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# Towards improved governance, management, and sustainability of the demersal line fishery in Tonga

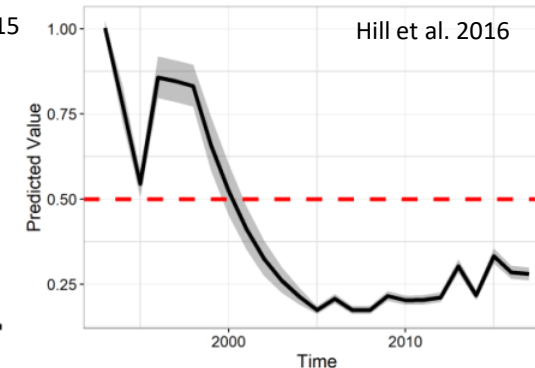
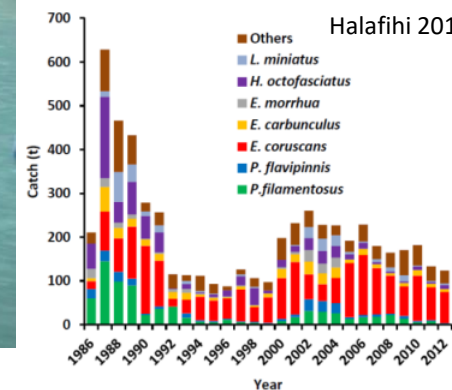
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Tonga National  
Fisheries Council

# Tonga's deepwater line fishery

- Mixed assemblage: snappers, emperors, groupers in depths 100-400 m
- Domestic vessels; export and local markets
- 30 licenced vessels, not all are active
- Target species are long-lived and slow maturing
- Peak catches > 400 mt in late 1980s
- Indications fishery is underperforming relative to its biological, economic and social potential



# The Project

- Funded by NZ MFAT, implemented by MoF and NIWA + SPC and NFC
- Three long-term outcomes:
  - 1) Increased revenue and business confidence
  - 2) Improved governance and robust decision making
  - 3) Biological sustainable fishery established
- 5 (now 8) year project – two phases
- Phase 1: 2015 to 2016
  - Determine strategies for improving economic viability and potential of deepwater fishery development
- Phase 2: 2017 to ~~2020~~ 2023
  - Implementation, management and monitoring of strategies, capacity building and fishery diversification
- Project overseen by Project Management Group (PMG)



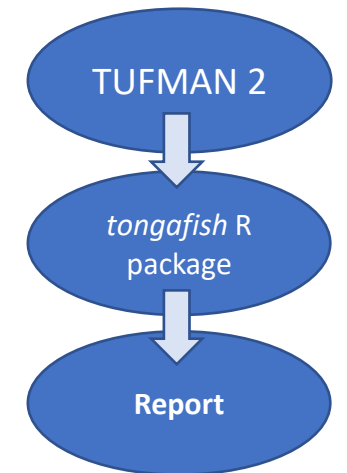
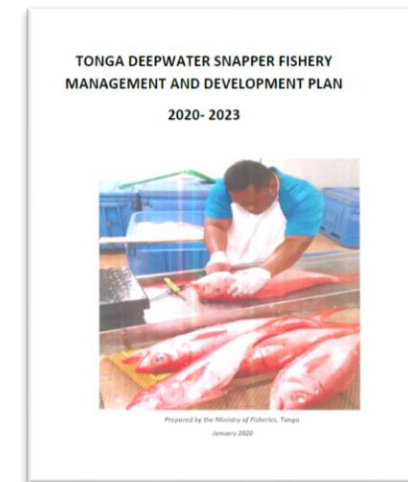
# Increased revenue and business confidence

- **Bio-economic, market, and ‘break-even’ analyses**
- Initially explored **additional export markets**
- Once-off payment for vessel repairs / improvements to improve efficiency of business operations and maintain product supply
- **Safety at sea equipment** and training, and master/engineer class 6 **courses**
- Training fish processors and vendors in **fish hygiene, handling and processing**, and provision of **new equipment** to improve marketability of catch
- Training in **accounting and business practices**
- Investment into **fishery diversification** techniques including training, provision and installation of gear, and market development



# Improved governance and robust decision making

- Facilitated **regular meetings** between stakeholders
- Supported the **development of NFC Strategic Plan, 2021–2025**
- **Developed and embedded harvest control rules** within the Deepwater Fishery Management Plan (DFMP) to enable transparent decision making
- Assisted with the **development of monitoring and evaluation criteria** for the DFMP
- Developed **automated reports** for regular monitoring of fishery performance against DFMP objectives
- Supported **mid- and full-term reviews** of the DFMP



# Improving sustainability

- **Harvest control rules and harvest strategy agreed and embedded in DFMP**
  - Total Allowable Catch limits for whole-of-fishery (200 mt) and flametail snapper (86 mt)
  - Minimum size limit for flametail snapper
- **In-season catch monitoring** (volumes and fish size)
- **Bio-economic and market analyses and monitoring**
- Regular **stock assessments** of flametail snapper and characterisations of fishery
- **Fishery diversification**



# Fishery diversification

- Initially to reduce operating costs (**increase revenue**) and reduce pressure on target species (**improve biological sustainability**)
- More recently to support **domestic food security**
  - Deepwater squid
  - Loligo squid
  - Small pelagics
  - Mini longlines for nearshore large pelagics (tunas, mahi mahi etc)
  - Bluenose fishing also trialled but deemed not an equitable diversification option

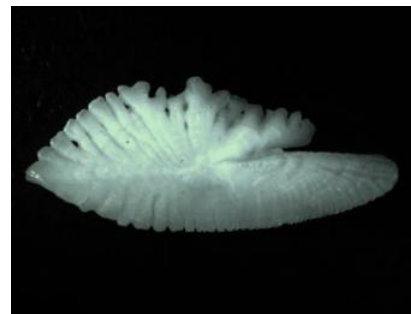
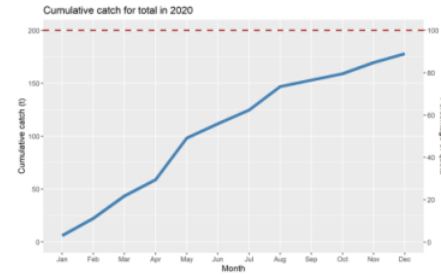






# Capacity building

- Improve capacity and practical skills along the value chain
  - Training fishers in new fishing techniques, gear construction, sea safety and master/engineer class 6 courses
  - Training processors/vendors in seafood hygiene, handling and processing and in accounting and business management
- Improve capacity and practical skills of Tongan MoF staff
  - Training in R statistical environment and the *tongafish* R package
  - Attachments to SPC for training in economic analyses
  - Supporting travel costs for MoF staff to attend an international deepwater snapper ageing workshop and an R training course held at NIWA Auckland (run jointly by NIWA and SPC)
  - Secondment of MoF staff to NIWA Wellington for ten-week internship to learn R, fisheries analysis, and stock assessment
  - Data analysis and fish ageing workshop held with MoF staff at NIWA Wellington



# Gender and social inclusion

- Social inclusion and gender equality analysis completed in 2016
- Fafine 'o Tonga Ngatai Women in Fisheries Group integrated into the PMG
- Training in accounting & business management, and fish hygiene, handling and processing
- Provided new equipment (bins, boards, knives, aprons, gloves etc)
- Significant investment into the diversification options (catches and marketing, particularly of deepwater squid) to provide an additional source of income for all along value chain



# Malo 'aupito

- Mele 'Atuekaho, Vilimo Fakalolo, Elaine Havealeta, Moana Mahe, Makeleta Malimali, Poasi Ngaluafe, Samuela Pohiva, Michael Po'uliva'ati, Salome Taufa and the late Hon. Minister for Fisheries Semisi Fakahau (MoF)
- Stu Hanchet and Steve Parker (NIWA)
- Lindsay Chapman, Andrew Smith, Phil James, Jean-Baptiste Marre and Julie-Anne Kerandel (SPC)
- Deepwater fishery licences holders and fishers
- Tonga National Fisheries Council
- Fafine 'o Tonga Ngatai Women in Fisheries Group
- Toni Ferdinands (MPI)
- Maire Dwyer, Bruce Bird, Peter Philipson, Simon Mardle and Joanna Bourke (consultants)
- New Zealand Ministry of Foreign Affairs and Trade

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