>Amblyrhynchichthys truncatus</i>	144	41	8.523	6.820	2.611								
13	Kampoul bai	<i>Cosmochilus harmandi</i>	1,140	213	13.53	5.744	2.397	702	14.004	13.725	3.705	190	15.924	6.441	2.538
14	Kanhchos	<i>Mystus singaringan</i>	24	9	11.894	3.023	1.74	88	13.609	2.756	1.66	98	13.379	2.191	1.48
15	Kes	<i>Pangasius larnaudii</i>	771	558	19.219	11.417	3.379	873	18.045	10.652	3.264	403	18.172	10.241	3.2
16	Kheoueng	<i>Macrogathus taeniagaster</i>	56	22	39.723	19.541	4.421	6	46.283	2.167	1.472				
17	Khlang hai	<i>Belodontichthys truncatus</i>	11,689	644	24.556	9.538	3.088	515	24.712	6.462	2.542	73	23.957	23.476	4.845
18	Khnam veng	<i>Labiobarbus kuhli</i>	30,639	769	7.274	0.916	0.957	37	15.639	1.935	1.391	47	14.982	3.863	1.965
19	Kroy	<i>Chitala ornata</i>	1,416	10	36.45	7.111	2.667	6	36.617	25.367	5.037				
20	Krom	<i>Osteochilus melanopleura</i>	3,676	99	11.652	7.979	2.825	109	14.551	4.980	2.232	28	13.45	2.296	1.515
21	Linh	<i>Thynnichthys thynnoides</i>	323	8	8.95	1.429	1.195								
22	Phkar kor	<i>Cirrhinus prosemion</i>	284	37	11.099	0.401	0.633	46	12.080	1.305	1.142				
23	Po	<i>Pangasius larnaudii</i>	771	110	20.723	8.549	2.924	35	22.107	7.938	2.817				
24	Pra	<i>Pangasianodon hypophthalmus</i>	1,095	16	14.575	9.317	3.052	16	14.950	3.467	1.862				
25	Pruol/kralang	<i>Cirrhinus microlepis</i>	8,113	171	14.093	3.290	1.814	56	16.325	3.493	1.869	18	16.672	1.359	1.166
26	Riel avngkam	<i>Cirrhinus lobatus</i>	3,951	278	7.515	2.465	1.570	17	13.685	0.941	0.970	85	13.238	1.264	1.124

No.	Khmer Name	Species Name	Total catch (kg)	October			November			December					
				Freq.	M. Len.	Var	S.D	Freq.	M. Len.	Var	S.D	Freq.	M. Len.	Var	S.D
27	Riel top	<i>Cirrhinus siamensis</i>	1,349	87	9.439	2.825	1.681	21	13.545	1.89	1.375	68	13.082	1.102	1.05
28	Ros/ptuok	<i>Channa triata</i>	3,152	170	25.709	14.761	3.842	133	26.533	15.531	3.941	17	24.803	20.993	4.582
29	Sandai/kraport	<i>Wallago attu</i>	4,255	153	28.143	25.188	5.019	86	31.252	44.866	6.698	17	33.391	30.184	5.494
30	Slat	<i>Notopterus notopterus</i>	630					23	19.015	16.348	4.043	11	20.45	13.2	3.633
31	Sloenk russey	<i>Paralabuca tytus</i>	937	47	7.259	2.419	1.555	8	12.825	0.268	0.518				