Fisheries Resources in Cambodia - Current Status, Key Issues, Directions

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Cambodia’s inland waters

About 86% of the total area is within the Mekong catchment.

- Floodplain: 40,000 km² or 22% = 60%
- Food forests: 22,000 km² or 55%
- Wetland: 18,000 km² or 45%
- Tonle Sap: 3,000-15,000 km² or 8%, the largest and most productive lake in SE Asia
## Estimated annual fish catches (2001-2008)

<table>
<thead>
<tr>
<th>Type of fisheries</th>
<th>Annual catch range (Tones)</th>
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<tbody>
<tr>
<td><strong>1. Freshwater capture fisheries</strong></td>
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<tr>
<td>- Large-scale fisheries</td>
<td>250,000 – 422,000 (Max. yield)</td>
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<tr>
<td>- Fishing lots</td>
<td>25,000 – 75,000</td>
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<tr>
<td>- Bag net or <em>Dai</em> fishery</td>
<td>14,000 – 30,000</td>
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<tr>
<td>- Medium-scale fisheries</td>
<td>85,000 – 100,000</td>
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<tr>
<td>- Small or family scale fishery</td>
<td>115,000 – 180,000</td>
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<tr>
<td>- Rice field fishery</td>
<td>75,000 – 110,000</td>
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<td><strong>2. Marine fisheries</strong></td>
<td>42,000-65,000</td>
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<tr>
<td><strong>3. Aquaculture</strong></td>
<td>14,000 – 39,25 (&gt; 15% AGR)</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td>325,000 – 517,000</td>
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Total annual fish catch = 517,000 tones (2008)
Cambodia Fisheries is a major source of nutritious food in the daily diet

- Fish providing **82.1%** of total animal protein intake for the population.

- Fish consumption estimated based on:
  - Official statistical data (Average): **52.4** kg/person/year
  - Household survey (Average): **60 - 66** kg/person/year
  - Household (Tonle Sap and plain region): **67 - 80** kg/person/year

This rate is in the mid-upper level of world ranges of **15 - 90** kg/person/year.
Cambodia Fisheries providing Employment Opportunity

- Over 6 million Cambodians = fishing and related fishing activities = 45.5% of the total population
- Full time fishers = 10.5%
- Part-time fishers = 35.0%

Those are:

• 87% are small scale fishing
• 9% medium scale fishing
• 4% large scale fishing
An estimated Value of Inland fisheries **US$ 250 - 500 million.**

This estimated value is account for about **12%** of Cambodia’s GDP, ahead of rice production, which contributes **10%** to GDP.

The fisheries accounted for **31%** of the GDP contribution to primary sector.
Great diversity of fish species in Cambodia

• At least **500** fish species recorded in the Cambodia’s Mekong River (the Lower Mekong basin encompasses at least **1,200** fish species).

• Tonle Sap Lake hosts **296** fish species ranked third in the world after Lake Malawi (433 species), and Lake Tanganyika (309 species).

• Tonle Sap Lake production is > 60% of total fish production
The minute rice-fish (max. 2 cm)

Mekong Giant barb
(max. 200 cm)

Mekong Giant catfish
(max. 300 cm)

Giant freshwater sting-ray
(max. 400 cm)

Minute rice-fish (max. 2 cm)
Other aquatic animals

Clam

Snail

Frog

Tadpole

Snake

Shrimp

Turtle

Prawn

Crocodile - *Crocodylus siamensis*

Dolphin of the Mekong, Irrawaddy dolphin (*Orcaella brevirostris*)

As well as fish, Cambodians eat at least 50-100,000 kg of other aquatic animals, including clams, snails, snakes, turtles, frogs, tadpoles, and shrimps.
Approx. 90% are migratory fish species.
Key Fisheries Issues

- Max. yield, i.e. approx. 400,000 tons/y achieved, although there is no significant decrease in total fish catch.

- > 80% of total inland catch are small-sized fish.

- Fish catch rate (kg/fisher) significantly decreased, e.g. in Tonle Sap region from 347 tons/fish in 1940 to 196 tons/fisher in 1995 (44%↓) and 116 tons/fisher in 2008 (67%↓).

- Cambodia’s fisheries overfished, alarming stage!
- Population increased, and no. fishers increased, e.g. in Tonle Sap region from 0.36 million in 1940 to 1.2 million in 1995 and 1.5 million in 2008 leading to an increase in no. of fishing gears, more effective and efficient ones.

- Use of illegal or destructive fishing gears, i.e. electro-shockers and fine-meshed size nets.

- Loss of healthy fish habitats due to flooded forests/wetland converted to crop fields leading to an increase in use of pesticide, e.g. 1.3 million liters of pesticide used in TS in 2000; and erosion/siltation, and due to water management projects increased and planned.
Factors driving Cambodia inland fish catch

**HYDROLOGY**
- Water level
  - (higher flood = more fish)
- Flood duration
  - (longer flood = more fish)
- Flood timing
  - (early flood = more fish)

**FLOODPLAIN ENVIRONMENT**
- Flooded vegetation
  - (less trees = less fish)
- Built structures
  - (more structures = less fish)

**EXOTIC SPECIES**

**MIGRATIONS**
- Access to feeding and breeding areas
- Access to refuges (ponds, sanctuaries, deep pools)
  - (better protection = more fish)

**FISHING**
- Number of fishers
  - Impossible to control
- Fishing intensity
  - Difficult to assess

**FISH CATCH**

Drives: Fish stocks
Influences: Fish stocks
Allows: Fish stocks
Condition: Fish stocks
Yields: Fish stocks
Fisheries management in Cambodia

- Fisheries Law (17 chapters, 109 articles): Closed (wet season) and open season (dry season), mesh size control > 1.5 cm; gear control (length, illegal); species control (giant fish, wild crocodile, ...)

- Rules and regulations

- National Fisheries Policy


- Fisheries Development Plans (2009-2011): Draft

Vision:

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.
The seven (7) Goals that define the Vision of *Fishing for the Future* are:

1. The contribution of the fishery to national prosperity is high and sustained.

2. The livelihoods of people in the sector are improving and above the national average.

3. The fisheries domain and associated resources are in a healthy and resilient condition and sustainably managed.

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, legislative and support environment for the sector is sufficient, appropriate and enabling.
Thank you very much for your attention