



FISHERIES AND AQUACULTURE IN CAMBODIA

Chheng Phen and Hav Viseth
Fisheries Administration, Cambodia

USSEC, 11-12 June 2013, Novotel Ploenchit, Bangkok Thailand

Cambodia's inland waters

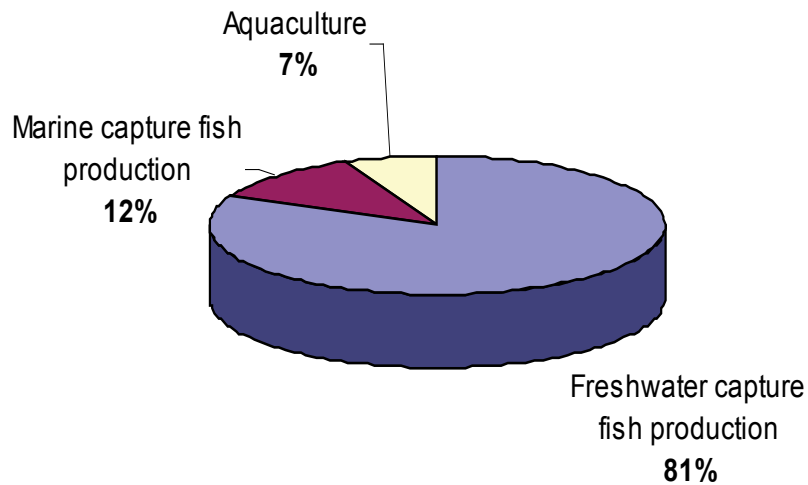
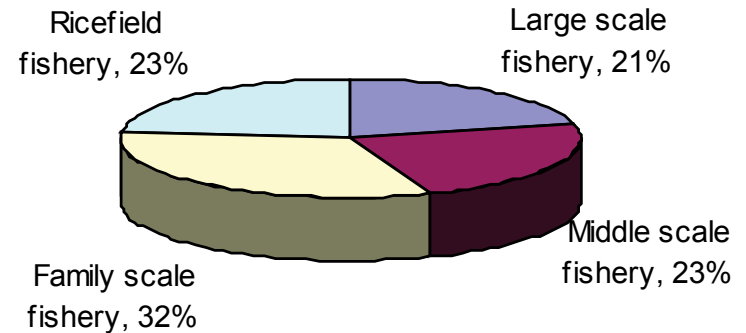


- Floodplain: **40,000 km²**
or 22%
- Flooded forests: **932,141 ha**
- Tonle Sap: **3,000-15,000 km²**
or 8%, the largest and most
productive lake in SE Asia

Estimated annual fish catches (2001-2009)

Type of fisheries	Annual catch range (Tones)
1. Freshwater capture fisheries	314,000 – 450,000 (world's 4th) Max. yield
- Large-scale fisheries	
- Fishing lots	25,000 – 75,000
- Bag net or <i>Dai</i> fishery	14,000 – 30,000
- Medium-scale fisheries	85,000 – 100,000
- Small or family scale fishery	115,000 – 120,000
- Rice field fishery	75,000 – 125,000
2. Marine fisheries	42,000-75,000
3. Aquaculture	14,000 – 50,000 (ranked 7th)
<u>Grand Total</u>	<u>370,000 – 575,000</u>

Total annual fish catch = 500,000 tones (2009)



Cambodia Fisheries providing Employment Opportunity

- Approx. 6 million Cambodians = fishing and related fishing activities = approx. 45% of the total population

- Full time fishers = 1.5 million (around 10.5%)

- Part-time fishers, traders, processors, etc. =

4.5 million (around 33.0%)

Those are:

- **87%** are small-scale fishers
- **9%** medium-scale fishers
- **4%** large-scale fishers

**From Mar 2012
100%
subsistence fishing**

Cambodia Fisheries is a major source of nutritious food in the daily diet

- Fish providing 76% of total animal protein intake for the population.
- Fish consumption estimated by IFReDI/MRC:
 - National average: 63kg/person/year
 - 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 generating national revenue

- An estimated Value of fisheries is US\$ 1,2 – 1.6 billion.
- This estimated value is accounted for about 12% of Cambodia's GDP

Cambodia Mekong River Basin harbors a great diversity of fish species

- **> 500 fish species** recorded in the Cambodia's Mekong River basin (the Lower Mekong basin encompasses at least **1,200 fish species**, ranked 3rd in the world after Amazon and Congo River basins).
- Tonle Sap Lake hosts **296 fish species** ranking third in the world after Lake Malawi (433 species), and Lake Tanganyika (309 species).
- Tonle Sap Lake production is **> 60%** of total fish production



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



Frog



Snail



Tadpole



Crocodile- *Crocodylus siamensis*



Snake



Shrimp



Turtle



Prawn



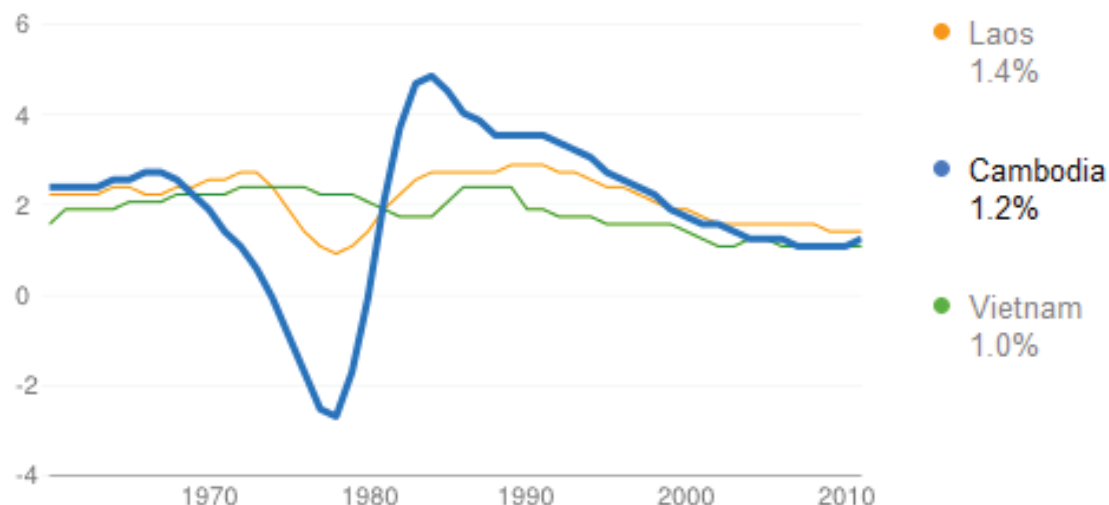
Dolphin of the Mekong, Irrawady dolphin (*Orcaella brevirostris*)



As well as fish Cambodians eat at least 50-100,000 t/yr of other aquatic animals, including clams, snails, snakes, turtles, frogs, tadpoles and shrimps.

1.2% annual change (2011)

Cambodia, Population growth rate



Cambodia population:
2011 = 14.1millions
↓
20millions at 2030

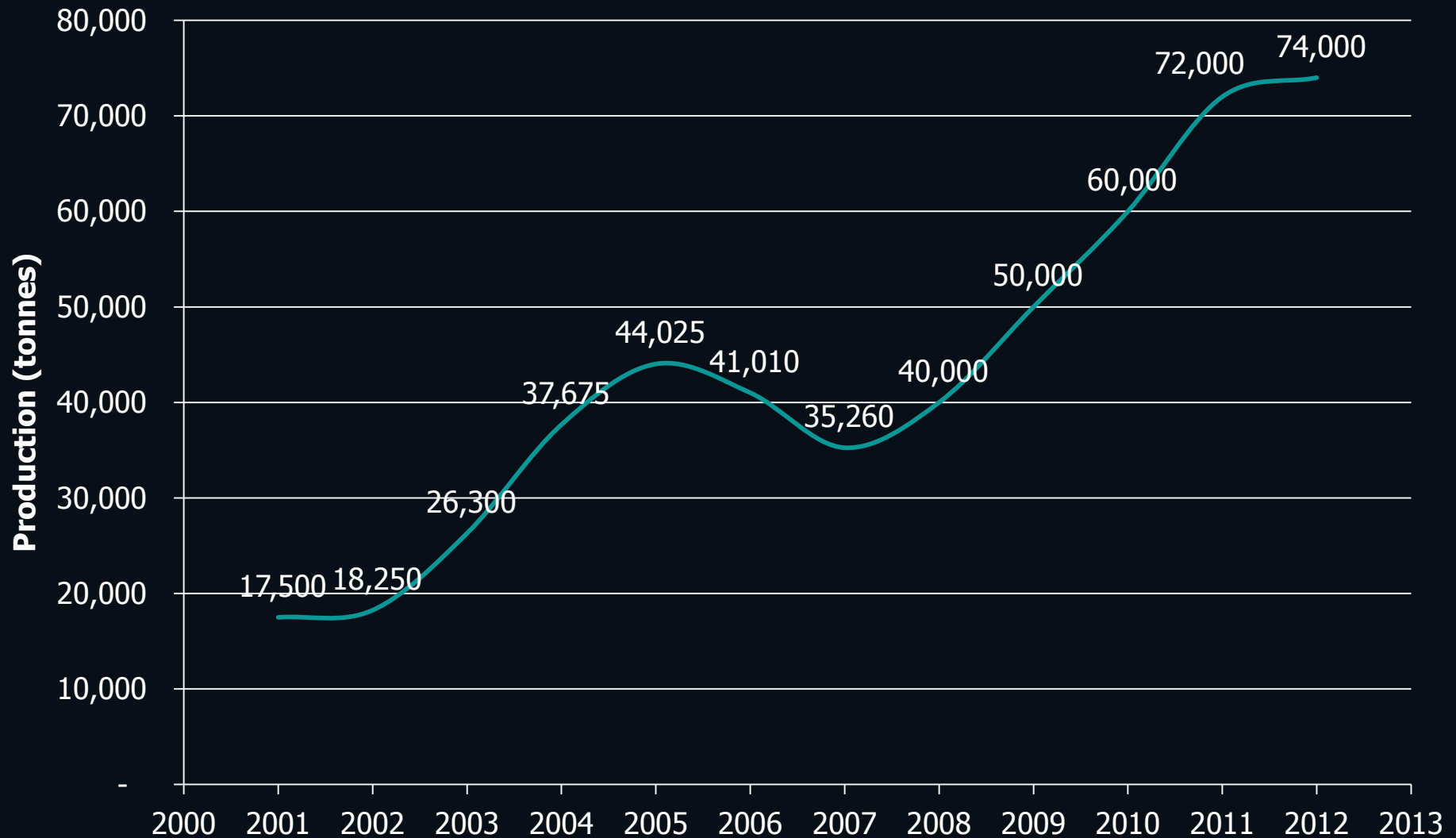
Category	Production (tonnes)	Percentage (%)
Inland capture	509,439	76.8
Marine capture	79,651	12.0
Aquaculture	74,000	11.2
Total (tonnes)	663,090	100

Aquaculture
increase 15%
per annum

Aquaculture in Cambodia

- Aquaculture is very new to Cambodia, especial industrial;
- Hardly market accepted in past decades;
- Food demand, especially amongst rural area far from riverine;
- Assistance from internationally funded projects, many rural rice farmers have adopted small-scale aquaculture, which has in turn improved the living condition of rural poor.

Trends of Aquaculture Production in Cambodia



I. Inland Aquaculture

- ❖ Cage culture
- ❖ Pond/rice fish culture
- ❖ Crocodile farming



Cage fish culture



Pond fish culture



Rice fish culture

Common culture species in Freshwater of Cambodia

Scientific name	Culture Method	Source of seed	Culture volume
1. <i>Pangasianodon hypophthalmus</i>	FC, P	HS, WS	high
2. <i>Pangasianodon bocouti</i>	FC	WS	high
3. <i>Pangasianodon larnaudiei</i>	FC	WS	low
4. <i>Pangasianodon conchophilus</i>	FC	WS	low
5. <i>Channa micropeltes</i>	FC	WS	high
6. <i>C. striatus</i>	FC	WS	high
7. <i>Barbodes gonionotus</i>	FC, P, RF	HS, WS	high
8. <i>Leptobarbus hoeveni</i>	FC, P	HS, WS	Medium
9. <i>Mystus wyckiode</i>	FC	WS	low
10. <i>Oxyeleotris marmoratus</i>	FC, P	WS	low
11. <i>Trichogaster pectoralis</i>	P, RF	HS, WS	low
12. <i>Barbodes altus</i>	P, RF	HS, WS	low

Note: P: pond; FC: floating cage; RF: rice field; WS: Wild seed; HS: Hatchery seed

Culture species and culture method in Freshwater of Cambodia

Scientific name	Culture Method	Source of seed	Culture volume
1. Nile tilapia (<i>Oreochromis niloticus</i>)	P, RF, FC	HS	high
2. Silver carp (<i>Hypophthalmichthys molitrix</i>)	P	HS	medium
3. Common carp (<i>Cyprinus carpio</i>)	P, RF	HS	medium
4. Bighead carp (<i>Aristichthys nobilis</i>)	P	HS	low
5. Grass carp (<i>Ctenopharyngodon idella</i>)	P	HS	low
6. Mrigal (<i>Cirrihina mrigal</i>)	P, RF	HS	low
7. African catfish: <i>C. gariepinus</i> x <i>C.batrachus</i>	P	HS	low

Note: P: pond; FC: floating cage; RF: rice field; WS: Wild seed; HS: Hatchery seed



Pangasius catfish



Silver carp



Silver barb



Tilapia

Main species culture



Channa micropeltes



Common carp

Thanks USSEC for organizing this symposium, and
Thank you all for attention