Trends in Sri Lankan semi-industrial longline fishery

E.K.V. Samaraweera

National Aquatic resources Research & Development Agency (NARA)
Colombo 15
Sri Lanka

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Current status of offshore fishery in Sri Lanka

- Most of the catch by GN/ LL combinations
- Increasing trend in offshore longline fishery
- Reduction of trip duration by local fleet
- Carrying of ice in smaller vessels

Why?

Clear trend towards longline fishery in recent years

- Increased demand for fresh/frozen fish
  - Japanese market: Sashimi
  - Western market for fillets/ bullet
- Depletion of coastal stocks
- Conservation and Management issues

Importance/ Relevance

- Increased demand for exports
- Preference of good quality fish by locals with increased living standards
- Low quality of the most fish landed
- Waste of catch

History of the longline fishery

- Came in to the picture in late 50's
- Commercial tuna LL established in 60's
- Early 70's very popular
- Since 1980's LL for tuna by joint ventures
- Exploratory fishing activities in late 80's
- Coastal tuna LL in 1990's - seasonal

Collapsed – why?

- Sooner collapsed
- Due to unavailability of suitable bait in required quantities/ expensive
- Use of locally available species as bait
  - This species too has good market value
  - Available on seasonal basis, no continuous supply
- Use of not preferred bait result low catches
- Boosted interest soon waned off

Shift towards Shark LL …… GN

- Due to bait problem
- Shark attract to low quality bait/ cut pieces
- Shark fin industry
- Introduction of nylon netting in early 80's further reduced
- In 90's GN/LL combinations

Exploratory fishing

- FAO/BOBP program in 1987-1988
- UNDP
- IPTP in 1986;1991
- FAO/TCP project 1994-1997
- ADB resource survey 1995-1997

Present trend in LL fishery in Sri Lanka

- Small-scale Longline fishery operation by single company in 2002
- A single vessel of 54” in southwestern SL
- Later developed to a industrial fleet of 7 boats by 2006 of similar type
- Few other companies in west in last 3 years
- Boats size range from 38-42”

Trend in LL ……..

- These boats operate short trips 6-10 days
- Use of fish finding technology; satellite infor.
- Sophisticated hauling devices
- Onboard processing
- Export oriented industry
- Catch exported with land based tractability…..

- One such company was as an example used for this study
- Selection- availability of required information
  - Reliability of data
- Only Sashimi exporter in Sri Lanka
- Canning factory for tuna

Fishing gear and operation

- Long line with 1000 hooks in several km
- Bait – Squid/ milkfish fingerling / sardine sp
- Operate from Beruwala Harbour as home port
- Trip duration: west south 7 days
  - South 8-10 days
- Crew no 8
- Depth of operation 70-150 m
- Operation within the EEZ on Sri Lanka
- Use of radio buoys and plastic floats

Fishing technique

- Use of satellite information
- Close observation of environmental & biological parameters (temp., currents, turbidity etc..)
- Operation directly related to lunar cycle
- Log book system operating by Captians
- Status on line at the time of hauling - dead/live on line

Processing

- Recordings
  - Status as live/dead on line
- On-board processing-gilled/gutted
  - Bleeding, brain killing
- Chilled with salt water

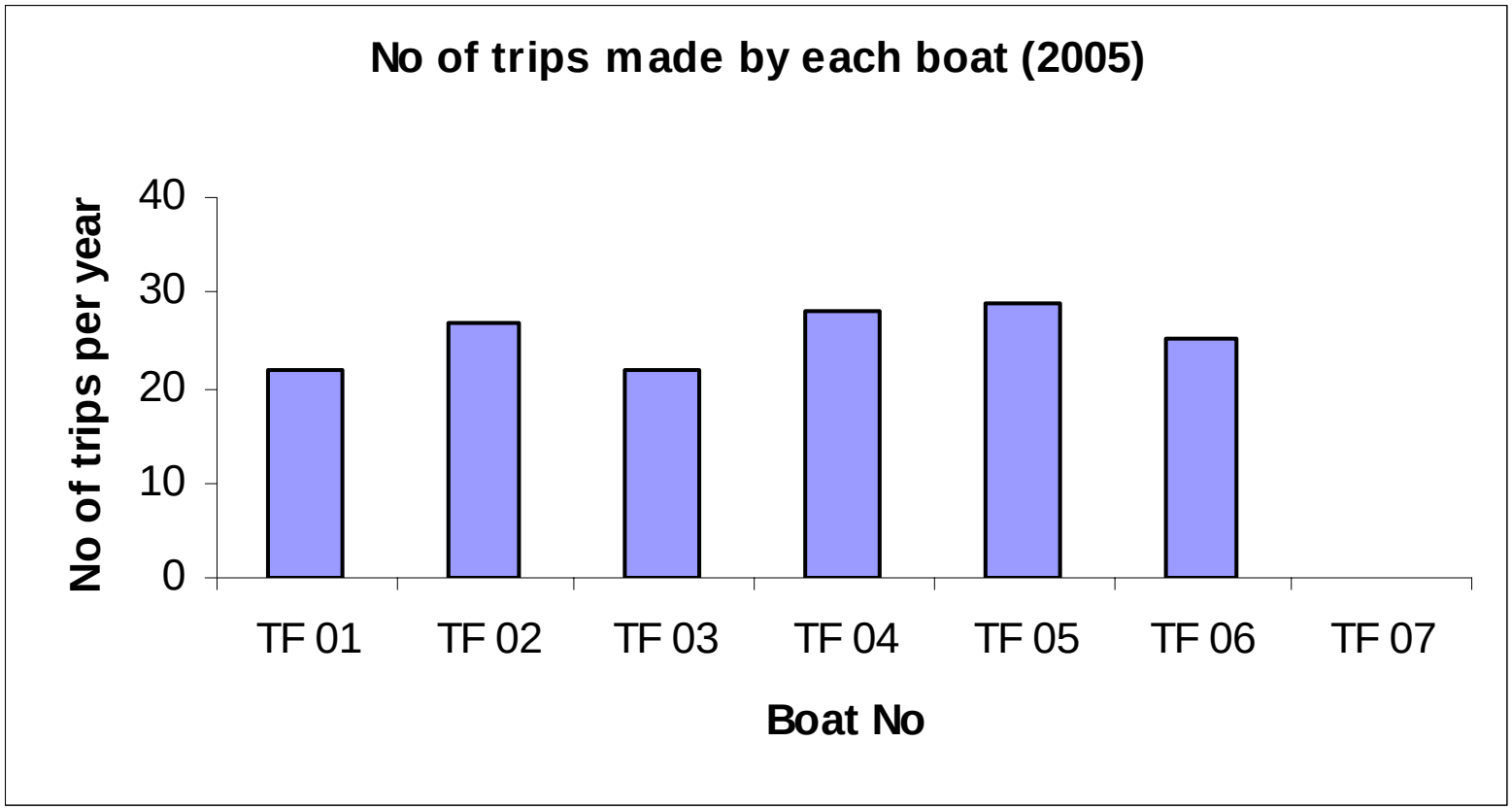
Records of landings..

- Fish landed at Beruwala fishery harbour
- Balanced weight (aggregated) at landing
- Transport to processing plant by freezer trucks
- Graded and weighed individually
- Record of status of fish upon receiving as
  - Body temperature
  - Quality/ colour of fish
- Tested for Histamine and Mercury
- Processing as Sashimi, bullets, fillet/ loyings, local market

Data collection and results

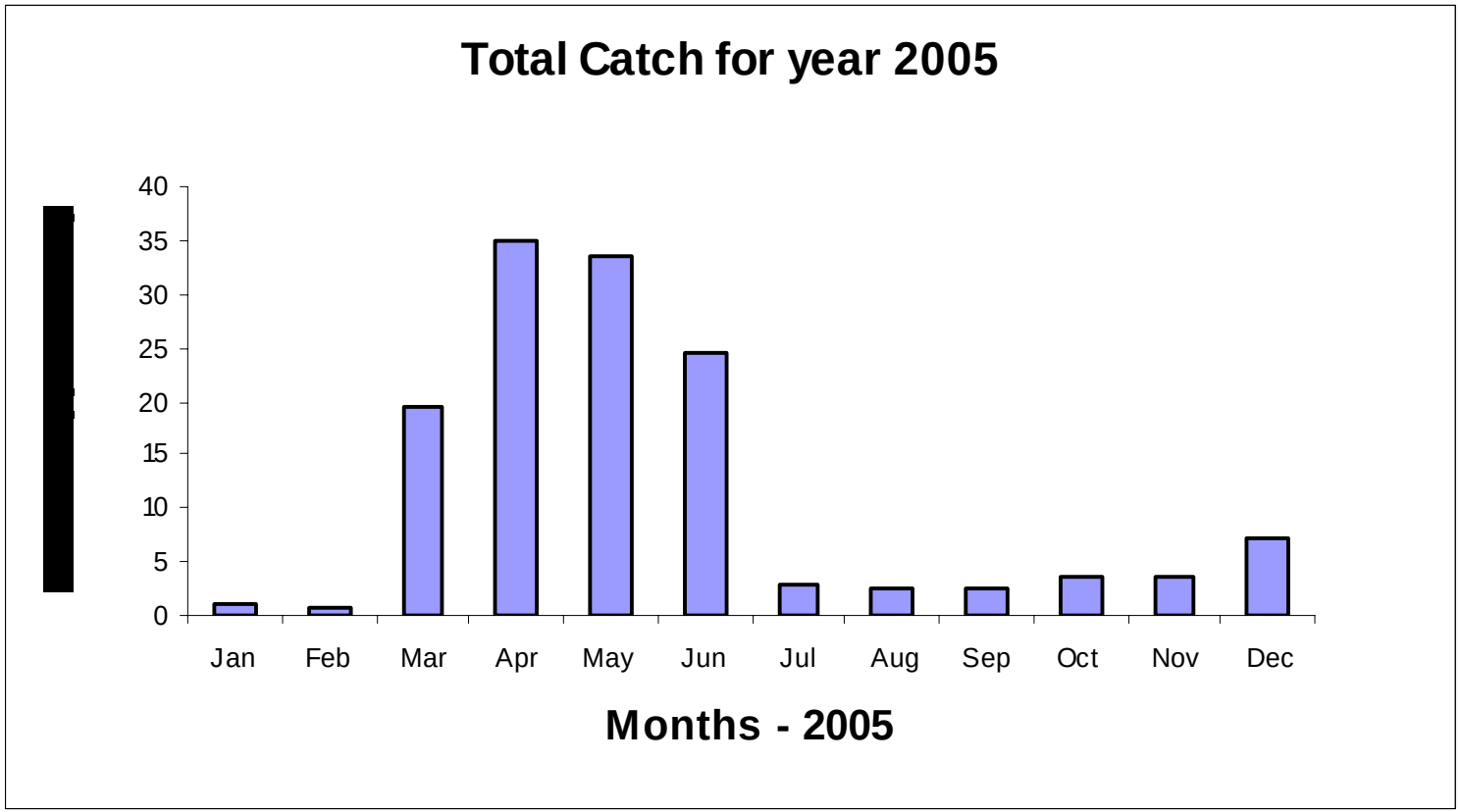
- Catch information from landing site (weight)
- From processing plant – individual weight and other..
- 2005 catch data for 5 boats operated
- No of trips made by each boat
- This small study restricted to the weight recorded obtained at landing
- No detailed study- time constraints
  - Lack of logbook information

Results



Average no of trips per boat was 25

Total landed catch



Total landed shows a clear peak

Results contd….

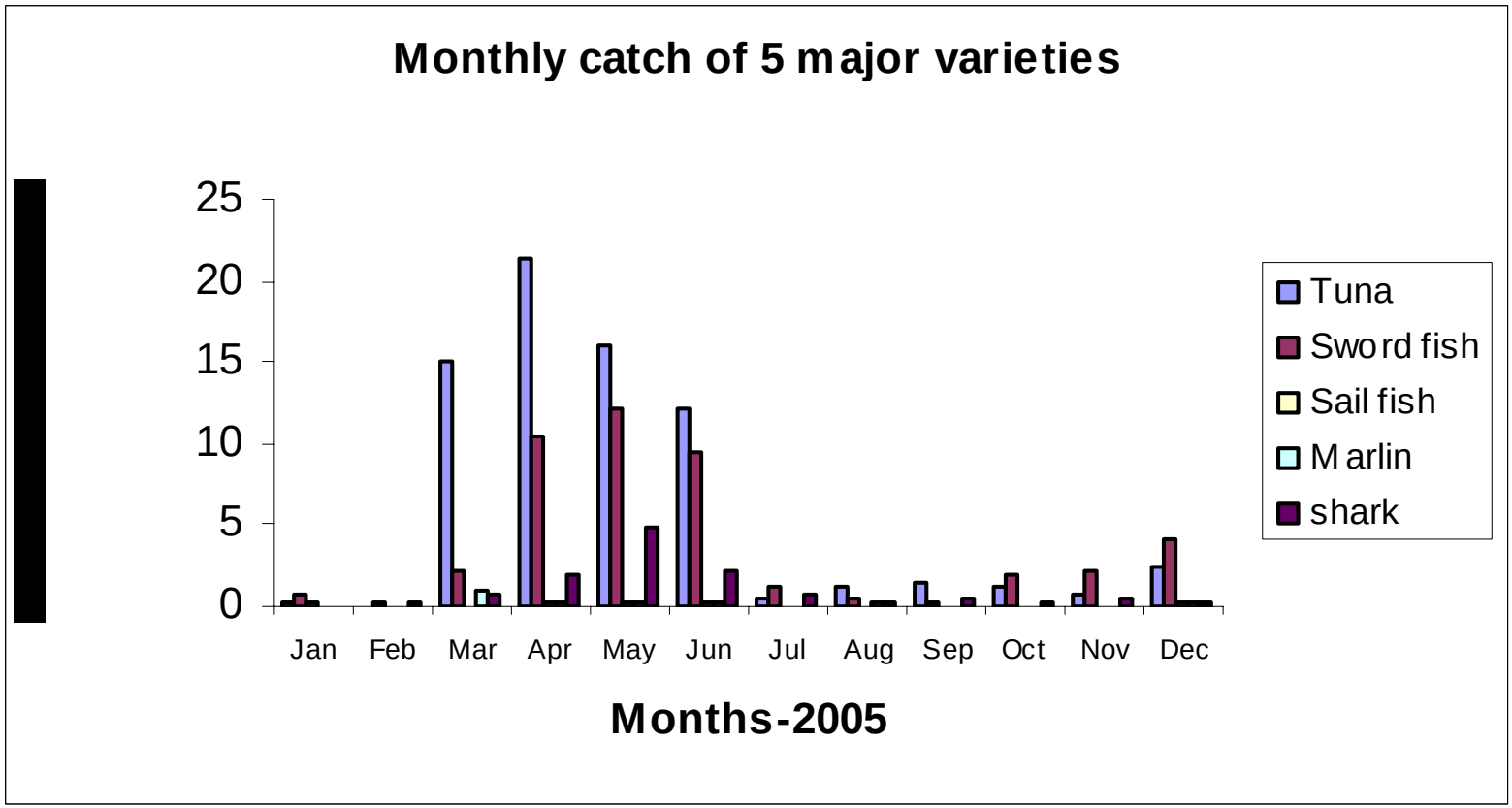
- For most of the trips squid was used as bait
- Made single operation per day
- Same no of hook (vary days proceed at sea)
- An average of 888.4 Kg of catch was recorded per operation.

Species composition

- Target species- Tuna, sword fish, marlins, sailfish, sharks, butter fish, Mahi mahi, ray fish and other small varieties

Species	% Catch
Tuna	53%
Sword fish	33%
Marlin	2%
Sail fish	1%
shark	9%
Ray fish	1%
Other	1%

Species Composition



Discussion

- This fleet expanded throughout the subsequent 4 years to a fleet of 7 boats in operation in year 2006.
- Tuna and sword fish being the most important high valued species weigh about 85% of the total landed
- Most of the time more than 80% of the catch is landed while live on line (may be up to 100%)
- Tuna catch comprise both YFT and BET
- boat made about 2-3 trips per month.
- Operations of all 7 boats can be considered as uniform as the method of operation and conditions are been same

- Higher catch rates recorded compared to the local vessels using longline as a combination.

- Several reasons can be speculated for this,

  -Bait used has greater influence on catch ability of tuna or swordfish as they prefer high quality fresh bait.
  - squid and milk fish as bait gives higher catch rates.
  - Although they do fish within EEZ of Sri Lanka, catch comprise more bigeye tuna as about half of the tunas and swordfish, this could be attribute to the greater depth at which fishing is carried out as much as 150m and also the prefer ability of the bait
  - Other local fishers donot get much of BET, can be attributed to both depth of operation and bait type

- In Sri Lankan fisheries industry an increased demand for high quality fish is observed in recent past.
- An increasing trend was observed among the local fishermen from shifting towards longlining
- A recent survey revealed that about 25% of the total local fishing fleet use only longline as the principal fishing technique with hauling devices
- Promoting LL will be a green light in industry in and will contribute in promoting environmentally friendly and sustainable fishing industry in Sri Lanka. (although there are contradictions…)

Conclusion

- Observed an emerging trend for longline fishery for tuna and billfish in Sri Lanka over the recent past.
- Yet, necessary to modify vessels, fishing methods and gear to concentrate on target species and eliminate by catch
- Change vessel structure to accommodate on-board processing and brine water chilling, use of live bait for offshore fishing industry
- Reduce the present problem with 30% of bad quality landed
- Increase foreign exchange earnings with good quality fish.

THANK YOU