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Regional Fisheries Livelihoods Programme for South and Southeast Asia (RFLP)

GCP/RAS/237/SPA

Review on

The Current Status of Fisheries/Aquaculture and Policies of Cambodia Relevant to RFLP

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I. Introduction

Cambodia is endowed with rich fisheries resources provided by both the freshwater fisheries of the Mekong and the Tonle Sap river system, and coastal and offshore marine fisheries. The fisheries sector in Cambodia plays a very important role in the national economy, making a significant contribution to employment and livelihoods of the poor, to food security and to GDP. Fisheries production is estimated to be worth around US$ 200-300 million at the point of landing, and the fisheries harvest, processing and trade contributes 8-12% of GDP. The export value of fish products is estimated to be as high as US$ 100 million annually.

Cambodian people and especially the rural poor consume on average 52.4kg of aquatic products per person per year (MRC Technical Paper, number 16, 2007). Cambodia's fisheries provide full-time, part-time and seasonal employment for up to 6 million people, and the employment provided is especially important in the rural areas where there are few job opportunities. The fisheries sector make a very significantly contribution to domestic food security especially to rural communities, providing 81.5% of the animal protein in the national diet and also providing a critical source of essential vitamins and micro-nutrients.

The Royal Government of Cambodia, has recognized how important and crucial the sector is to people's livelihoods, to national well-being and the national economy, and one side of the national Rectangular Strategy is devoted to fisheries reforms aimed at law enforcement, action plan development and implementation, and strengthening of all the relevant institutions to enable them to achieve national goals for environmental fisheries protection, conservation of bio-diversity, socio-economic development, good governance and poverty alleviation. These goals are clearly stated in the Royal Cambodian Government's political program for the fisheries sector, as well as in the Socio-Economic Development Plan, the Preliminary Strategy of Poverty Alleviation, and the Good Governance Action Plan. Moreover, the Royal Government of Cambodia's statement on the national fisheries sector policy was endorsed in 2005 and the Strategic Planning Framework for Fisheries 2010-2019 (SPF) was drafted in 2009, and will be endorsed soon in 2010.

In an effort to achieve the above goals, policies and plans, significant time, manpower and funds have been committed by the Royal Government of Cambodia (RGC) and by bi-lateral and regional Development Partners (DP). However, much work and many additional activities remain to be done and these require technical and financial assistance support on a priority basis.

It is timely that the Regional Fisheries Livelihoods Program (RFLP) was endorsed to provide support to the Fisheries Administration (FiA), since it will improve fisheries management and livelihoods opportunities in the four coastal provinces of Cambodia.

This paper was drafted to provide an overview of the current RGC policies, both within the fisheries sector, but also of other sectors which will impact on the ability of RFLP in Cambodia to successfully achieve its five national outputs. These are:

- Development of co-management mechanisms;
- Improved safety at sea and reduced vulnerability;
- Improved post-harvest and marketing;
- Strengthening of existing livelihoods and livelihood diversification; and
- Facilitated access to micro-finance services.

In addition the paper provides recommendations on what and how the Regional Fisheries Livelihoods Program (RFLP) can contribute to the implementation and achievement of the national fisheries policies and plans in Cambodia.

II. Current Status of Fisheries in Cambodia

2.1 Physical Fisheries Resource Base

The Mekong River flows through and inter-connects China, Myanmar, Laos PDR, Thailand, Cambodia and Viet Nam. Cambodia, which is comprised of part of the wide Mekong basin floodplain and the Tonle Sap floodplain (Figure 1: Map of Cambodia's Floodplains), has one of the largest freshwater fisheries in the world. Cambodia is located on the Gulf of Thailand and is bordered by Thailand, Laos PDR and Viet Nam. The country covers an area of 181,035 km^2, and is approximately 450 km long north to south and 580 km wide from east to west. Two key physical features dominate the country namely the Tonle Sap Great Lake and the Mekong/Bassac/Tonle Sap river system. These, along with the coastal waters, provide the basis for the country's fishery sector. Linked to the lake and river system is a fertile plain that stretches from the lake to the Mekong delta. There are 35,000 km^2 of wetland in Cambodia of which 20,000 km^2 fringe the edge of the Mekong river and 15,000 km^2 fringe the Tonle Sap Great Lake (Baran, 2005).

80% of the annual rain falls in the monsoon season between May and October, while November to April is the dry season. The hydrological cycle largely defines the phasing of the agricultural and fisheries activities of the rural people of Cambodia. The hydrological cycle results in the filling up and draining of the Great Lake and the inundation of adjacent forest areas, during which time the Great Lake increases its depth from 1-2 m up to 10 m and its surface area from 3,000 km^2 to between 10-14,000 km^2 (Hortle *et al.*, 2004). Associated with this is the reversal of the flow of water in the Tonle Sap River, which flows north-west from June to November, while flowing south-east for the remainder of the year. The flooding of the forest around the Great Lake releases large amounts of nutrients into the water and provides access to food that is normally unavailable to the fish. This is a breeding period for the fish that use the greatly increased flooded forest habitat, where food is plentiful, as a nursery area. In general, the larger the annual monsoon flood, the greater the subsequent capture fish production from the Cambodian floodplain area in a given year (Van Zalinge *et al.*, 2001).

The Tonle Sap Lake is 300 km long and 100 km wide during the rainy season (compared with 160 km long and 35 km wide in the dry season). The Tonle Sap Lake consists of a number of different habitats as shown in table 1 below.

The Mekong River is the largest river in Southeast Asia, flowing over 5,000 km from its source in China to the sea. In so doing, it crosses a number of countries making collaboration and cooperation an essential part of the aquatic resource management process. The upper reaches of the river in Cambodia are characterized by a braided river bed interspersed with rapids and deep pools which act as natural refuges for fish in the dry season. The area of water upstream from Stung Treng is classified as a Ramsar wetland site. The river below Kratie becomes a gentler meandering river which ends in the large delta region of the Mekong river in Viet Nam (Hortle *et al*., 2004).

Cambodia's coastline extends from the Thai border in the north to the Vietnamese border in the south, a distance of 435 km. From the shoreline, Cambodian waters extend to 200 nautical miles. The claimed exclusive economic zone (EEZ) covers 55,600 km^2 (CFDO-IMM, 2005). There are some coastal islands and coral reefs that increase coastal eco-system diversity. The current state of the marine and coastal aquatic resources is largely unknown as no comprehensive surveys have been conducted in the last three decades. The coastal area of Cambodia covers the four provinces of Koh Kong, Preah Sihanouk, Kep and Kampot.

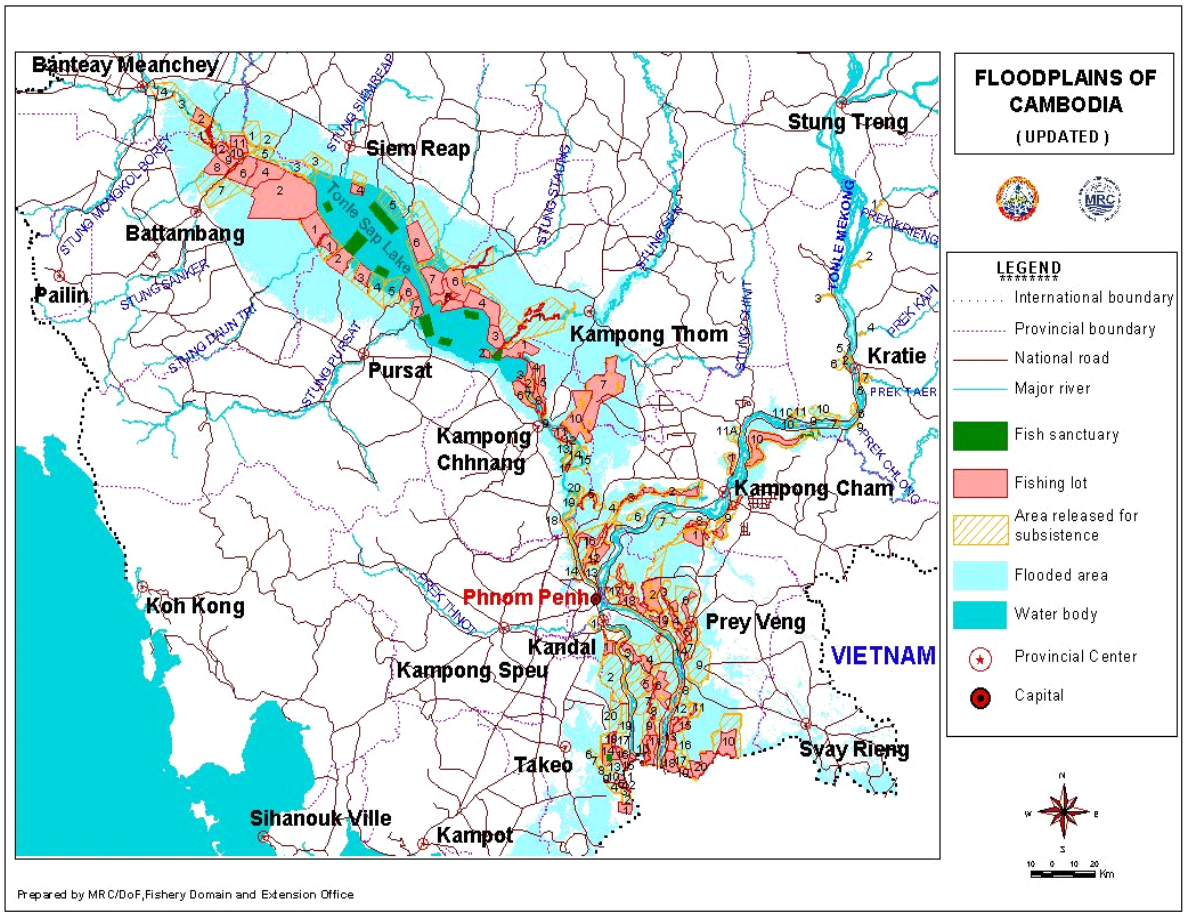


Figure 1: Map of Cambodia's Floodplains

Table 1: Habitat types and area in the Tonle Sap Lake		
Type of land or water resource	**Area (ha)**	**%**
Water surface	276,400	15.8
Marshes/swamps	1,500	0.1
Grassland	152,100	8.7
Shrub land	215,000	12.2
Flooded forest	495,300	28.3
Rice fields	515,000	29.4
Other	95,400	5.5
Total	1,750,700	100
Source: Lieng Sopha and Nicolaas van Zalinge, 2001		

2.2 Capture Fisheries

The fisheries sector in Cambodia is of major global significance. The Mekong/Tonle Sap floodplain represents one of the largest freshwater fisheries in the world and it is a unique aquatic habitat. Cambodia's contribution to the world's aquatic bio-diversity is also considerable. It has many species of fish whose range it is believed are limited to the waters of the country, or which are shared by only a few neighboring nations in the region.

Fish supplies come from freshwater capture fisheries, freshwater aquaculture, marine capture fisheries, marine aquaculture and imports. The majority of fish production in Cambodia is from freshwater capture fisheries, which contributes approximately 79% of the total, with marine capture contributing about 15% of the total. It is estimated that total aquatic production is between 300,000 and 500,000 tonnes per year (see Table 2). However, a recent fish consumption survey which estimated per capita aquatic product consumption at 52.4 kg/person/yea[r] in the Lower Mekong basin suggests that the annual catch may be up to four fold higher (MRC Technical Paper No. 17, 2007).

It is estimated that the catch of freshwater fisheries is split between the different scales of fishers as follows:

- Small-scale[1]: 32-41%
- Rice field: 16-25%
- Middle-scale[2]: 23-30%
- Large-scale[3] 12-21%

Freshwater and marine fisheries are designated by gear type as small-scale, middle-scale or large-scale fishing. The fishing gear scales are defined legally by the Minister of Agriculture, Forestry and Fisheries proclamation (Article 30 of Fisheries Law, 2007), which is currently being finalized and which should be endorsed either in 2010 or 2011. However, this law will not impact or constrain the achievement of RFLP outputs.

In the Great Lake fishing lots are used when waters recede from October to May. On the Mekong river in the Kampong Thom area lots produce most fish from October onwards. South of Phnom Penh fishing is mostly practiced from November to June. Small-scale and artisanal fishing is carried out all year on the Great Lake. From November to February the Dai fishery operates large bag-nets across the Tonle Sap river catching migrating fish. Catch can be very high during this period and such large quantities are caught that much of it is sun dried, or turned into fish paste and fish sauce for later use. From March to May the catch rates in the river decline and are enough for local consumption only. The beginning of July to the end of September is the closed season for the large-scale fisheries, but fish held in pens from earlier capture or culture are still available during this period. Fish from small-scale fisheries are also available during the closed season (as this closure does not apply to them).

Marine capture production increased from 54,750 to 70,000 tonnes between 2003 and 2009 (see Table 2). However much of the catch in Cambodian waters is not recorded in landing statistics as it is taken by foreign vessels and is shipped directly to Thailand and Viet Nam.

There are about 40 coastal fishing villages (Long Korn, 2003) with an unknown number of fishers, but the coastal provinces and coastal municipalities have a combined population of approximately

[1] Small-scale fishing: refers to subsistence fishing, which shall be operated at anytime in the open access area and in the family-scale fishing areas, in freshwater fishing lots during the closed season or in marine fishing domains by using small-scale fishing gears.
[2] Middle-scale fishing shall be operated only in the open access area of the inland or marine fishery domains by using middle-scale fishing gear, which refers to a single fishing gear can be characterized according to the size, type and numbers of those gears.
[3] Large-scale fishing shall be operated only in fishing lots of the inland or marine fishing domains by using large-scale fishing gears.

1 million people. The Gulf of Thailand adjacent to the coast of Cambodia is relatively shallow with a mud/sand bottom that allows trawlers to operate. By law trawlers are restricted to waters greater than 20 m in depth, but this law is, according to local fishermen, is broken on a regular basis.

Cambodian marine fishers consist mainly of small-scale and medium-scale operators; most large-scale vessels are foreign. Local boats use a variety of fishing gear including trawl nets, drag nets, purse seines, anchovy purse seines, gill nets, hooks and lines, and traps. In recent years the majority of coastal boats have been mechanized, with the number of non-mechanized craft declining from 3,312 to 227 craft between 1996 and 1999 (DoF, 2001).

Coastal fishermen can fish virtually all year around by changing their gear and target species, although it is often easier to fish during the dry season than the monsoon season when there are more frequent storms and typhoons. The availability of different species also changes along the coast. For example the peak season for white shrimp in Kampot is from June until July, whereas in Koh Kong it is from July to August (Khy An, 2005).

In the marine fishery there are vessel owners and the labourers who work on-board trawlers. Some of the larger vessels are Cambodian, while others are owned and operated by Thais and the vessels operate from Thailand. There are also many small-scale inshore operators who fish for a diversity of fish, or engage in more specialized activities such as collecting crabs and live blood cockle spat for sale to exporters who export to Viet Nam. In recent years as well as a major shift from non-mechanized to mechanized vessels, the marine fishery has seen an increase in the number of fishers. The DoF (2001) recorded a marine fisheries population (fishers and fish processors) of 13,920 in 1999. Many of those working in the marine fishery are migrants from inland Cambodia. Most coastal fishermen are involved in fishing all year round, although about 15% are only seasonally employed in fishing. For communities near Koh Kong there are few available alternative livelihoods, unlike the Kampot area where fishermen are also engaged in rice farming, upland farming and honey collecting (Khy An, 2005). Khy An also notes that income from coastal fishing is greater than from rice production. During the monsoon season there is a shift of small-scale fishers into more protected mangrove areas, while some seasonally give up working their own gear and labour as crew members on larger boats, often in Thailand.

In the marine fishery, women also fish along with their husbands using different gears such as seine nets and drag nets. Children are also engaged in the fish supply chain. Women and children sometimes operate small boats and use small-scale fishing gears. They are also involved in mending fishing gear and play an important role in feeding and harvesting in aquaculture. Women are generally not employed at the commercial fishing lots because of cultural taboos (Ham Kimkong, 2005). Women are also involved in seaweed culture as a means of extending the livelihood options of their fisher households.

The actual catches in recent years for all sub-sectors are shown in Table 2.

As yet there is no policy or sub-decree that addresses over fishing capacity, catch effort limitation or reduction, quotas and reduction of the amount of fishing gear used. Under RFLP it may be possible to pilot test the impact of managing fishing capacity (by controlling the amount of fishing gear, numbers of fishers, and limiting fish catches and species) on natural stocks in coastal areas controlled by Community Fisheries (CFi). This would require planning and preparation, consultation and regulation through agreed and approved internal CFi rules, but should be possible to pilot in some CFi fishing areas. The achievement and lesson learnt from such pilot trials will assist the FiA to prepare and formulate a proclamation or sub-decree on managing fishing capacity.

Table 2: Fisheries production 2003-2008 by fishing class and sub-sector (tonnes)

Fishing type	2003	2004	2005	2006	2007	2008	2009
Inland capture fisheries	308,750	250,000	324,000	422,000	395,000	365,000	390,000
Marine capture fisheries	54,750	55,800	60,000	60,500	63,500	66,000	70,000
Aquaculture	18,500	20,835	26,025	34,200	35,260	40,000	50,000
Total fish production (including shrimp)	382,000	326,635	410,025	516,700	493,760	471,000	510,000
Seaweed	7,800	16,840	18,000	6,810			
Crocodiles (Number)	78,008	74,820	120,000	137,624	128,945	156,500	

Source: FiA Report, 2009

2.3 Fish Species

Cambodia has a high diversity of both freshwater and marine species. Fish species are complemented by a wide array of other aquatic animals including frogs, snails, freshwater crocodiles and snakes; and by aquatic plants.

There are over 500 fish species recorded in the inland waters of Cambodia (Rainboth, 1996) of which around 200 species are regularly caught. The most commonly caught fish is the small river carp (*Cirrhinus lobatus*). Fish are grouped into whitefish and blackfish. Whitefish which are involved in significant migration, are commercially more important and consist of carp and catfish species. Blackfish which are able to survive in swamps and wetlands all year around, engage in only limited migrations, and consist of species such as snakehead and climbing perch.

The Mekong has a predominance of very small fish with short breeding cycles that make use of the annual flood patterns. It also has some of the largest freshwater fish in the world including the giant freshwater stingray (*Himantura chaophraya*), the giant Mekong catfish (*Pangasianodon gigas*)and the giant river carp (*Probarbus jullieni*). There are also many other aquatic resources such as frogs, crocodiles, water snakes, turtles, dolphins and snails.

In January and February each year the migration of the fish from the inundated forest surrounding the Great Lake, and from the lake into the Tonle Sap River reaches its peak. During the full-moon in these months masses of small fish migrate downstream and into the rivers. It is at this time that the majority of the fish catch in Cambodia is taken.

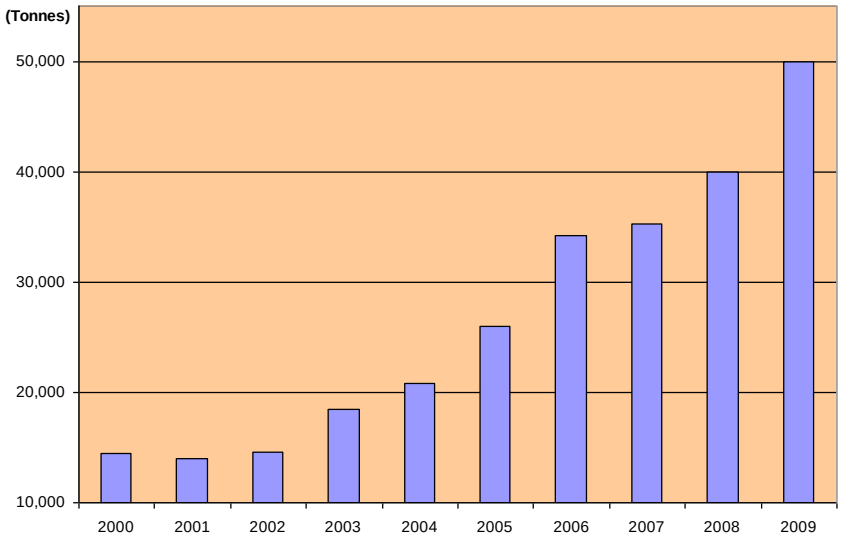
520 species of marine fish have been recorded in the coastal waters of Cambodia (Karenne Tun *et al*., 2004). Marine species can be divided into pelagic and demersal species. The main commercially important pelagic species include mackerels, scads, anchovies, sardines, small tunas and pomfrets (FAO, 1994). Commercially important demersal species include threadfin breams, croakers, big-eyes, lizard fish, hairtails, flatfishes, snappers, groupers, sharks and conger eels. Shrimp, squid, cuttlefish, crabs, octopus, sea cucumber (*beche-de-mer*), mantis shrimp and bivalves are also important. Cultured marine shrimp are mainly *Metapenaeus* spp. and *Penaeus merguiensis*.

There are 58 endangered species (29 marine endangered species) the catch of which is prohibited. This is endorsed by the sub-decree on Identification of Fisheries Products of Endangered Species, 2009.

2.4 Aquaculture Development

Aquaculture has a long history in Cambodia but has always played a relatively minor role in overall production, compared to wild caught fish. However, in recent years the production from aquaculture has been increasing and the potential for future productivity is significant. The growth of aquaculture production, which is primarily from fresh water aquaculture, between 2000 and 2009, is shown in Figure 2 below.

Figure 2: Aquaculture production from 2000 to 2009



Source: Aquaculture Department, FiA, 2009

Coastal aquaculture started in Cambodia in the late 1980s with an expansion of shrimp and cage fish culture, mirroring the successes across the Thai border. Intensive shrimp culture is practiced in Koh Kong Province and traditional extensive shrimp farming in Kompot Province (Touch Seang Tana and Todd, 2002). *Penaeus monodon* was initially the preferred shrimp species and production rose to a peak of over 700 tonnes in 1995. Thereafter disease, pollution and high soil acidity among other bio-physical problems beset the industry and shrimp production gradually declined (Chheam Pe and Ngor Peng Bun, 2005). Shrimp culture resulted in the destruction of some mangrove areas and although regulated, the enforcement of regulations has been weak. Extensive shrimp culture has caused less environmental impact, requires relatively low levels of investment and so is attractive for the coastal poor (Hav, V. and Ngor, P. 2005).

Grouper, snapper and other brackish-water and marine finfish are also cultured in coastal cages around Sihanoukville and Koh Kong, and also on Koh Sdach island. This is in direct response to the growing global demand for live groupers. In recent years this type of aquaculture has suffered from disease outbreaks.

In some communities in Koh Kong bivalve culture (oysters and green mussel) has been tried in the past. Seaweed culture, focused on Kampot Province, was first introduced in 1999 and has developed considerably since with production increasing from 3,500 to 18,500 tonnes between 2001 and 2005, but then later declined to 6,810 tonnes in 2006. This option provides a viable and environmentally friendly livelihood diversification opportunity in the face of declining individual coastal fish catches, and many seaweed farmers are also fishermen (Hap Navy, 2005).

Coastal aquaculture development and coastal finfish culture in particular in Cambodia has increased only gradually. Aquaculture development in the coastal provinces of Cambodia is prioritized by the RGC and will be supported in a sustainable manner by RFLP under output 4 on livelihood strengthening and diversification opportunities for fisher communities.

The following point (in Article 57 of Fisheries Law, 2007) on aquaculture operation will be taken into account to ensure that the achievement of RFLP output 4 will be done in an environmental friendly manner:

"All aquaculture or mariculture operations shall maintain the quality of land, water, aquatic bio-diversity and environment, and shall not discharge any material or toxic substances or perform any other acts as stipulated in article 22[4] of Fisheries Law".

2.5 Post-harvest Fisheries

Annual processed fish production from inland and marine sources in Cambodia was estimated to be 46,350 tonnes in 2007. Fish sauce production was estimated to be 15,000 litres, a considerable increase from the 1,120 litres produced in 2001. Fish paste (prahok) and fish sauce (teuk trey) are major sources of protein and micro-nutrient intake for the majority of people in Cambodia and are an important mechanism for evening out the fish supply fluctuations between the monsoon and the dry season. Much of this is made by households for their own consumption, although some semi-processed fish paste is exported.

Associated with fish paste (prahok) production is the production of fish sauce. Salt forms an important part of the diet, and processed fish is one of the main sources of salt in the diet. On average Cambodia produces about 70,000 tonnes of salt annually from 180 salt farms covering an area of about 4,000 hectares, mainly in Kampot (85% of production) and Kep providing employment for some 3,000-4,000 people.

In Cambodia fish and aquatic products are sold as both fresh and processed forms. Fresh products include live and frozen, while processed products include smoked, dried and salted. Fish is also transported around the country, mostly after it has been processed. Some of the live, iced and processed fish is exported to neighboring countries although the exact quantity is unknown. The trade in fish is a complex process involving numerous intermediaries all of whom make a living from fish. Fish is collected at landing sites, transported to local retail markets or consolidated by wholesalers into larger quantities for export or movement to urban centers. In the main fishing season from January to March large quantities of small fish are harvested from the Dai fishery (fixed bag nets positioned in a river). This is the time when much of the fish is converted into processed products for consumption throughout the year. Processing and trading operations vary in size from family scale, where families produce for their own consumption or to barter for other goods, through small to medium commercial operations, to large-scale international operations. The majority of processing operations are either family or medium-scale. Most Cambodians eat fish daily so the consumers of fish are many. However consumers are a very diverse group with different levels of access to fish supplies.

In tourist resorts along the 4 coastal provinces of Cambodia there are a growing number of small-scale vendors of freshly cooked squid, crab and fish which are popular with the tourists.

There are a variety of types of preserved and processed aquatic products in Cambodia, the main ones being:

- Fresh fish (iced or un-iced)
- Frozen product
- Fish paste *(prahok)*
- Fish sauce (*dtuk trey*)

[4] Article 22: Disposing, discharging, dumping or littering toxic substance (solid or liquid) in fishery domain, which were determined by law and other juridical legislation of the Kingdom of Cambodia, and Conventions or International Treaties on Environmental Poisoning, and any agreements or any activities that cause toxic or harm to aquatic animals shall be prohibited.

- Fermented fish (*phor ork)*
- Salted dried fish (*trey pra laak*)
- Boiled fish (e.g. boiled mackerel or *trey cham hoy)*
- Dried shrimp
- Fishmeal
- Dried sea cucumber (*Chleun samot*)
- Dried fish (*trey nguiet*)
- Smoked fish (*trey cha'ar*)
- Shrimp paste
- Cooked crab meat
- Fermented small shrimp (*ki*)
- Dried Squid (*Meuk krea)*

(Local names are mainly from Yeap Soon-Eong and Yan Sen-Min, 2002)

The post-harvest fisheries sub-sector is now recognized in government policy as a very important part of the fisheries sector in Cambodia. Post-harvest fisheries includes the grading, processing, preservation, storage, transportation and trade of fish and fishery products. This is conducted throughout the country. Post-harvest fisheries activities provide employment opportunities for many people in the country, and especially women. Many of those employed are the rural poor, and also the urban poor who work in factories. Post-harvest fisheries also contribute greatly to food security, to government revenue generation and to foreign exchange earnings.

Cambodia's annual marine production is estimated to be approximately 60,000 tonnes and consists of 435 fish species, with mackerel, scad, anchovy, sardine, tuna and pomfret being the most commercially important pelagic fish species and threadfin bream, croaker big-eyes, lizard hair-tail fish, flat fish, snapper, barracuda, grouper, shark and conger eel being the most important demersal fish species. There are seven shrimp species, one squid species, and two cuttlefish species with a total stock of about 1,300 tonnes annually. Marine capture fisheries mainly take place in coastal and inshore sub-sectors. Due to the lack of complete and accurate data collection, information on marine landings is extremely scanty and fragmented.

2.6 Trade, Distribution, Imports and Exports of Fish

Most fish is consumed close to where it is caught, often by the families of the people who catch it. Inland fish that is traded is sold to local wholesalers or their collectors who collect sufficient quantities of fish for transport to major markets. Fish are often transported by truck in baskets. Many of the roads in Cambodia are in poor condition and transporting fish from landing sites to major markets by road can be difficult, especially in the wet season.

The waterways offer an alternative that is used extensively especially during the wet season. Some of the cage cultured fish from the Great Lake are transported in floating cages to Phnom Penh in July when the river depth enables the cages to be moved. These fish are sold at the floating market to wholesalers and to retailers.

The majority of fish which enters Phnom Penh must first pass through one of the municipality's three fish distribution centres. In Phnom Penh itself there are 29 official retail markets, with over 2,000 traders, mainly women. There are also a number of smaller more informal markets. Sok Vanna (2005) estimated that between 20 and 30 tonnes of fresh fish pass through Phnom Penh's wholesale markets on a daily basis, with the average quantity being similar during both the open and closed fishing seasons. The explanation for the high turnover even during the closed season is the supply of fish from aquaculture, from cage held fish and from imports. There are also major retail outlets in Siem Reap and Sihanoukville. The majority of small-scale fish producers sell their own fish locally. Lot-owners tend to supply a greater proportion of their catch to wholesalers or to factories.

The availability of fish in Cambodia is affected by the inward movement of fish in the form of imports and the outward sale of exports. In addition to fish that is captured and cultured in Cambodia, the supply of fish is increased by imports from surrounding countries i.e. Thailand, Lao PDR and Viet Nam. Whilst large-scale importation of fish into Cambodia is a recent development, as domestic demand increases, so the need to import fish from neighbouring countries has increased.

In the 1980s non-indigenous fish were imported for aquaculture (for example carp and tilapia). These were complemented by imports of fingerlings of indigenous species to enhance fish farming capacity. In addition shrimp post-larvae are currently being imported from Taiwan for farming around Sihanoukville (Ing Kim Leang, 2005). Imports of fingerlings remain an important part of the overall importation of fish into Cambodia.

In latter years fresh and processed fish, mainly from Viet Nam and Thailand, have been imported to supplement locally produced food for human consumption. Much of the imported fresh fish is low quality fish for poorer consumers, brought into the country through unofficial channels. Processed imports include salted fish, canned fish, dried shrimp, shrimp paste and fish sauce. Dried *Pangasius* heads are also imported from Viet Nam for consumption by poor consumers. Some products are aimed at the wealthier consumers, for example frozen shrimp, crabs and Spanish mackerel.

The export of aquatic products from Cambodia is growing in response to increasing international demand for fish and the increasing prices achieved in other countries. Much of the exported fish is not officially recorded, making estimates of the total amount and value uncertain.

The official figures for exports are shown in Table 3 below. An estimated 52,000 tonnes of aquatic products were exported in 2005, but this subsequently declined to 24,100 tonnes in 2007. Although these figures are only estimates they probably reflect the real levels and trends in aquatic product export from Cambodia, much of which is done without being formally recorded. In 2006, the International Trade Centre of UNCTAD/WTO estimated the annual value of Cambodian aquatic product exports to be approximately $100 million, largely based on the figures for the value of fish imported from Cambodia in the records of trading countries (ITC, 2006).

Table 3: Export of fish and aquatic products in tonnes from 2003-2007

Export Fish Products	2003	2004	2005	2006	2007
Inland fisheries	41,755	37,395	42,000	19,500	10,550
Marine fisheries	14,645	8,455	10,000	10,500	13,550
TOTAL	**56,400**	**45,850**	**52,000**	**30,000**	**24,100**

Source: FiA, 2009

Fish is transported by truck to Viet Nam and Thailand. Some is transported live (van Dijk and Molkenboer, 2000) by boat from Sihanoukville to Thailand and down the Mekong River to Viet Nam. Live blood cockle spat (*Anadara granosa*) are transported to Viet Nam for mariculture and live surf clams (*Spisula solida*) are transported to Thailand. Live fish from coastal provinces are transported to Phnom Penh for the local restaurant trade, or are exported to Hong Kong and Singapore. Aquarium fish are shipped to Phnom Penh, from where they are exported overseas.

Frozen shrimp is exported to Australia, Hong Kong, the USA, and Japan. The majority of exports by weight are believed to go to Thailand, but the weight exported to both Thailand and Viet Nam is

poorly documented. Seaweed is mainly exported to China, Malaysia and South Korea (Chheam Pe and Ngor Peng Bun, 2005).

The main exported processed aquatic products are fish paste, smoked fish, dried fish, snakehead (*Channa* spp.), featherbacks (*Notopterus chitala*,and *Notopterus lopis*), and *Kryptoterus* spp. From the coast, grouper, squid, lobster, crab, shrimp and seaweed are important exports. Exports are generally of higher value species, which can command higher prices in neighbouring markets.

Generally, fish and aquatic products in live, fresh and processed forms are supplied to both domestic consumption and international markets.

The main fisheries post harvest and marketing issue and challenges include:

- Infra-structure and management of fisheries production systems is under-developed;
- Clear planning, targets and strategy are required for export orientated fisheries production systems;
- Aquatic product production and trading systems are overly difficult and complex;
- Most processing plants, and enterprises lack clean potable water which severly limits processed product quality, and additionally electricity is expensive which constrains the ability of producers and investors to compete in international export markets;
- Road infrastructure is poor in some areas, which increases transportation and product price;
- There are no accredited laboratories capable of analyzing all parameters required by importing countries, so some parameters are sent to laboratories in Thailand and Viet Nam for testing;
- Most fishery producers and processors are unaware of the standard operating procedure requirements needed for international markets;
- Even though Cambodia has large processing companies with plants capable of meeting Hazard Analysis and Critical Control Points (HACCP) requirements, they find it difficult to find export markets because product credibility has yet to be established with importing countries;
- Processors lack market information and find identifying viable export markets difficult;
- Most processing still uses traditional low technology processing techniques which are unpopular with international markets;
- Most exported aquatic products fail to meet international market requirements for hygiene and food safety and therefore do not attract buyers.

In order to address the above problems, the Department of Fisheries Post-Harvest Technology and Quality Control (DFiPTQ) of FiA has developed a strategic action. It is hoped that RFLP will be able to work collaboratively with DFiPTQ on some of these under output 4 on post-harvest and marketing.

- Establishment and developing an Information and Communication Technology (ICT) system;
- Enhancing service provision for producers, processors and traders through effective ICT system utilization;
- Establishing internationally accredited (ISO 17025) laboratories capable of testing and analyzing all parameters required to certify quality and safety of aquatic products to the international requirements of importing countries;
- Preparing and developing fishery landing sites and fisher cooperatives in order to facilitate their management;
- Construction, and repair of road systems from rural areas to important markets to facilitate product transportation and distribution;
- Enhancement of human resource capacity to train technical fisheries staff and relevant stakeholders on effective post-harvest law enforcement;

- Establishment of inspection teams and control check-points to monitor and inspect import and export of aquatic product, and processing plants;
- Piloting of value added products;
- Enhanced quality and safety in the production chain by implementing Good Aquaculture Practice (GAP), Good Hygienic Practice (GHP), and Hazard Analysis and Critical Control Points (HACCP;
- Production, distribution and training on best practice guidelines for Good Agriculture Practice (GAP) and Hazard Analysis and Critical Control Points (HACCP) to stakeholders;
- Promoting the use of guidelines on GAP,GHP, HACCP and other technical guidelines in the production and processing chain; and,
- Promoting the implementation of the appropriate techniques for packaging and labeling fisheries products to international standard.

2.7 Fish Consumption

According to the National Poverty Reduction Strategy, food insecurity and poverty are closely linked. Not having enough food (especially rice) for part of the year is synonymous with poverty. Closely linked to this is access to land for rice production, and access to aquatic resources for fish capture and production. Whilst rice forms the basis of the Khmer diet, it would also be fair to say that fish is included in virtually every meal that Cambodians eat.

Overall fish and other aquatic products provide over 75% of the animal protein intake for the entire population and in fishing dependent provinces this can be as high as 90% (MRC, 2007). It is estimated that the average national consumption of aquatic products is 52.4 kg/person/year, although this may be substantially higher because much of the fish landed by small-scale subsistence fishers is un-recorded. The average daily consumption of fish fluctuates greatly with season, in line with supply changes. Fish also becomes more important in the diet during the rice transplanting season, when most farmers suffer rice shortages (Nom Sophearith, 2005).

According to the Cambodian Socio-Economic Survey (National Institute of Statistics, 1999), on average a household in Cambodia spends 18.2% of its monthly expenditure on fish, meat and eggs. Fish is half of this expenditure at 9.1% of total expenditure, while meat, poultry and eggs are 5.1% 2.6% and 1.3% respectively. The percentage expenditure on fish is fairly consistent across most wealth groups, except for the richest who spend only around 5% of their monthly expenditure on fish.

Nom Sophearith (2005) found that in Kompong Chhnang male-headed households tend to consume more fish than female-headed ones. Changes in the cost of buying fish can have some subtle effects that are not easy to see. Nom Sophearith (2005) noted that in villages where households can buy less fish than previously, women go without, to ensure that men and children have enough to eat. This can be particularly detrimental to the health of pregnant and breast feeding women. He also found that landless people tended to consume less fish than people who owned land, because they had to spend more of their overall income on buying rice.

Fish stored in the form of processed products such as fish paste (Prahok) and fish sauce are vital components of the annual food security cycle. These processed products are particularly important to the food security of the poor and in some areas are eaten everyday by poor people (Nom Sophearith, 2005). Fish plays an important role in nutrition with certain species of fish (especially fatty marine pelagics) being important sources of Vitamin A (Clucas and Ward, 1996).

In addition, processed fish like Prahok, is particularly important to hill tribes during the rainy season because at that time they are too busy cultivating rice to go fishing (Oul Kim Sear, 2005). Even communities remote from the Great Lake and river system are highly dependent on fish for food security. The dependence of highland people on fish has only recently been fully recognized (Oul

Kim Sear, 2005). Fish supply into highland areas is on the increase as improved roads reach more remote locations.

The domestic market for marine products is small. Consumption of marine species by Cambodians is primarily confined to the four coastal provinces. In comparison, freshwater fish and fisheries products are highly marketed and distributed much more than the marine fisheries products in local markets for wide-scale consumption. The domestic distribution of marine species is developing only slowly, and is limited to fresh or frozen high-value species (e.g. shrimp, seabass, grouper and sea cucumber). Domestically, marketing and distribution of marine aquatic products is primarily confined to Phnom Penh.

2. 8 People Involved in Fisheries Sector

There are a variety of people that are associated with the supply of fish, distribution, processing, trade and consumption of fish. They undertake different activities and exhibit different characteristics. Some are particularly poor and vulnerable.

Inland capture fishers that fish as a full-time occupation are often landless and have limited access to agricultural land. These, and the labourers in the sector, are some of the poorest. They will often barter fish for rice, particularly during the peak fishing season during January and February. Part-time fishers usually have land and farm as well as fish. Some fishers, fish on a seasonal basis. Seasonal fishers tend to live in upland areas of the country and migrate down to fishing areas during the peak landing periods. Seasonal fishers sometimes work as labourers for lot owners, especially when they do not have direct access to fish themselves. Others fish using gillnets and traps without using a boat e.g. by wading into the water or fishing from the bank.

Inland capture fishers typically use small-scale fishing methods. Other poor stakeholders are those that may own low productivity land but have to travel and sell their labour at landing sites or markets. Fishers or labourers that grow only a single rice crop per year are usually poorer than those that can produce more than one crop of rice per year. This distinction may also hold true for the different stakeholder types in the post-harvest fishery sector. Other service providers, like gear repairers, small-scale bamboo suppliers and lot guards are all also poor.

According to Kaing Khim and Ouch Pouv (2003), a study in Takeo, Kandal, Kampong Cham and Kampong Chhnang provinces found that 20% of fishers and over half of fish farmers are women. Women fishers operate gill nets and floating nets in the inland fishery.

FiA estimates that there are around 100,000 people involved in fish processing, although these are mainly those reporting fish processing as their main source of employment/income. Many more people are engaged in part-time and seasonal fish processing work. Many of the people involved in the processing of fish are either operating at a family scale or are poor people who are employed by large-scale processors. Between these two levels are the medium-scale commercial businesses that operate from the home of the processor. Ham Kim Kong (2005) identified processing and aquatic product trading, as a key area for the involvement of women. Opportunities exist for women both in household processing businesses and working for larger companies as shrimp peelers, filleters, graders and packers. Many of those employed are seasonal or casual workers with little job security.

Most fisheries-dependent families are involved in some aspect of processing. This can include grading, cleaning and storing fish, re-packaging for market, or making a variety of fish products. In some villages, almost the entire village can be involved in processing.

According to FiA statistics there are about 27,000 people involved in aquaculture in Cambodia. Many of the culture ponds and cages are family owned and operated. Women play an important role in small-scale aquaculture, but less so in larger-scale. Along the coast women are playing an

important role in the growth of seaweed culture, especially in the cleaning and drying of the seaweed. A large number of people on the coast are involved in transporting fish (from boats to auction/processing plants), grading fish and shrimp for auction and processing, boiling fish, and peeling shrimp and crabs. Often the people are crammed into densely populated housing areas with unhygienic conditions and limited areas available for processing. The majority of those employed are recruited seasonally and/or part-time, as required by the processor. Many of the shrimp peelers are women accompanied by small children. In large commercial plants employees consist of permanent often highly skilled staff and temporary low skilled staff who are employed as and when required. There are also owners and labourers involved in freezing and packaging of marine fish. In addition other people process sea cucumber, shark fins and fish meal from trash fish.

Therefore, the emphasis of RFLP in Cambodia should pay particular attention to the involvement of women and children in Community Fisheries (CFi) management, post harvest and aquaculture activities.

2.9 Fisheries Policy Reform and Community Fisheries (CFi)

In 2000 the Royal Government of Cambodia (RGC) announced a major change in fisheries management policy. The fisheries policy reform was an important historical event, which had never happened before in the history of fisheries management in Cambodia. The RGC announced that it was abolishing some fishing lots and reducing the areas of others, and transferring access and management of 56% of the total fishing lot area in the country to the local people to promote effective, equitable and sustainable management of fisheries resources by local people, and especially those people dependent on the fisheries resources, through the establishment of Community Fisheries (CFi). This important event met with the appreciation of the Cambodian people, NGOs, international organizations and donors alike.

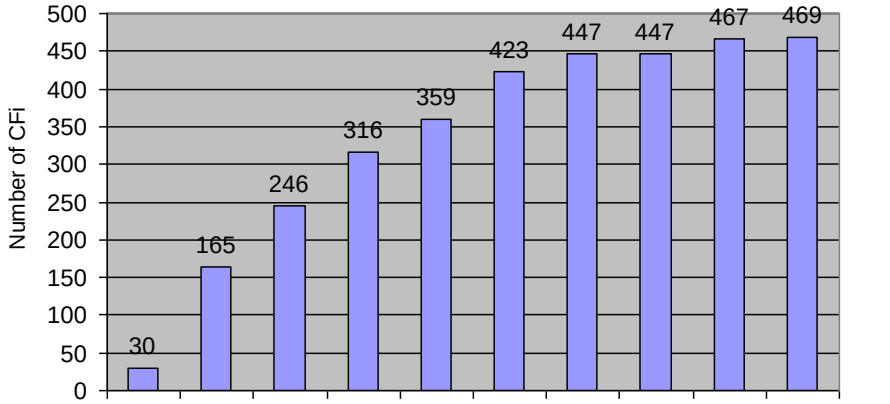
This wide-ranging reform came about because of many factors, including conflict between small-scale fishing and large-scale fishing, insufficient inland fishing area to provide livelihoods for fishers and a move away from centralized top-down approach to fisheries management to a more participatory approach which involved local users. The management and protection of fisheries resources and the associated aquatic habitats is a key role of the participants in the sector. Community fisheries are playing a more and more significant role in the sustainable use of natural aquatic resources and habitats in Cambodia.

The establishment of Community Fisheries (CFi) throughout the country was legalized by the Royal decree on the establishment of CFi, and the approval of the Sub-decree on Community Fisheries Management in 2005, and the new Fisheries Law in 2006 (Article 59 to 63). Guidelines on CFi were prepared and endorsed by MAFF in 2007. The CFi guidelines include a model CFi by-law, CFi internal rules, CFi area agreement (to be attached as a CFi boundary map), and CFi Area Management Plan (CFiAMP). These legal documents will be used to provide guidance and mechanisms that will be followed to support and strengthen CFi management by the RFLP in the 4 coastal provinces of Cambodia.

The Sub-decree and Fisheries Law legalize co-management arrangements between the community associations and the Fisheries Administration (FiA) through the provincial FiA. Each co-management arrangement will include the elaboration and approval of short and medium term fisheries management plans for the fishing area allocated to a particular fishery community.

Currently, there are 469 CFi established in the whole country, while there are 35 Community Fisheries (CFi) in the coastal provinces. 173 CFis in the Tonle Sap region are already registered, while others are in the process of registering with MAFF with support from DFID/DANIDA (National Resources Management and Livelihoods program), the Mekong River Commission (MRC) Fisheries Program and other development partners.

Figure 3: The Number of Established CFi



Source: CFDD 2009

Many of the established CFis are functioning poorly, primarily because they do not sustainably generate income, and because of the limited effectiveness and poor capacity of the CFi committee. RFLP can facilitate the strengthening of CFis and their committees in coastal provinces by the promotion of alternative livelihood activities and supporting the development of, and implementation of CFiAMPs.

The core of the Rectangular Strategy of the Government is Good Governance. It is the most important prerequisite to ensure socio-economic development with sustainability, equity and social justice. Good governance requires effort at all levels from the grass root to the national level. Therefore the strengthening of community level fisheries co-management and CFis will improve local fisheries governance and contribute to the achievement of the above strategy. All six RFLP outputs are important and necessary for supporting and strengthening Communities Fisheries in the coastal provinces and will contribute in the long term to improved sustainable coastal fisheries management and resource use.

Meanwhile, the endorsed legislation and guidelines for Community Fisheries management and development are necessary and important for RFLP implementation and achievement and output 1 on co-management in particular.

III. Fisheries Contribution to National Development

3.1 Fisheries Contribution to Employment and Livelihoods for Poor

80% of all poor people in Cambodia are involved in the agriculture and fisheries sectors and the incidence of poverty in the agriculture and fisheries sectors is the highest of all sectors at 46%. Generally, rural fishing households are poorer than non-fishing rural households (World Bank, 2006) only achieving 55% of the average income of non-fishing households. For many people, involvement in fisheries is an indication of poverty, but at the same time the fisheries sector provides a means for these poor people to have a livelihood. It also provides an important safety net for the very poor. Households whose heads have been sick in recent years are significantly more likely to have to rely on fisheries as a source of income (World Bank, 2006). As such fisheries contribute to the livelihoods of some of the poorest people in the country.

Whilst the exact number of people employed in fisheries in Cambodia is unknown it is estimated that fisheries provides a livelihood for a large percentage of people across the fish capture, culture, processing, distribution and trade sub-sectors. Estimates vary widely, for instance the National Environmental Action Plan 1998-2002 estimated that there are over 3 million people dependent on

the Tonle Sap lake for their livelihoods (MoE, 1998). It is estimated that the fisheries sector provides full-time, part-time and seasonal work to around 2 million people in capture, culture, processing, trade and transportation. When the families of these people are taken into account it can be seen that the fisheries sector has a major impact on the lives of people in Cambodia. The vast majority of these are poor rural people.

Many of those involved in agriculture are also involved in fisheries. It is estimated that 10.5% of the labour force work full time and 34% of the labour force work part time in fishing. Many rice farmers and upland forest dwellers depend upon fisheries as an important subsistence activity. There is a wide diversity of livelihood opportunities within the fishery sector for the poor in Cambodia including:

- Labourers in fishing;
- Small-scale fishers;
- Fish Farmers;
- Rice-fish farmers;
- Processors;
- Retailers;
- Net makers and repairers.
- Labourers for wholesalers;
- Transporters;
- Ice producers;
- Wood cutters;
- Salt producers;
- Boat builders; and,

For many people involved in fisheries there are no, or at best few, opportunities outside of the fisheries sector. The fisheries sector provides a means of keeping these people out of complete destitution and is seen as a safety net for many. Fisheries also provide a livelihood to many women who are involved in fishing and fish farming, albeit to a lesser extent than men, but women play the most significant part in the processing and trade of fish.

Fisheries and other aquatic resources of Cambodia, in addition to providing the more obvious services outlined above also provide ecosystem services, construction materials (such as mangrove areas), medicines, and provide physical barriers to protect communities (such as reefs and mangrove areas). These services are diverse and make significant inputs to the livelihoods of the people that depend upon these resources.

3.2 Fisheries Contribution to Food Security

Fish provides food for over 13 million people and is the most important source of animal protein for human consumption in Cambodia. On average fish provides more than 75% of the animal protein consumed in the country and, according to *Ahmed et al. (1998),* 90% in fishing dependent provinces. Overall fish consumption is estimated to be around 52.4 kg/person/year (MRC, 2007) (whole fish equivalent) and is many times greater than the global average, reflecting the importance of the fisheries sector to the diet and culture of the country.

For fishing communities, which are generally poorer than non-fishing rural communities, captured fish makes a very significant contribution to household food security (World Bank, 2006)

Processed fish, particularly in the form of fish paste and fish sauce, provides a daily source of fish for the national diet throughout the year and smoothes out the seasonal fluctuations in landings. Access to fish is a major, if often under-represented, part of food security for the country and one that is becoming more recognized as population increases and global market demands stretch the available resources.

3.3 Fisheries Contribution to Natural Heritage

Fish are also part of Cambodia's cultural heritage. The complex and enduring linkage between fisheries and many aspects of the region's history are illustrated by the archaeological finds of fish processing and trade throughout the region and the incorporation of fish scenes into the historic temples of the country and the region, demonstrating the continued importance of the sector both domestically and throughout the South East Asia region. The archaeological records for Cambodia and of Ankor Wat in particular, clearly show the extent to which fisheries has played, and continues to play, a very significant part in the culture and values of the nation and its people.

The aquatic environment and the associated rich diversity of aquatic species also constitute a very important part of both the national and global natural heritage. Cambodia also has important aquatic habitats including wetlands, mangroves, sea grass areas, flooded forests and coral reefs. Many of these are of global environmental significance and a focus for a growing tourist and eco-tourism industry.

3.4 Fisheries Contribution to GDP, Fiscal Revenue and Expenditure

The contribution of fisheries to GDP depends on the accuracy of both estimated fisheries catch and value. In 2004 the value was estimated by MRC to be US$ 350 million/year, representing over 12% of GDP (MRC, 2004). Other estimates suggest a landed value of US$ 200-250 million, and when value is added through processing and transportation it is estimated to contribute between 8-12% of GDP. As the true figure for the fisheries harvest may be much higher than reported official figures, it is possible that the contribution to GDP is higher than the above estimates. According to the National Institute of Statistics fisheries contributed 11.4% of Gross Domestic Product (GDP) in 2001.

FiA estimates that the value of exports from Cambodia in 2001 was approximately US$43 million (Long Korn, 2003) although this is probably substantially under-estimated because of under-reporting and smuggling. Long Korn estimated the value to be nearer US$76 million. The EDC (2002) estimated that 100,000 tonnes of fish are exported annually, or about 25% of total production. The International Trade Center (ITC) used the value of imports into trading partner countries to estimate that the value of exports from Cambodia in 2006 was about US$ 100 million.

The economic landed value of the sector to the country is estimated to be around US$ 200-250 million. The total value after processing and transport to the point of consumption or export is unknown, but is thought to be between 8-12% of GDP. The total contribution of fisheries to GDP in 2005 was estimated to be US$ 426 million (RGC, 2007).

From this the RGC officially collects around US$ 1.8 million annually in revenues, although this figure could be substantially increased under more effective management. The projected investment in fisheries was US$ 14.4 million in 2007 (RGC, 2007), mainly from the private sector. Government expenditure on fisheries development, management and conservation during the period 2007-2008 was approximately US$1 million/year of which donor funds directly contributed 80%. This was a significant increase over previous years. In 2006 CDC estimated official development assistance (ODA) to fisheries to be about US$ 240,000 or 0.9% of all ODA. Expenditure by Commune Councils on fisheries related activities is a small, but is a potentially increasing source of development finance.

IV. Institutional Support and Responsibility for the Fisheries Sector

The Fisheries Administration (FiA) has been one of the most consistent and significant service providers over the years. It provides a wide array of services that operate from international to community level. It creates the enabling regulatory and policy environment which ensures that the resources are used sustainably and equitably. It also provides the technical support to improve the production, processing and management of fisheries and aquaculture.

According to Article 6 of the Fisheries Law of Cambodia, FiA is a Government authority, is the general directorate of fisheries, under the Ministry of Agriculture, Forestry and Fisheries, and it is responsible for the management of fisheries and fishery resources based on the National Fisheries Policies and the Fisheries Law. FiA has a nation-wide organizational structure, in the form of a vertical hierarchy which is organized into central level, inspectorate, cantonment, division and Sangkat level units of the Fisheries Administration.

FiA is supported in its work through the efforts of other government departments and agencies which provide complementary services in areas such as commerce, health, environment and social development. The Ministry of Interior through its support for decentralized government is assisting the communes to play a much more effective and direct role in planning for development and supporting the implementation of commune plans.

An important part of the contribution which the fisheries sector makes to national development is through the delivery of services by FiA to its stakeholders that depend upon the sector. The services which FiA currently supplies are delivered at national, provincial, commune and community levels. These services are very diverse and were expanded considerably during 2007 when the Department of Fisheries (DoF) was transformed into the FiA and provincial fisheries staff joined with the former DoF staff and structures to become the greatly expanded and integrated FiA structure.

The different levels of stakeholders include:

- National – FiA provides services to wider society through its contribution to conserving national heritage and to addressing Cambodia's international and regional obligations. It also provides services to other government departments and to the implementation of wider policies.
- Provincial – FiA provides support, training and policy guidance to Provincial and District staff in the implementation of their work.
- Commune – FiA works with commune councils to assist their planning processes and to support plan implementation.
- Community – FiA works with village people to develop fisheries management institutions, to take up and use technologies, to access information and to develop their livelihoods. FiA also works with communities to monitor the effectiveness of policy delivery.

FiA's responsibilities cover many different levels. There are international obligations to both its immediate neighbours and to the wider global community. FiA also has responsibilities that arise from the country's Constitution, not only in terms of the way it conserves and protects its aquatic resources, but also in terms of the way it deals with the people who depend upon those resources. The fishery sector is also a major contributor to the development of the country and is specifically mentioned in both national policies of the Government and the National Strategic Development Plan (NSDP).

FiA is the main source of policy guidance to the RGC on fisheries management and development. FiA provides clear direction linking development in the sector with wider policy frameworks at the national level. FiA is also the main agency concerned with monitoring the implementation of policy.

Without a clear policy direction for the sector, development resources would be in conflict with each other and development assistance would be wasted.

Development of the fishery sector in recent years has been supported and guided by a number of service providers. For the RGC, the key service provider is the Fisheries Administration (FiA). However many other stakeholders also play their part: the private sector, from the household scale to large industry; community based and civil society organizations; and Cambodia's government and non-government, and international and donor development partners also fulfill an important role.

V. National Policies and RGC Plans to Support Fisheries

5.1 Millennium Development Goals

The importance of the fisheries to national well-being is well recognized by the RGC. Furthermore, the role of the fisheries in achieving Cambodia's Millennium Development Goals (CMDG) is extremely significant.

- In particular, by providing both food and employment, fisheries are core to **Goal 1: Eradicate extreme poverty and hunger**.
- The important roles played by women in the fisheries means that they also help contribute to **Goal 3: Promote gender equality and empower women**.
- Improved nutrition from consumption of fish and fish products also plays an important role in helping towards **Goal 4: Reduce child mortality** and **Goal 5: Improve maternal health**.
- Last, but not least, good stewardship of the wetlands helps considerably towards **Goal 7: Ensure environmental sustainability**.

5.2 National Strategic Development Plan

The importance of the fisheries is also recognized in the National Strategic Development Plan (NSDP), which acknowledges that "Fish occupies a crucial position in terms of food, nutrition, and income for millions of Cambodians." The NSDP also sets a number of goals for fisheries; these have guided and continue to guide the development of the sector. Enabling and strengthening of community-based development in the fisheries sector is being done by empowering local communities with farmers participating directly, actively and equitably in fishery planning, programmes and management, and avoiding over-fishing.

The NSDP mandates the achievement of the targets set in this Strategic Planning Framework for Fisheries (SPF) and sets specific targets for:

(1) A comprehensive strategy for regional cooperation to address international issues facing fisheries in Cambodia, including climate change, damming and environmental degradation, to be developed and fully implemented by the end of 2013; and,

(2) Total annual fish production from all sources (wild capture, rice field capture, and aquaculture) to reach 850,000 tonnes by the end of 2013.

5.3 Rectangular Strategy

Because the fisheries sector is so crucial to people's livelihoods and the national economy, the RGC has formulated "the Rectangular Strategy for Growth, Employment, Equity and Efficiency".

One side of the Rectangular Strategy Phase, is the development of fisheries reforms (Figure 4: Rectangle strategy), which aims to enforce laws, take action, develop plans for and strengthen all relevant institutions to achieve the national goals of environmental fisheries protection, conservation of bio-diversity, socio-economic development, good governance and poverty alleviation. These goals are also clearly mentioned in the RGC's political program for the fisheries sector, as well as in the Socio-economic Development Plan, the Preliminary Strategy for Poverty Alleviation, and the Good Governance Action Plans.

At the first cabinet meeting at the Office of the Council of Ministers Prime Minister Hun Sen stated that the RGC would continue to implement the "Rectangular Strategy" for Growth, Employment, Equity and Efficiency, with Phase II being the "Socio-economic Policy Agenda" of the "Political Platform of the Royal Government of the fourth legislature of the National Assembly".

Description of the structure of the Rectangular Strategy

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The Rectangular Strategy has been formulated as an integrated structure of interlocking rectangles. In brief, the components of the **Rectangular Strategy** are as follows:

First, the core of the Rectangular Strategy is **Good Governance**, focused at four reform areas: (1) Fighting corruption; (2) legal and judicial reform; (3) public administration reform including decentralization and de-,concentration; and (4) reform of the Royal Cambodian armed forces.

Second, the environment for the implementation of the Rectangular Strategy consists of four elements: (1) peace, political stability, security and social order; (2) Cambodia's integration into the region and the world; (3) partnership in development with all stakeholders, including the private sector, donor community and civil society; (4) favorable macro-economic and financial environment.

Third, the four strategic "growth rectangles" are: (1) enhancement of the agricultural sector; (2) further rehabilitation and construction of the physical infrastructure; (3) private sector development and employment; and (4) capacity building and human resource development.

Fourth, each strategic "growth rectangle" has four sides:

- **Rectangle 1: Enhancement of the Agricultural Sector** covers: (1) improving agricultural and diversification; (2) land reform and clearing of mines; (3) fisheries reform; and (4) forestry reform.
- **Rectangle 2: Further Rehabilitation and Construction of the Physical Infrastructure** includes: (1) further restoration and construction of transport infrastructure (inland, marine and air transport); (2) water resources and irrigation system management; (3) development of the energy sector; and (4) development of Information and Communication Technology.
- **Rectangle 3: Private Sector Development and Employment** covers: (1) strengthening private sector and attracting investments; (2) creation of jobs and ensuring improved working conditions; (3) promotion of SMEs; and (4) creation of social safety nets for civil servants, employees and workers; and
- **Rectangle 4: Capacity Building and Human Resource Development** consists of: (1) strengthening the quality of education; (2) enhancing health services; (3) implementation of gender policy; and (4) implementation of national population policy.

Source: "Rectangular Strategy" Phase II, Prime Minister Hun Sen's address at the first cabinet meeting of the Kingdom of Cambodia, on 26 Sept. 2008.

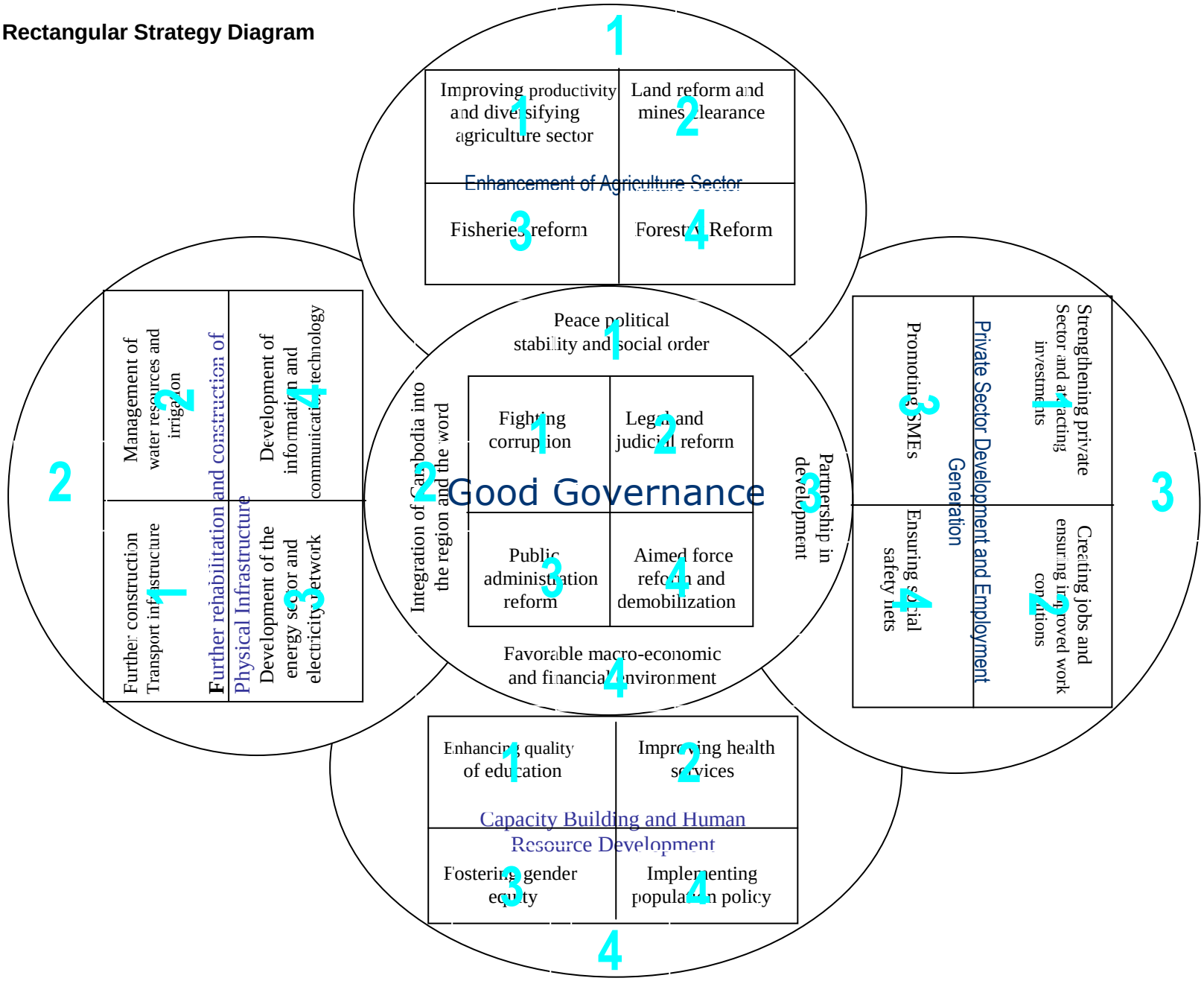
The RGC is also strongly committed to achieving its prioritized goals in the fourth legislature of the National Assembly by ensuring:

1. Sustainability, peace, political stability, security and social order to promote rule of law and protect human rights and dignity and multi-party democracy.
2. Sustainable long-term economic growth at a rate of 7% per annum on a broader basis and more competitive capacity in the context of one-digit inflation.

3. Poverty reduction at a rate of over 1% per annum, and improvement of main social indicators, especially in education, health and gender equity.
4. Increased outreach, effectiveness, quality and credibility of public services.

The Rectangular Strategy is the economic policy tool being implemented by the RGC to reduce poverty during the period of its new mandate and to more forward in achieving Cambodia's Millennium Development Goals (CMDGs).

Figure 4: Rectangular Strategy Diagram



Source: The Rectangular Strategy presented at the first Cabinet meeting on 16th July 2004, by Prime Minister Hun Sen of Cambodia.

5.4 Decentralization and De-concentration (D&D)

The fisheries sector also has a part to play in the RGC's policy of Decentralization and De-concentration (D&D). A process of devolving responsibility for fisheries management to provincial, mommune and community levels has already begun and the implementation of the Strategic Planning Framework for Fisheries will further support FiA to continue this process, including building the capacity at the Cantonment level to assume increasing responsibilities.

The fisheries sector also plays an important role in contributing to achieve this commitment through implementing fisheries policy and plans, which ensure the sustainable use of fisheries resources and management for peoples' livelihoods and poverty alleviation through the D&D approach. Community Fisheries involves local participation in fisheries management, which contributes to the achievement of the D&D process and implementation. RFLP activities and approach will further facilitate action in the coastal provinces when promoting fisheries co-management and CFi's, while the D&D approach will equally contribute to the achievement of RFLP outputs.

VI. National Fisheries Sector Policy, Strategic Planning Framework for Fisheries Relevant to RFLP

6.1 National Fisheries Sector Policy Relevant to RFLP

Based on its overall goals for the future, the RG C's Vision for the fisheries sector is: "***Management, conservation, and development of sustainable fisheries resources to contribute to ensuring people's food security and to socioeconomic development in order to enhance people's livelihoods and the nation's prosperity."*** This vision is based on implementing the policies of the RGC, achieving the targets of the NSDP and reaching the CMDG.

The co-ordination, harmonization and management of the development of the fisheries sector towards this vision for the future benefit of Cambodia and its people is the core role and responsibility of the FiA.

To achieve this vision, the RGC has formulated the following policy *(the Statement of the Royal Government of Cambodia on the National Fisheries Sector Policy, signed by the Prime Minister on June 15, 2005):*

1. **Management and development of fisheries**

   - *Managing and utilizing sustainable fisheries resources to enhance food security and food safety and to contribute to poverty alleviation.*

The achievements and both direct and indirect impacts of the RFLP output 1 (Co-management mechanisms for sustainable utilization of fishery resources), output 3 (Improved quality of fishery products and market chains), output 4 (Strengthening and diversification of income opportunities for fisher families) and output 5 (Facilitated access to microfinance services for fishers, processors and vendors) will contribute to the above action, implementation and the achievement of this point of the policy.

   - *Promoting and encouraging fishing activities in the Exclusive Economic Zone (EEZ) and in the international fishing grounds by strictly implementing the regional code of conduct for responsible fisheries and the laws of the Kingdom of Cambodia.*

The achievements and both direct and indirect impacts of RFLP output 1 (Co-management mechanisms for sustainable utilization of fishery resources) and output 6 (Regional sharing of knowledge in support of livelihood development and reduced vulnerability for fisher communities and of sustainable fisheries resource management) will contribute to the above action, implementation and the achievement of the policy through the information sharing on the trans-boundary issues of fisheries co-management, sharing the lessons learnt and experiences among the six implementing countries on the implementing the regional code of conduct for responsible fisheries and the strengthening of fisheries co-management as well as the capacity of CFi as an institution and its staff in the coastal provinces of Cambodia.

2. Management of Community Fisheries (CFi) and family fisheries

- *Encouraging the effective establishment of CFi in inland and coastal areas in order to enhance the management of sustainable fisheries resources by empowering local communities;*

This aspect will depend primarily on the main achievements, effects and impacts of RFLP output 1: Co-management mechanisms for sustainable utilization of fishery resources in the coastal provinces, while the achievements and both direct and indirect impacts of RFLP output 2 (Improved safety and reduced vulnerability for fisher communities), output 3 (Improved quality of fishery products and market chains), output 4 (Strengthened and diversified income opportunities for fisher families) and output 5 (Facilitated access to micro-finance services for fishers, processors and vendors), will lead to empowerment of the local communities.

- *Providing sustainable livelihoods to fishermen in both socio-economic and nutritional terms.*

This will be a significant contribution as the Regional Fisheries Livelihoods Program will be the biggest support program in the four coastal provinces with FiA as the implanting partner. Both direct and indirect impacts of RFLP output 1 to 5 will assist and will facilitate the sustainability of fishers' livelihoods in the coastal region of Cambodia.

3. Management and development of aquaculture

- *Encouraging the development of different kinds and scales of aquaculture, both inland and coastal, by implementing the 'Regional Code of Conduct for Aquaculture'.*

RFLP output 4 (Strengthened and ddiversified income opportunities for fisher families) and output 6 (Regional sharing of knowledge in support of livelihood development and reduced vulnerability for fisher communities and of sustainable fisheries resource management) will help and contribute to the achievement of this policy.

- *Extension of indigenous species of fauna and flora aquaculture, especially of species with a high economic expert value.*

RFLP output 4 (Strengthened and diversified income opportunities for fisher families) can promote the promotion of activities related to this point through small-scale aquaculture for CFi members. RFLP will ensure that any aquaculture systems promoted are sustainable in the long term in terms of seed and feed inputs required.

- *Carefully monitoring the import of exotic fauna and flora species that may have a negative impact on Cambodian's fisheries resources.*

FiA has not done any study yet on this important point, so RFLP will be requested to provide support to address this.

4. Management and development of fish processing

- *Developing fish processing and packaging by encouraging large-scale investments and improving the fisheries infrastructure;*
- *Developing fish processing technologies and enlarging domestic markets by supporting small-scale investments to Community Fisheries (CFi) and to fishermen;*
- *Promoting economic cooperation by collecting and disseminating fish marketing management information;*
- *Ensuring the quality and safety of fisheries products*

Traditional fish processing and packaging is largely a cottage industry in Cambodia, which often fails to meet international food safety and hygiene requirements and export standards. Supporting communication and information sharing between the small-scale and large-scale fish processing facilities will help to improve both the quality and the marketing of processed aquatic products within, and exported from Cambodia. RFLP will address all of the above four points on fish processing through output 3 activities (Improved quality of fishery products and market chains) by providing support to small-scale fish processors who are CFi members to pilot new processing and value addition methods in their CFi villages.

5. Conservation of fisheries resources

- *Revising and disseminating regulations for law enforcement and crackdown of all illegal fishing activities and conservation of the inundated forest;*
- *Increasing awareness of people in fisheries communities and fishers to the importance of conservation of the fisheries resources and ensuring maximum participation from local communities with respect to fisheries management and conservation;*
- *Protecting the important natural habitats and bio-diversity;*
- *Ensuring wide coordination with all relevant sectors in order to reduce the potential negative impact on fisheries resources as a result of developments in these other sectors;*
- *Strengthening and increasing the conservation of sustainable fisheries resources through increased cooperation between stakeholders*.

Fisheries resource conversation is vital to sustainable fisheries and it is included in all the CFi Area Management Plans (CFiAMP) in the country to date, through the establishment of at least one protected fish sanctuary within the CFi fishing ground controlled by each CFi, and by the awareness raising on the importance of protecting the fish sanctuary. Some coastal CFis have already identified fish sanctuaries and protected areas, therefore RFLP output 1 (Co-management mechanisms for sustainable utilization of fishery resources) together with indirect impacts of other RFLP outputs, will support the establishment, demarcation, and operation of these areas to enhance sustainable fisheries management in the coastal provinces of Cambodia.

6. Development of fisheries institutions and their infrastructure

- *Promoting human resource development within the fisheries sector to ensure quality service within fisheries in order to improve socio-economic development;*
- *Providing training courses on fisheries and fisheries related laws to ensure awareness of all regulations and fisheries management processes;*
- *Encouraging and promoting fisheries research programs*.

The other important expectation from RFLP outputs is to support and address the above policy points and to further develop the capacity of FiA line agencies and disseminate and raise awareness of fisheries related laws in the coastal provinces of Cambodia. Moreover, the roles and responsibilities of FiA line agencies (related FiA technical departments, inspectorates and cantonments) as the technical implementing agency are necessary and important in ensuring the achievement of the RFLP activities and outputs. RFLP output 1 will contribute most to the development of improved staff capacity, but all other RFLP outputs will also have an element of

training and staff capacity development for FiA staff, and also the staff of other agencies supporting coastal fisher communities.

7. Budget and fisheries infrastructure

- *Promoting investment in the fisheries sector and developing the fisheries infrastructure to increase the competitive market position of the fisheries sector;*
- *Giving priority to using fisheries revenue through special financial procedures in order to achieve fisheries reforms, research conservation, development and surveillance.*

In addition to the above, the RGC will continue to adopt and be involved in implementing the inter-governmental conventions such as the FAO Regional Code of Conduct for Responsible Fisheries, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Convention on Bio-Diversity (CBD) and the agreement of the MRC member countries on water utilization in the Mekong River. Furthermore, the Royal Government has made considerable effort in implementing the World Summit on Sustainable Development, the ASEAN-SEAFDEC Agreement on Resolution and Plan of Action, and it is increasingly engaging in international cooperation.

The government will do its utmost to create favourable conditions to ensure effective and successful implementation of the above policies. Therefore, the support of donor agencies and development partners in terms of both financial contribution and technical assistance is vital to the achievement of the policies outlined above.

Generally, it is clear that the RFLP goal, objectives and all 6 outputs are very much in alignment with, and will be supported by the RGC's own policies and legislation related to sustainable national fisheries and livelihoods development in the coastal provinces of Cambodia. Meanwhile, RGC national fisheries policy should be used to provide the direction, guideline and areas, where RFLP should consider prioritizing its support.

6.2 Strategic Planning Framework for Fisheries Relevant to RFLP

6.2.1 Strategic Planning Framework for Fisheries 2010-2019 (SPF)

Strategic Goals of SPF

The seven key goals of the **Strategic Planning Framework for Fisheries 2010-2019 (SPF)** have been defined by the Fisheries Administration in a process which began in 2009 and has taken over one year through various consultations with related technical agencies and partners. The SPF should be finalized and endorsed in 2010. The seven key goals within the SPF will contribute to RGC's vision for the future of the fisheries sector. These goals describe the vision which the RGC wishes to reach by 2019. Achieving the RGC vision will require concerted action not only by FiA, but by all elements of the RCG and society, and all of Cambodia's Development Partner nations and organizations. The key goals are identified in the table below and the overall linkage to the development pillars is described.

Goals \ Pillars	Overarching	Fishery	Aquaculture	Post-harvest and trade	Regulatory & services
1. The contribution of the fishery and aquaculture to national prosperity is high and sustained.		√	√	√	
2. The livelihoods of people in the sector are improving and above the national average[5]).	√	√		√	
3. The fisheries domain and associated resources are in a healthy and resilient condition and sustainably managed[6]).		√			√
4. Fish is a plentiful, healthy and valuable source of food.	√	√	√	√	
5. Fishing businesses are profitable, sustainable and responsible.	√	√		√	
6. The fisheries domain is managed, developed and conserved in close cooperation with neighbouring countries.					√
7. The policy, regulatory and support environment for the sector is sufficient, appropriate and enabling.	√			√	√

Principles and Values of SPF

The principles and values of the SPF are as follows:

1. Ensure people's food security, including quality and safety.
2. Improve people's livelihoods.
3. Enhance the nation's prosperity.
4. Sustainably.

Applying the above principles to the issues facing the fisheries sector, means that the key areas for strategic intervention are as follows:

1. To protect and maintain the eco-system in order to support wild capture fisheries at levels that are both sustainable and sufficient to support demand.
2. To increase rice field fisheries.
3. To support the growth of small-, medium- and large-scale freshwater aquaculture.
4. To develop marine fisheries and mariculture.
5. To make improvements in post-harvest processing.
6. To promote fish and fisheries products in both national and international markets.

[5]) This covers all those working in or reliant on the sector, whether full-time, part-time or seasonally.

[6]) Co-management, with the full participative involvement of local people throughout the process, is a fundamental principle of this goal.

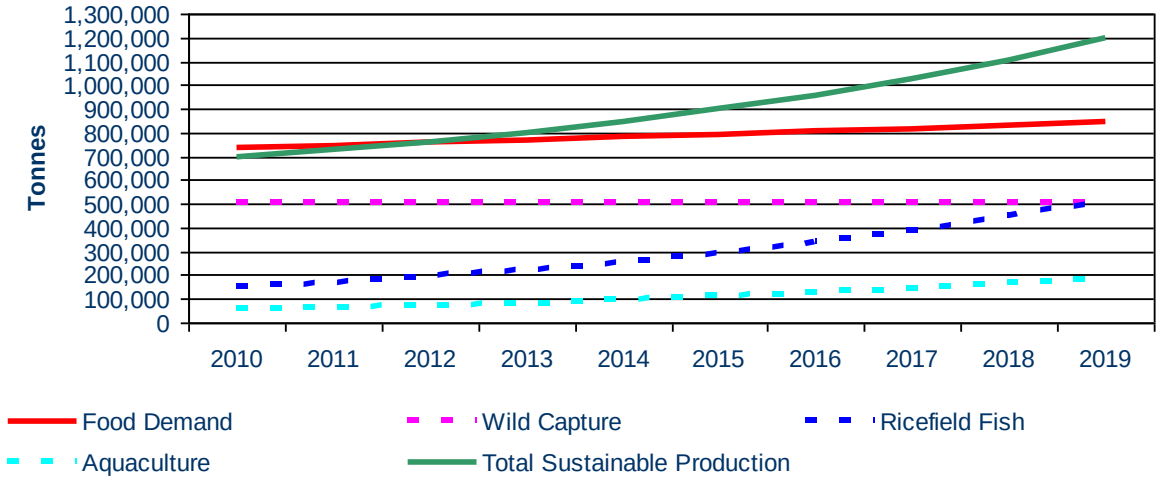
7. To support livelihood diversification away from capture fisheries, especially for poor, disadvantaged and vulnerable people in order to help them move out of poverty.
8. To ensure that the regulatory environment for the fisheries sector is supportive and effective.
9. To ensure that research and development is applied and supports an equitable development of the fisheries sector.

Achieving the envisioned development of the fisheries sector will be based on four values, which will guide all our actions: Understanding, Protecting, Growing and Supporting:

1. **Understanding**: The need to understand the fishery and the people who depend upon it, is of vital importance especially if its contribution to national development is to be maximized. All stakeholders in the fisheries need to learn from each other.
2. **Protecting**: The protection of the species, habitats and eco-systems of the marine and freshwater environment are necessary to maintain the flow of benefits from fisheries to the nation. In particular, concerted action is needed with our neighbours and partners against the shared threats to habitats which we all face.
3. **Growing**: Greater productivity is required from the fisheries sector in order to feed the increasing population of Cambodia and to obtain increased benefit from international trade in aquatic products. This needs to be done through the growth of both small-scale and large-scale aquaculture, and rice field fisheries, and through better use of those resources through post-harvest and export performance. The caveat is however that greater productivity should be done in an economically, environmentally and socially sustainable manner.
4. **Supporting**: Efficient and effective provision of support services is necessary and important to create an enabling environment for the private sector to expand its contribution to growth. This will further be achieved by openness and transparency in our actions, effective environmental regulation, better relations with our neighbours and making decisions based on evidence.

The predicted effect of SPF targets on fisheries production, compared to the extrapolated future consumption need is shown in Figure 4 below.

Figure 4: Production Targets 2010 - 2019[7]



If the targets are met, then by 2019 Cambodia will have a considerable aquatic production surplus. This can be used both to improve nutritional standards and to fuel economic growth through exports. At the same time, people's lives and livelihoods will be improved as a result.

[7] Source: FiA data.

6.2.2 RFLP Output Contribution to the Achievement of the SPF

Table 4 below shows the expected significance of contribution by RFLP outputs to the achievement of the target indicators in the draft SPF 2010-2019 (SPF drafted in 2009). The six RFLP outputs are as follows:

Output 1: Co-management mechanisms for sustainable utilization of fishery resources;

Output 2: Improved safety and reduced vulnerability for fisher communities;

Output 3: Improved quality of fishery products and market chains;

Output 4: Strengthened and diversified income opportunities for fisher families;

Output 5: Facilitated access to microfinance services for fishers, processors and vendors; and,

Output 6: Regional sharing of knowledge in support of livelihood development and reduced vulnerability for fisher communities and of sustainable fisheries resource management.

The scale of the likely contribution levels are:

√ - Low contribution, √ √ -Medium contribution, √ √ √ - High contribution.

Table 4: RFLP Output Contribution to the Achievement of the SPF Target Indicators

RFLP Outputs / SPF Indicators	Output 1	Output 2	Output 3	Output 4	Output 5	Output 6
1- At least 1200 Communes (75% of total) have a sustainable and effective fish refuge by the end of 2019	√			√		
2- Marine wild capture fisheries exploitation at stable and sustainable levels and marine aquaculture in overall growth by the end of 2019	√√	√	√	√√	√	√
3- The number of small-scale fishers and fish processors living below the national poverty line reduced by 40% on baseline levels by the end of 2019	√	√	√√√	√√	√	√
4- Women's livelihoods are at a commensurate level to men's in all sub-sectors of the fisheries by the end of 2019	√	√√	√√√	√√√	√√	√
5- 470 Community Fisheries (CFi) officially registered and operating effectively by the end of 2019	√√√	√√	√√	√√	√√	√√
6-Most of the area of flooded forest mapped, and protected by demarcation by the end of 2019	√ √			√		√
7. At least 40 of the 97 Upper Mekong deep pools are effectively protected and conserved and at least 80% of Great Lake fish sanctuaries improved through boundary demarcation, protection and public awareness by the end of 2019						

8. The per capita availability of High Nutritional Value (HNV) fish and other aquatic animals increased by at least 50% on 2011 levels by the end of 2019	√ √ √	√ √	√	√ √ √	√	√
9. A Surveillance, Monitoring and Control System for Fish Disease Outbreaks developed and implemented by the end of 2014	√		√ √ √	√√	√	√
10- Co-operative associations providing established and functioning channels to access loans and markets by the end of 2019	√		√ √	√	√ √	√
11- Fishing lot catches maintained at sustainable levels but values increased over 2008 levels by 25% in real terms by the end of 2019						
12- A comprehensive plan for regional co-operation to address international issues facing fisheries in Cambodia, including climate change, damming and environmental degradation, developed by the end of 2011	√ √	√	√			√ √ √
13- A plan for regional adoption trans-boundary fisheries management systems developed and implemented by the end of 2011	√ √	√	√	√		√ √ √
14- Processes for cross-harmonization of goals, policies and plans with other government departments and other sectors that use the water resource developed and implemented by the end of 2014	√ √	√	√	√	√	√
15- At least 70% of respondents in fishing communities and the general public have a positive response to fisheries development policies and their implementation by the end of 2019	√ √ √	√	√	√	√	√
16- All Fisheries Cantonments produce plans fully consistent with FiA policy and Commune and other sub-national plans by 2019.	√ √ √		√	√		√

VII. Conclusions and Recommendations

The fisheries sector has the potential to contribute much more to both the economy and national well-being. This can come about through improved product quality, increased production from aquaculture and rice field production, better integration with the global marketplace, and from better managed capture fisheries through a fisheries co-management approach via CFi management and development. To achieve this will require a clear vision for the future, effective planning to set goals and targets for change, and good management. Therefore, beside the National Fisheries Polity, in 2009 the FiA prepared the Strategic Planning Framework for Fisheries (SPF) for 2010-2019, with clear target indicators for the achievement of fishery sector goals.

Meanwhile, all legal documents required to support the implementation of the Fisheries Law such as sub-decrees and proclamations have been prepared and endorsed, and in particular the sub-decree and guidelines for Community Fisheries management and implementation. These documents provideclear guidance, a strategy and instructions for fisheries co-management approaches through Community Fisheries establishment and management, which will contribute to the achievement of, and support to RFLP implementation in Cambodia. Moreover, it is expected that the experiences and lessons learnt of the implementation of the endorsed legal frame work and strategic plan will provide suggestions and recommendations for improving and amending existing legal documents, especially through RFLP implementation in the coastal region of Cambodia.

Generally it is concluded that all outputs of RFLP fully contribute to the achievement of the National Fisheries Policy and the major target indicators for SPF 2010-2019, while existing legal guidance, strategic plans and policy provide opportunities and will also contribute to the achievement of RFLP outputs. The achievement of RFLP outputs is necessary and important for the sustainable utilization and management of the coastal fisheries resources. Moreover, RFLP is the first project addressing safety at sea, and vulnerability reduction, fisheries co-management mechanisms, and livelihood diversification in the coastal provinces of Cambodia.

However, the activities, methods and indicators for each RFLP output will require revision and updating according to the current situation and needs in order to ensure that all RFLP outputs are achieved and this will be done by consultation during the inception phase. There is a lack of information on Illegal, Unreported, and Unregulated fishing (IUU) in Cambodia. So, Cambodia requires activities and a strategy for dealing with IUU on a priority basis to be included under RFLP output 1. This could be conducted by CFi members and FiA technical line agencies.

The existing legal frameworks and guidelines for Community Fisheries (CFi) in Cambodia can be implemented effectively as a form of co-management approach. This will lead to the strengthening of all coastal CFis through capacity building, restructuring of CFi committees, development with clear roles and responsibilities, and revision of CFi by-laws and regulations, CFi agreements and CFi Area Management Plans (CFiAMP) for their effective implementation.

Promotion of aquaculture is an RGC priority and should be supported with activities under RFLP output 4: Strengthened and diversified income opportunities for fisher families. Done sustainably, aquaculture can provide an alternative livelihood option, fish for family consumption and income for CFi members. This could positively impact on the sustainable functioning of CFi management and development, and the achievement of RFLP implementation in Cambodia.

Finally establishment of a regional legal framework and policy for trans-boundary fisheries co-management would contribute significantly to solving coastal fisheries trans-boundary issues with bordering countries, especially between the RFLP implementing countries of Cambodia and Viet Nam. This could be facilitated through activities and the achievement of indicator targets under RFLP output 6 (Regional sharing of knowledge in support of livelihood development and reduced vulnerability for fisher communities and of sustainable fisheries resource management) by sharing and providing lesions learnt from all RFLP implementing countries and identifying possible solutions for trans-boundary fisheries issues in coastal areas for future common benefits and sustainable fisheries resource use and management.

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