

# Day 3 Summary



**He waka eke noa**

**Tefua 'a Vaka Lautala**

# Data sources

- Data sources for producing official Tongan population estimates and projections
  - Births and deaths – detailed data, lags in registration
  - External migration – timely, not detailed SYOA
  - International data sources
  - Secondary Tongan data sources

# Secondary data sources

- Electoral enrolments
- School enrolments
- Tax data
- Health enrolments
- Social welfare / income support data
- Driver registrations
- Electricity/water consumption data
- Cellphone data

# Data adjustments

- Census
- Incomplete component data and extrapolation
  - Last available figure
  - Historical averages
  - Linear trend (regression)
  - Complex trends (polynomial, exponential, ARIMA)
- Broad grouped component data and interpolation
  - Historical distributions
  - Fitted curves, eg Karup King, Sprague
- If in doubt, simpler is better
  - Easier to implement
  - Easier to explain to customers
- Only adjust if it improves the estimate
- Update and revise as new data becomes available

# Software

- Excel spreadsheets
- Stats NZ estimates – R code
- Stats NZ projections – SAS programs
- Repeatable, controlled, replicable
- Minimises risk of error