



Trade and Poverty Link: The Case of the
Cambodian Fisheries Sector

Draft Report for Comments

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LIST OF ACRONYMS AND ABBREVIATIONS

ADB	Asian Development Bank
DOF	Department of Fisheries
MAFF	Ministry of Agriculture, Fisheries and Forestry
CR	Cambodian Riel
KAMFIMEX	Kampuchea Fishery Import and Export
NIS	National Institute of Statistics
MWRM	Ministry of Water Resource and Meteorology
EIC	Economic Institute of Cambodia
GDP	Gross Domestic Product
MOP	Ministry of Planning

Chapter 1

Introduction

1.1 Why this study?

Trade is widely believed to be one of the major drivers in boosting economic growth and thus a means to eradicate incidences of poverty. Trade improves the economic development of a country through increasing foreign earnings, creating jobs and incomes and improving welfare. Universally, it has been recognized as a central component to the remarkable growth of Western industrial countries in the mid-20th century and to some advanced Asian countries in 1970s and 1980s. Yet, widespread incidences of poverty in many African and Asian countries after trade liberalization and openness in 1980s and 1990s posed a question on the positive role trade has to play. Many have asked: does trade help to reduce poverty or does trade cause poverty?

Cambodia is not exceptional in this rapidly globalizing world. Since the economic reforms in 1989, trade liberalization has been promoted as a source of economic growth and as one of the major weapons in fighting poverty. Trading activities, in terms of both commodity and destination diversification, have been rapidly and substantially expanded.

Among these commodities, trade in fisheries, especially exports of high value fish to external markets have increased after open trading activities were fully resumed in 1993. Nevertheless, rural communities around the Great Lake Tonle Sap and along the Mekong River - where livelihoods in the form of food security, employment and income sourced mainly from fishing activities- remain high and pervasive incidences of poverty. Furthermore, the standard of living of workers engaged in fish exports was also generally observed as being low. The increasing exports of fisheries pose a question on the pattern of benefit distribution from this sector's trade to different groups of population and geographical areas. Therefore, it is necessary to examine the link between this sector's trade and livelihoods and poverty. Specifically, this study examines: (i) the significance of the fisheries sector in the economy; (ii) determines to what extent trade in fisheries affects rural livelihoods and poverty of households engaging in fishing activities and workers in exporting companies; and (iii) highlights policies for the fisheries sector.

1.2 Methodology

This paper based on an earlier background paper, Trade in Fisheries and Poverty Reduciton, which benefited from existing studies and observations in which covered issues of importance of the sector in the economy and in supporting rural livelihoods. Another complementary approach was entailed by the perceptions of stakeholders who are working

with/watching closely the sector to express their views on the link between the sector's trade and poverty. The team had in-depth and extensive interviews and interactions with several key sector informants such as government officials from the Department of Fisheries, Ministry of Agriculture, Fisheries Community, fish traders and other key resource persons to obtain their views on linkages between the sector's growth and poverty reduction (See appendix 1).

1.3 Sources of data

The paper benefited primarily from existing quantitative data from several studies. The study also obtained data from the Department of Fisheries and the National Institute of Statistics.

1.4 Organization of the paper

This paper is organized as follows: Part two briefly describes the sector's production and consumption. Part three examines the effects of fisheries trade on poverty. Part four draws conclusion.

Chapter 2

Cambodian Fisheries

2.1 Production

Fish resources in the country are dominated by inland fish while marine fish¹ and aquaculture remain small, thereby not having a significant influence on total production. Fish resources support more than two million people directly and indirectly, in particular the population living by the Tonle Sap Great Lake and in nine provinces around the Tonle Sap region where basin and its sub-basin and the Mekong River cross.² On the production side, annual fish catch from this lake was estimated at 400,000 tons per year which was ranked fourth in terms of fish productivity (Yim Chea & Bruce Mckenny, 2003b; DoF, 2001a, Keang Seng 2006). Furthermore, fish stock in this Tonle Sap is potentially five times higher than in other tropical areas, according to the Ministry of Environment (2003). With such endowments, fisheries contribute to approximately 8.8 percent of GDP in 2004, according to the World Bank (2006).

Table 2.1: Fish Production, 1993-2005

Year	Total		Inland Fish			Marine Fish			Aquaculture		
	In tons	% change	In tons	% change	Share	In tons	% change	Share	In tons	% change	Share
1995	112,510	9%	72,500	12%	64%	30,500	2%	27%	9,510	16%	8%
2000	296,030	4%	245,600	6%	83%	36,000	-6%	12%	14,430	-4%	5%
2001	441,000	49%	385,000	57%	87%	42,000	17%	10%	14,000	-3%	3%
2002	420,750	-5%	360,300	-6%	86%	45,850	9%	11%	14,600	4%	3%
2003	382,000	-9%	308,750	-14%	81%	54,750	19%	14%	18,500	27%	5%
2004	326,635	-15%	250,000	-19%	77%	55,800	2%	17%	20,835	13%	6%
2005	410,000	26%	324,000	30%	79%	60,000	8%	15%	26,000	25%	6%

Sources: *Compiled from the Department of Fisheries: 1993-2004 from Annual Report of Fishery Sector, various issues and 2005 from Fisheries Statistics*

Cambodia has a variety of 500 freshwater species and 476 marine species. During the last five years (2001-2005), its average fish production was about 400,000 tons a year, largely coming from inland fish. The significant inland fish production is due to the Tonle Sap (Great Lake) which is the unique main source of inland fish in the country,

¹ According to Ferdous (2000) marine fish constituted around 11-12 percent of total fish products and the remaining goes to inland fisheries. Yet, Ferdous F. noted that data on marine fish catch was very sketchy and fragmented. Officials at Department of Fisheries estimated total marine fish catch of 50,000 tons.

² According to DOF (2005)'s Socio-Economic Framework Review there were about 3 million people living in fishing dependent communes. Thus, they directly and indirectly benefit from fish resources. Tonle Sap sub-basins consist of Stung Baribor, Stung Chikreng, Stung Chinit, Stung Dauntri, Stung Mongkol Borei, Stung Pursat, Stung Sangker, Stung Seng, Stung Siem Reap, Stung Sreng, and Stung Staung.

contributing to about 60 percent of total fish production.³ Besides inland fish, Cambodia also derives fish production from two other sources: marine fish and aquaculture.

Total fish production was 112,510 tons in 1995, increasing to 296,000 tons in 2000 due to the significant increase in inland fish production, representing 83 percent of the total production. The average annual increase of total production was approximately 31,000 tons. The production continued to grow in 2001 with 441,000 tons, but decreased gradually between 2002 and 2004 due to increasing over-exploitation. However, 2005 showed positive signs for fish production recovery, resuming to 410,000 tons, a 26 percent increase from 2004 production. The recovery was mainly from the increase in inland fish catches and aquaculture.

Fish production in the country was mainly driven by changes in inland fish catches due to its dominant share of 75 percent. Marine fish and aquaculture represented 18 percent and 7 percent, respectively.

Inland fish catches are concentrated in provinces surrounding the Tonle Sap and along the Mekong River. According to the National Institute of Statistics (NIS)'s Cambodia Statistical Yearbook 2005, total fish catch in provinces around Tonle Sap in 2004 (Battambang, Kampong Chhnang, Kampong Thom, Pursat, and Siem Reap) amounted to 64.5 percent of total country inland fish catch. The most productive province was Kandal (15 percent), followed by Kampong Chhnang (13 percent), Siem Reap (12 percent), Kampong Thom (9 percent), Pursat (9 percent), Battambang (7 percent) and others representing the remaining 35 percent.

Marine fish production increased gradually but not dramatically from 1995 to 2005. Production was estimated at 30,500 tons in 1995, 36,000 tons in 2000 and 60,000 tons in 2005.⁴ As a result, its share did not increase strongly because the share of inland fish remained stable and the share of aquaculture increased. The marine fish catches in Cambodia are based in Cambodia's south-western provinces such as Sihanoukville, Koh Kong, Kampot and Kep. Koh Kong dominates marine fish production, accounting for 56 percent of the total marine fish catch in 2004.

Aquaculture⁵ is generally family-based or done on small-scale farming. However, production increased gradually from 9,500 tons in 1995 to 14,400 tons in 2000. In 2005,

³ Keang Seng (2006): Fish Export and the Livelihood of the Poor, Department of Fisheries, MAFF.

⁴ This production is believed to be underestimated as many big ships bought fish from small fishing boats in the offshore and export to Thailand; thereby some amount of fish was not recorded in the official statistics.

⁵ Aquaculture consists of only shrimps and freshwater fish.

the production doubled to 26,000 tons. The provinces actively involved in fish aquaculture include Kampong Cham, Svay Rieng, Prey Veng and Takeo, while Koh Kong concentrates on shrimp aquaculture.

Until now, there has been no exact single estimation of the total currency value of fish production. Early estimates by the Interim Mekong Committee in 1992 put the value of total inland fisheries production to US\$30-40 million for the total production of 100,000 tons. The estimation was based on the average price of US\$0.3-0.4 per kg at farm gate price. Ferdous (2000) estimated the value of total fish catches of 300,000-400,000 tons were worth US\$100-200 million at landing sites and US\$250-500 million after moving through the marketing chain. Thus, this translated to fish production being worth between US\$300-400 million at farm gate price and doubled in price after proceeding to consumer markets.

2.2 Consumption

Fish is a staple food of normal Cambodian household diet, more so for fishing communities. Cambodians consume more freshwater than marine fish. According to Asian Development Bank (2005a) and Keang Seng (2006), fish provides about 75 percent of the animal protein requirements of Cambodian households. In 1995-96, using weekly-based fish consumption in a survey among fishing households around Tonle Sap, ADB (2005a) found that the average fresh fish consumption per capita amounted to 43.5 kg per year. In addition to fresh fish consumption, fishing households consume processed fish of approximately 32.1 kg per person per year. This results in a total fish consumption of 75.6 kg per person per year.⁶

In addition, those living around Tonle Sap consume *prahoc*⁷ (fermented fish paste) to serve for food security every year. Many Cambodians could be seriously threatened as no substitute for *prahoc* exists. In 2002, the average consumption of *prahoc* amounted to 62 kg per household, or 10.1 kg per person⁸. Cambodians also consume other aquatic organisms such as shrimp, crab, molluscs, and frog, which are also part of the diet of rural Cambodians. The consumption of this component has been estimated at 4.5-5.2 kg per person per year.⁹

⁶ Asian Development Bank (2005a), THE TONLE SAP INITIATIVE: The Tonle Sap and Its Fisheries. However, Keang Seng (2006), citing from Long Korn (2003), put the fish consumption estimate at 65 kg per person per year.

⁷ The term "Prahoc" is sometimes spelled "Prahok".

⁸ Asian Development Bank (2005a), THE TONLE SAP INITIATIVE: The Tonle Sap and Its Fisheries.

⁹ *Id.*

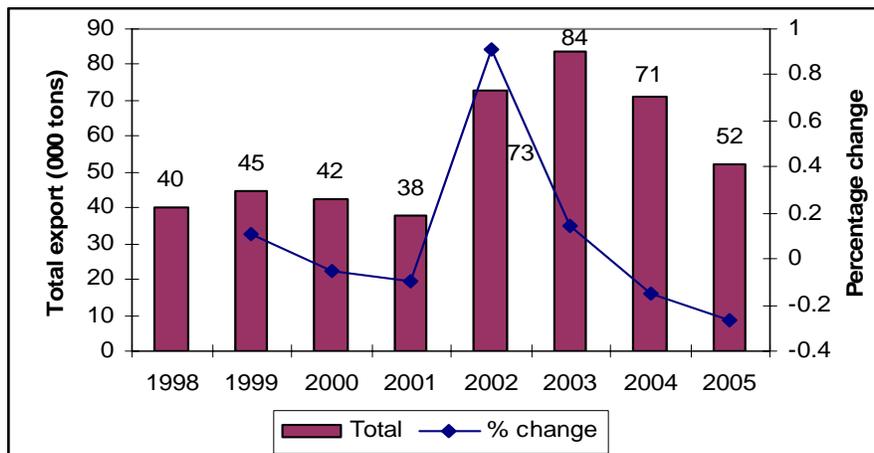
As a result of the significant number of Cambodians who consume high amounts of fish in terms of both fresh and processed form, domestic trade of inland fish plays an important role in distribution amongst different provinces. Unfortunately, there is no official data on trade flow among these provinces. But many believe huge amounts of fish, in particular high value fish, are marketed across the country, primarily from regions around Tonle Sap to the capital city, Phnom Penh. Besides significant domestic consumption, Cambodia has exported about 10 percent of total fish production a year in the last eight years. This means that average annual external fish consumption was about 56,000 tons.

2.3 Exports

Cambodia exports fish in the form of both fresh/live and processed fish to overseas markets. An estimated amount of fish exports was demonstrated in figure 1. Export of fish was approximately 56,000 tons per annum during 1998-2005. However, recently exports of fish are in decline after peaking to 84,000 tons in 2003.

The main markets for Cambodian fish are neighbouring Thailand and Vietnam together accounting for more than 95 percent of total Cambodian exports, according to Keang Seng (2006). Other destinations include Hong Kong, China, Singapore, US, EU, and Australia.

Figure 2.1: Cambodia's Fish Exports, 1998-2004



Sources: 1993-2003, *Department of Fisheries (2006)*; 2004, *EIC Database*.

On the export supply side, Kampong Chhnang ranks first in export volume of marine fish, representing 50 percent of total exports. Siem Reap is the second largest fish-exporting province accounting for approximately 27 percent of export, with other provinces exporting only 23 percent combined in 2004.

2.4 Imports

On the import side, the country imports a minimal amount of fish from abroad given the country's large endowment of its resources. Moreover, many Cambodians do not like imported fish due to their low quality and unfamiliar taste.

Fish was never imported into Cambodia until 1979 because local fish was more than enough to meet domestic demand¹⁰. Since then, some types of fish have been imported from Vietnam, Thailand and even China, especially during the 1990s, through Vietnam. Three provinces are notable fish import gates: Kampot, Kampong Cham and Kandal.

Reliable data for fish imports are not available at the moment. However, Table 2.2 shows primary statistics of fish imports during 2003-2004, based on the market survey in 2004 conducted by the Department of Fisheries. The total import of fish in 2003-2004 was 18,000 tons of which the coastal provinces of Kampot and Battambang, and Siem Reap and Banteay Meanchey together accounted for the dominant share (85 percent) of total imports. These fish imports consist of fresh fish, live fish, frozen fish, fish fingerling, and processed fish.¹¹

Table 2.2: Fish Products Imported, 2003-2004

Province	Quantity (Tons)	Duration (Months)
Kandal	120	12
Kampong Cham	960	12
Takeo	14	9
Svay Rieng	39	3
Kampot	4,565	10
Koh Kong	575	12
Sihanoukville	1,353	12
Battambang	594	12
Pailin	328	12
Siem Reap	3,650	12
Banteay Meanchey	5,840	12
Prey Veng	21	12
Total	18,059	

Source: *Department of Fisheries (2006)*

¹⁰ Ing Kim Leang (2006), The Importation of Fish into Cambodia, Working Paper 6, Department of Fisheries, MAFF.

¹¹ *Id.*

The main two reasons leading to increased domestic markets for imported fish products are due to both the supply and demand sides. For supply, prices of imported fish were lower than some species of local fish. According to MAFF (2006), the price of fish imported from Thailand in some cases is 50 percent lower than the price of domestic fish. Many poor people, for instance, choose to buy pangasius fish imported from Thailand because it costs only CR 1,000 [about US\$0.25] per kilogram compared to the minimum of CR 2,500 [US\$0.60] for the domestic kind¹². For the demand side, the high demand of some local areas which cannot access sufficient supply by local fish production leads to the importing of fish from neighbouring countries.¹³

¹² *Id.*

¹³ *Id.*

Chapter 3

The Effects of Trade in Fisheries on Poverty Reduction

3.1 Structural Effect

3.1.1 Export performance and economic growth

With an approximate 30,000-40,000 of fish shipped to external markets, this commodity trade did not earn much foreign exchange. The Department of Fisheries estimated total export fish value of US\$30-40 every year, accounted only for 1 percent of total export commodities. Nonetheless, it is believed that value of exports was higher than this estimate, as exports through informal channels actively take place.

Value added of the fisheries sector was estimated at US\$416 million in 2001.¹⁴ It increased but only slightly in 2002 and 2003. The sector's value added rebounded in 2005 when value added was about US\$460 million, 12 percent increase compared to 2004. The proportion of fisheries to GDP, however, declined constantly although its production in real terms rose gradually. For instance, the share of fisheries in total country GDP was 11 percent in 2001, and fell to 9 percent in 2005 even though its value added increased from US\$416 million in 2001 to US\$460 million in 2005, or a 10.8 percent growth.

Table 3.1: Performance of Fisheries Sector, 2001-2005

	2001	2002	2003	2004p	2005p
Value Added of Fisheries at Constant 2000 Prices (million US\$)	416	419	425	412	460
Share of GDP by Fisheries at Constant 2000 Prices (in percent)	10.8%	10.3%	9.8%	8.8%	8.9%
Real Output Growth Rate of Fisheries	5.9%	0.6%	1.7%	-3.3%	11.8%

Sources: 2001-2004 *World Bank* (2006); 2005 *Economic Institute of Cambodia* (2006).

P/- preliminary estimates

The Government earned around US\$2 million per year from the fisheries sector in terms of collecting fees from commercial and industry fishing lots biddings and penalty fees from illegal fishing activities.

¹⁴ The estimation of value added in 1998 was highlighted by Touch Seang Tana (2001) was about US\$150-250, which was only half of value added in 2001.

3.1.2 Government policies and institutions

Fisheries Law

Due to the importance of the fishery sector, the Cambodia Government has established a fisheries policy, and the National Assembly has recently enacted the Fisheries Law aimed at improving fisheries conservation and management, stimulating sustainable development of the rural poor and ensuring the equitable use of the fish resource base.

It is expected that the new fisheries law will encourage integration of fisheries management with rural development by extending responsibilities for fisheries management to fishing communities and increasing the protein and sustainable use of fishery resources. The management of mangroves, flooded forests and other aspects of wetland use are also included in the law.

Inland Fisheries Sector Strategy

The Inland Fisheries Sector Strategy has also been seriously taken into account in the National Export Strategy. This strategy's vision is to achieve significant economic growth for Cambodia and reduce poverty among the rural population through sustainable development of the inland fisheries sector, stimulated through quality standard, value addition and retention, and within a public-private sector consultative framework.

Box 3.1: Visions of Inland Fisheries Sector Strategy

- Protect inland fisheries from depletion;
- Reduce unofficial facilitating payment to authorities through anti-corruption legislation/enforcement and through dismantling Kampuchea Fishery Import and Export (KAMFIMEX);
- Upgrade fishing infrastructure and tools, adopt modern processing and improve biotechnology techniques to increase supply/production, to widen product diversification and enhance quality of the fisheries sector's offer, whether for domestic consumption or export;
- Strengthen and develop quality standards for fish and fish products through the establishment of a modern sophisticated laboratory to ensure conformity with safety and sanitation requirements, both for the domestic

Source: *DOF, Inland Fisheries Strategy*

Fishing Lot Reform

The fishery policy reform was introduced in October, 2000. Of the total lot areas of 953,740 ha, 56 percent (536,288 ha) was released for local fishing communities in

2001.¹⁵ According to the National Institute of Statistics (NIS), there are 164 fishing lots and 13 reserved fishing areas. In addition, on 19th February 2001, the Royal Government issued the sub-decree N° 24, exempting fishing fees for all middle-scale fishers to help alleviate financial pressures on middle-scale fishing. This aims at providing more access to fishery resources for the community and also at reducing the conflict between small scale fishermen and lot owners.

To reach its objectives, the Government has conducted an impact assessment of the fishing lot reform, and continues to expand fishing areas for local fishing communities. Since boundaries between fishing communities and fishing lot areas are not yet clearly demarcated, the Government will define the frontier of these areas. Information dissemination to fishing communities has also been done. The Government continues to provide more areas to fishing communities. Currently, about 217 communities have been established in the areas released from fishing lots.

Conservation and Research

To better conserve the local fishery sector, studies on fishery production and resource management are needed. The Inland Fisheries Research Institute will have an important role in its research related to factors that affect fishery resources.

Priority actions include (i) studying the potential for conservation areas derived from fishing lot areas; (ii) continuing research on potential areas for conservation of both inland and marine waters; (iii) disseminating information and education curriculum on the impacts of fishery depletion caused by illegal fishing activities; and (iv) continuing the process of preventing flooded forests.

DOF has cooperated with the Ministry of Water Resource and Meteorology (MWRM) to conduct a study on barrage postings in four places along rivers within former fishing lots 04 and 06 in Kampong Cham province. It has also conducted a survey and evaluation of the fishing season year 1999-2003. And it has identified areas in front of the Royal Palace in Phnom Penh where fishing should be prohibited.

Community Development and Management

Fishing communities have been established to improve the livelihoods of local people through access to natural fish resources, to protect such resources by giving

¹⁵ Ek Heng (2006), Impacts of the Fishery Policy Reforms on the Post-Harvest Sector in Phnom Penh, Kampong Chhnang, Pursat and Banteay Meanchey Provinces, Working Paper 9, Department of Fisheries, MAFF.

resource ownership to the local community, and also to reduce the conflict between local small scale fishermen and lot owners.

To achieve these objectives, DOF has been building the capacity of fisheries officials and fishing communities through trainings, workshops, and site visits to other countries. It has also established fishing communities, protected areas, community fisheries refuge ponds.

As a result, the draft law on fishing communities has been finalized. About 375 fishing communities (101,923 families) have been established. However, many fishing communities are still weak and lack member participation due mainly to the lack of financial resources.

Improving Rural Aquaculture Development

With population growth, fish resources are expected to come under greater pressure. Rural aquaculture has been considered an option to ensure food security without threatening the environment and natural resources. The objective of rural aquaculture development is to improve food security, nutrition, and farm incomes; and to identify appropriate aquaculture technology.

The Government has introduced small scale aquaculture technologies and has also promoted exchange activities.

Given these actions, fish and shrimp farming increased 60 percent in 2004. However, aquaculture in Cambodia remains less developed compared to neighbouring countries and overall, aquaculture's contribution to total production is still low though its production remains stable.

Enhancing Post-Harvest Development

Last but not least, fishery policy focuses on the enhancement of post-harvest development. The objective of the policy is to diversify the basis of rural livelihoods, improve access to markets, finance, and quality of fish products. Fish processing is important in enhancing post-harvest development. DOF has formulated a post-harvest fishery policy framework. It has also identified policies to support the sector with pilots in identified areas. Furthermore, it has done capacity-building of government staff to respond to the needs of the post-harvest sector.

Fishery processing production, including inland, marine fish and fish sauce, increased in 2004. Despite the increase, the fish processing industry in Cambodia is still

less developed compared to neighbouring countries. Production is generally not for export but rather for local consumption.

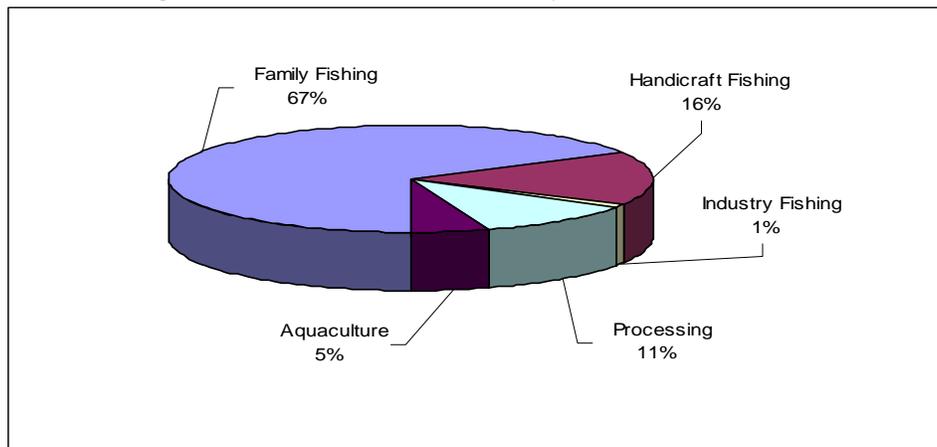
3.2 Labor supply and demand effect

3.2.1 Employment

The exact job figures created by this sector remain difficult to estimate, if not impossible since a great number of rural dwellers, including inhabitants who do not permanently stay along the Mekong Rivers and around the Tonle Sap, are fishers as a secondary or tertiary occupation.

To attempt to state what is the total labor force absorbed by this sector, one has to be cautious with the figures. According to the World Bank (2006) Table A3.3 in the appendix, fisheries accounted for 4.8 percent of total a total of 7.4 million employed people, which translates to 356,000. This number is close to an estimate by Cambodia Statistical Yearbook 2005 of National Institute of Statistics, which put the employment figure in fisheries to 360,000. However, data recorded by the Department of Statistics of the Ministry of Agriculture, Forestry and Fisheries (2005), which also counted the number of labor fish in rice field, counted the total employed in this sector to 573,000 people employed in fisheries sector. Therefore, it is safe to say that approximately 360,000 people - in 2004 - primarily engaged in the sector which ranges from fishers (in the form of family-scale, middle-scale and large scale industry fishing) to post-harvest activities such as processing, storage and trading.

Figure 3.1: Distribution of Employment in Fisheries Sector, 2004



Source: MAFF, *Agricultural statistics 2004-2005*

On the issue spill over effects on employment, nonetheless, the sector provides benefits to millions of Cambodia. It is widely agreed that at least two million benefit from this sector and its related activities as several sources put the figures around two million: for example, Department of Fisheries (2005a) 2.3 million, Ek Heng (2006) two million, Hap Navy (2006) two million, Department of Fisheries (2005b) at least two million.

3.2.2 Wage and income

Income of population around Tonle Sap

A survey by DOF in 1995-1996, focusing on 13 provinces in proximity to the Mekong and Tonle Sap, shows that people in these areas depend mainly on farming and fish resources. Homestead land and water, as indicated in the survey, accounted for 61 percent of gross income, agricultural land 19 percent, common property resource 6 percent, and others at 14 percent.

In Cambodia, fish production is for domestic consumption and external trade, benefiting populations dependent on fish resources. The most important source is inland fish which provided the Government's gross revenue of about US\$2 million in 2000 but declined to only US\$1.7 million in 2003¹⁶.

Even though the fishery resources of the Tonle Sap rank first in the world for their productivity and fourth for their total catch¹⁷, the average incomes of people in the surrounding Tonle Sap area remained low. The annual per capita income of a typical fishing household in the Tonle Sap area was US\$110, lower than a non-fishing household (US\$180) in 1998. The amount of this income is even lower when compared to the national per capita income which was about US\$250 in 1998.

Income of workers in the fish export and import chain

According to the Report on Fish Export and the Livelihood of the Poor by Keang Seng (2006), in 2003, the income of workers in the fish export chain is different and varies in the three common export gates, namely Poi Pet, Koh Kong, and Sihanoukville.

In Poi Pet, daily income of labourers in fish trade was about CR5,000 (US\$1.25) per working day. These labourers have to spend their income on daily food, medicine, hut-rental, clothes and other family supports.

¹⁶ Keang Seng (2006), Fish Export and the Livelihood of the Poor, Department of Fisheries, MAFF.

¹⁷ Asian Development Bank. 2003. *Proposed Technical Assistance for the Participatory Poverty Assessment of the Tonle Sap*.

Table 3.1: Wage Rate of Fisheries Worker in 2003

Gate	Wage Rate (US\$/month)	Facility
Poi Pet	37.5	No facilities, such as housing, healthcare, etc.
Koh Kong	40	Food, house and some healthcare (small-scale export)
Sihanoukville	80 - 110	Dormitory and some healthcare (large-scale export)

Source: *Department of Fisheries (2006)*

In Sihanoukville, workers in Sun Wah factory, a large-scale exporter, can receive a salary ranging from US\$60 to US\$115 per month or about US\$2 to US\$3.8 per day. Furthermore, they receive food, healthcare and shelter.

In Koh Kong, the salary of labourers is only US\$40 per month, which is relatively low compared to those in Sihanoukville. Most of them live with fish collectors, and they are also provided with food, clothes and healthcare.

Income from these wages, nevertheless, is barely enough to survive, according to Keang Seng (2006). Moreover, simply comparing these wage rates and rural poverty line the rate was just twice as high than the rural poverty line of US\$0.44.

3.3 Human Development effect

Poverty in Tonle Sap areas is not only demonstrated by low income/consumption dimension but also demonstrated by other social indicators. Table 7, based on the available data from General Population Census in 1998 and Inter Census Population Survey in 2004, shows some main social indicators in six provinces located around the Tonle Sap. Based on these indicators, Table 7 suggests that the living standards of people in provinces around the Tonle Sap were low when compared to the national average.

On the education indicators, the proportion of children who did not complete primary education was much higher than the country's average in 1998 and the situation continued in the same trend in 2004. The literacy rate for both males and females in these provinces (except Battambang province), despite improvement since 1998, was also higher than average. It is even lower when looking at a rural fishing commune rather than the aggregate figure for an entire province. In the case of Anlong Rang's¹⁸ fishing community in Pursat province, for example, there is only one classroom for children and one health centre, both of which are of very low standard.

¹⁸ Anlong Rang is a float fishing village in Tonle Sap located in Kampong Lung district in Pursat Province.

Concerning health indicators, access to clean drinking and sanitation water was very limited. Rural dwellers in these provinces still utilized water from the Tonle Sap and other streams as main sources of drinking water. Access to electricity was also minimal. Only between 10-15 percent of people used electricity as lightning, the majority still use kerosene.

Table 3.3: Main Social Indicators in Provinces around Tonle Sap, 1998 and 2004

Indicators	Banteay Meanchey		Battambang		Kompong Chhnang		Kompong Thom		Pursat		Siem Reap		Country Average	
	2004	1998	2004	1998	2004	1998	2004	1998	2004	1998	2004	1998	2004	1998
Population (in thousands)	809	578	1013	793	532	418	607	569	456	360	755	696	13,091	11,438
Average household size	5.1	5.1	5.2	5.3	4.9	5.0	5.1	5.3	5.2	5.2	5.4	5.4	5.1	5.2
Population density (per sq km)	64	87	83	68	99	76	45	41	37	28	75	68	74	64
Educational attainment:														
Primary not completed (%)	65	69.9	65	63.4	70	69.9	63	70.7	69	68.3	67.0	73.2	54.0	56.6
Literacy rate (%)	72.4	66.9	74.4	70.8	66.4	63.9	70.8	60.4	70.5	70	64.5	52.7	73.6	67.3
Males (%)	84.0	79.4	85.2	82.1	79.2	76.5	79.8	71.3	82.1	82.5	75.5	63.9	84.7	79.5
Females (%)	61.6	55.6	64.7	60.7	56.2	53.7	63.0	51.3	60.8	59.5	54.4	43.1	64.1	57.0
Main source of drinking water														
Protected dug well (%)	1.9	26.2	1.3	37.8	2.5	52.9	3.9	77.5	1.9	53.3	4.2	69.7	3.0	40.29
Unprotected dug well (%)	7.0		12.0		55.8		68.5		39.6		61.5		26.6	
Spring, river, stream (%)	60.1	44.0	50.8	39.1	18.2	24.3	12.5	16.2	48.8	29.0	7.4	10.9	28.5	28.2
Kerosene as main source of light (%)	74.4	84.6	75.0	83.2	83.1	89.9	72.3	89.4	82.9	88.1	83.7	88.8	64.5	79.9
Firewood as main source of cooking fuel (%)	81.2	90.6	84.8	92.4	93.8	95.8	94.9	95.6	92.6	94.9	93.1	96.1	86.0	90.0

Sources: MOP (2005a) and MOP (1998)

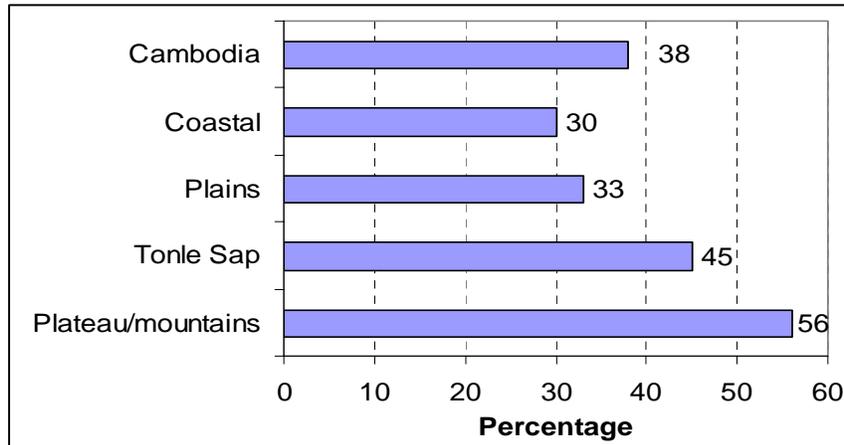
3.4 Poverty

Figure 2 compares the rate of rural poverty of the Tonle Sap zone¹⁹ against other zones in 2004. In rural Tonle Sap region, where a significant number of people rely heavily on fishing, the poverty rate was of 45 percent which is higher than the national average of 38 percent. According to the World Bank (2006), the number of poor in the Tonle Sap region (both in rural and urban areas) accounted for 37 percent of the country's total poor. This rate translated to 1.8 million people around Tonle Sap living below the poverty line.²⁰ Deeper analysis in the incidence of poverty under the Tonle Sap Initiative stated that half of the villages in Tonle Sap estimated to have 40-60 percent of people living below the poverty line and in some areas even 80 percent of people living under the poverty line (ADB, 2005a).

¹⁹ Tonle Sap zone consists of Banteay Meanchey, Battambang, Kampong Thom, Siem Reap, Kampong Chhnang and Pursat. Plateau zone consists of Kampong Speu, Kratie, Mondul Kiri, Preah Vihear, Ratanak Kiri, and Stung Treng. Plains zone consists of Kampong Cham, Kandal, Prey Veng, Svay Rieng, and Takeo. Coastal zone consists of Kampot, Sihanoukville, Kep and Koh Kong.

²⁰ In real term, number of poor in Cambodia was 4.8 million in 2004.

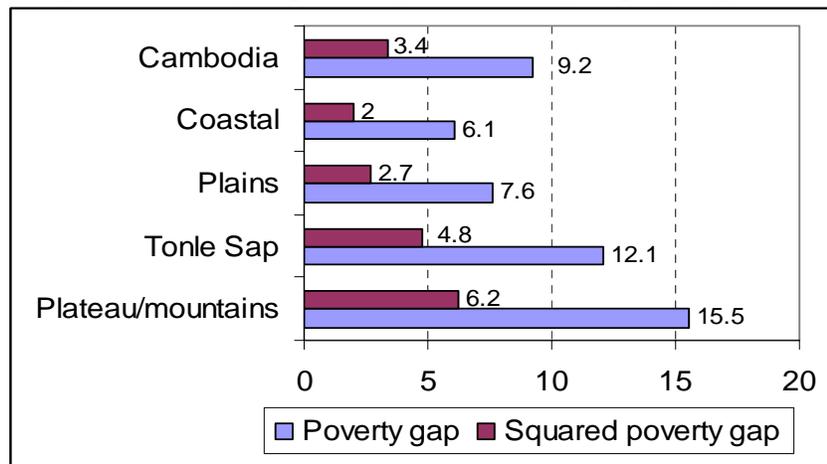
Figure 3: Rural Poverty Headcount by Region, 2004



Source: *World Bank (2006)*

In terms of depth and severity of poverty, the region also had the worst incidences. The poverty gap index was 12.1 while poverty severity index was 4.8. Both were higher than other regions (except mountain regions) and the country index.

Figure 4: Poverty Gap and Squared Poverty Gap by Region, 2004



Source: *MOP (2006)*

Chapter 4

Conclusion

The fisheries sector contributes significantly to livelihoods and direct and indirect employment for the poor in many provinces along Tonle Sap and the Mekong in Cambodia. The fisheries sector mainly provides nutrition for daily food consumption which can prevent extreme poverty incidences. Yet, it is not significantly connected to sufficient income to move out of poverty and income which are necessary to cover spending for health, education and other durable assets and to prevent great vulnerability. On the benefits from trade in fisheries, earnings from fishing activities of fishermen at the landings remain very low. Wage earnings of workers in fish exporters are low too. Income generation from the fish trade is barely enough for living for both trade-related workers and fishers. This ultimately leads to low levels of other poverty indicators such as poor health, low education, and little possession of durable assets.

Low income is due to limited amount of fish trading as fish production is mainly used for household consumption of family fishing. On the other hand, the low wage rate of workers in trading companies was a result of the dominance of informal small traders who frequently do not provide job security and safety for workers. Low wages were also the result of surplus supply of labor, thereby employers give lower salaries.

Low incomes by workers and fishermen were largely due to the minimal amount of fish exports and the large number of low skilled labor. The low incomes were also partly hampered by the high cost of trading due to high transportation costs and informal fees. The lack of transparency allows checkpoint officials and other un-authorized institutions to demand informal fees from fish traders at the expense of workers and fishers. Thus, profit from fish exports are very low, which makes the price of fish at fishing sources relatively low and forces workers' to have low earnings.

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List of Persons Consulted

	Name	Position	Organization
1	Chan Buntheun	Fresh Fish Exporter	Chantha Man Fish Export Company (Siem Reap – Poipet)
2	Chin Pov	President of Kor Khek Fishing Community	Pursat
3	Di Phally	President of Mout Preak Fishing Community	Pursat
4	Kao Reotha	Vice-President of Anlong Rang Fishing Community	Pursat
5	Klauk Mom	Fresh Fish exporter	Banteay Meanchey
6	Lieng Sopha	Deputy Director IFReDI and National Director for Assessment of the Mekong Capture Fisheries (AMCF)	Department of Fisheries
7	Long Sochet	President of Rang Til Fishing Community	Pursat
8	Mao Vanna	President of Anlong Rang Fishing Community	Pursat
9	Nguon Hok	Fresh Fish Trader	Siem Reap
10	O Dy	President of O Dy Fishing Community	Pursat
11	Ou Mut	Fresh Fish Exporter	Machhar Steng Sangke Fish Import-Export (Battambang)
12	Phum Heun	Fresh Fish Trader	Pursat
13	Reach Sopheap	Aquaculture Specialist	CEDAC
14	Sem Viryak	Vice Chief of Fish Quality and Processing Division	Department of Fisheries
15	Seng Sovathana	Program Manager	Fisheries Action Coalition Team (FACT)
16	Sirak Kalyan	Assistant Program Support Officer	Padek
17	Suong Piseth	Field Coordinator	Fisheries Action Coalition Team (FACT)
18	Thor Sensereivorth	Director of Quality & Processing Division	Department of Fisheries
19	Toek Leang	Fresh Fish Trader	Battambang
20	Yun Savath	Chief of Office Administration of KAMFIMEX Co.	Department of Fisheries