

# Inland Fisheries & Aquaculture mission



Myanmar

# Extensive Inland freshwater

Inland FW bodies  
Cover 8.1 million ha

1.3 mill ha are  
Permanent

235,000t - leasable,  
Open & floodplain  
Fisheries (excluding  
rice fields, streams)

116,000t – aquaculture  
(excluding small-scale)



# Extensive Inland freshwater

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In longest river (2,400km):

Interlocking mingling  
river and estuarine systems  
with adjacent deltas and a  
small section of the Mekong

Myanmar with a fresh water  
resource to rival the lower  
Mekong basin

- Thanlwin
- Ayeyarwaddy  
(mean discharge  $13,500\text{m}^3\text{s}^{-1}$ )
- Chindwin
- Sittaung
- 6 million ha  
of floodplain
- 116,000 ha  
reservoirs

# Upper Myanmar

- Productive government and private sector hatcheries

Su San Inn (120 acres of licensed fish ponds)



Fish Farm No 2, Kume (50 miles north of Mandalay)

- Large increase in pond building

# Inle Lake, Shan State



- Sub-leasing supports many livelihoods

- Some environmental threats



# Livelihoods from freshwater fisheries and aquaculture

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- 8 million ha of inland waters to support livelihoods and food security of 50 million people
- Like many of their neighbours people in Myanmar like to eat fish and rice
- An impressive capture fishery, provides may be 2 or 3 times the reported catch 235,000t
- Currently, around 1.4 million fishers operate in inland waters, 3.5 times the number of fish farmers
- The freshwater aquaculture sector is expanding (the DOF this morning report 40% annual increases)
- Large and small-scale investors report demand for fish is well in excess of supply

# Livelihoods from fishing:

Mandalay Division  
Leasable fisheries  
(including sub-  
leasing)



- 60% of catch is introduced tilapia
- Provides a livelihood for around 5000 people



# Livelihoods from freshwater fisheries

## Licensed fish pond

- Higher degree of management through stocking and feeding
- Principally *Rohu* and tilapia
- Long term license encourages strategic planning and investment





# Livelihoods from small-scale capture fisheries

- artisanal fish trap operators
- larger trapping gear
- trapping of fish resources in paddies



8  
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artisanal fish catching device  
1.5-3kg daily



# Livelihoods from Small-scale fish marketing



Women who catch and sell fish

- Fresh fish market,
- collaborative fish marketing system
- dried and preserved fish sellers



# Livelihoods from Small-scale aquaculture

family ponds, hatchery and additional services, nursing



# Mandalay peri-urban aquaculture

Small-scale

- hatchery
- nursery



# Leasable fisheries

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- Are there opportunities to enhance fish production and share benefits widely?
- Perhaps yes, through sustainable management, participation:
  - refining and replication of culture-based fisheries
  - Collective responsibility for spawning grounds
  - Sub-leasing and facilitated marketing
  - Researching and communication good practice

# Some questions and thoughts from the Inland Fisheries and Aquaculture Mission



6 8:00 AM

# Open fisheries

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- Open fisheries can be a valuable source of livelihood and food security for poor people
- The current policy of stocking is therefore of great value
- Experience elsewhere in the region suggests there was negligible enhancement effect from stocking fry
- Could nursing of stock for enhancement be undertaken by DOF stations to increase the effectiveness of enhancement programmes? (as is done by lease holders)

# Reservoir fisheries management

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- An Irrigation Department Directive currently precludes fishing in reservoirs
  - The rationale appears to be to maintain a “reserve of fish”
  - And in order not to deprive downstream fishers
- These perceptions may not be correct
  - A well managed fishery will not be depleted
  - Once a dam is built, reservoir stocks are independent of those downstream
  - A sustainable resource, as low as 50kg/ha would yield Myanmar 90,000t/y
- Should Myanmar consider re licensing reservoir fisheries and evolving suitable strategies to optimize yield?



# Support for aquaculture

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- It is clearly evident that demand for fresh water fish is well in excess of supply.
- Under these circumstance large-scale investors will be likely to enter the sector, providing there is a conducive policy environment.
- However, government support is necessary for the development of small-scale aquaculture, managed by poor people in support of their livelihoods.
- Small-scale fish ponds (less than 25 x 25 feet), with minimal initial investment have proven highly successful in neighbouring countries, for poverty alleviation and family food security. Especially with nursed fingerlings.

# Environment, resource sustainability

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- Inle Lake development brings potential benefits and threats
  - Intensive market gardening is expanding
  - Tourism is expanding
  - Is there a danger of high fertilizer, pesticide use changing the trophic status of the lake and its value as a fishery? A bird sanctuary? A tourist attraction? A source of ornamental fish?
  - Further studies of resource use, may provide a basis for sustainable management methods
  - Is there a possibility for multi-sectoral management?

# Planning and Management

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- The recent establishment of DoF Directorates dedicated to *Research and Development* and to *Aquaculture Extension* is extremely timely. This provides a useful administrative framework.
- DOF 3-year plan/project(?) includes:
  - Sustainable aquaculture development
  - Resource enhancement and conservation
  - Accessing export markets
  - Improving local fish supply
- These are strong strategic directions upon which to build.

# Institutional support and capacity building

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- Short & long term capacity building could be valuable:
  - Further strengthen aquaculture planning
  - GIS/resource assessment
  - Monitoring and evaluation skills
  - Marketing
  - Sensitization to poverty issues and practical ways of working on this
  - Communication of lessons learnt (extension)

# What might be entry points for cooperation and assistance?

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- Building on the emerging DOF planning process:
  - Support for more comprehensive resource assessment for fisheries and potential aquaculture areas (Possible FAO TCP support?)
- Building on the recent formalization of research and extension within DoF Directorates and the role of MFF:
  - Support for information sharing and lesson learning amongst Fisheries stations and farmer and with other line agencies (Possible support from NACA and inclusion in the STREAM Initiative?)
  - Support networking with other countries in Asia pacific for information sharing and lesson learning on technologies and ways of working (Possible support from NACA and inclusion in the STREAM Initiative?)

Specific research support (Professor De Silva)

Ce Zu tin ba deh!

Thank you