

**Land Administration Workshop  
Knowledge Sharing for the Future**

# Computerisation in the context of Land Administration in the Pacific

Neil Pullar  
Cadastre Limited

14 August 2008

# Land Administration

**Computerisation** has the **POTENTIAL** to support most land administration reform initiatives

# Land Administration

## Common LA Applications in Pacific countries:

- Cadastral Mapping
- Digital Archive of Land Records
- Land Registration
- Formalising Customary Land
- Government Land Rental System
- State Land Inventory
- Geodetic Survey Control Mark Index
- Property Valuation
- Survey Calculations

# Pacific Land Administration

Computerisation Initiatives are characterised by:

- Small number of records
- Low volumes of transactions
- Includes :
  - modernisation of existing systems originally implemented during colonial administration
  - new systems (eg formalising customary land rights)
- Climate is harsh (on both paper records & computers)
- Vulnerability to natural hazards
- Local ICT specialists are in short supply & not all ICT specialities are available locally

# Papua New Guinea



# Papua New Guinea

## Regional & Provincial Survey Offices (1980s)

- Standardised office based survey calculation software (used in quality assurance processes)
- Standardised field handheld survey calculator programmes
- Locally written software
- Piloted Survey Instruction monitoring and reporting

# Fiji



# Fiji

## Fiji Land Information System (FLIS) Programme

- LIS Council decides policy issues for this inter-agency initiative
- 13 software applications across 5 agencies
- Cadastral mapping involved ongoing software costs
- Transitioned from paper based cadastral maps using low cost GIS viewer (VanuaView)
- Took advantage of regional organisations (University of South Pacific & SOPAC)
- Now excellent local software & GIS developers

# Marshall Islands



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# Marshall Islands

## Establishment of Land Registration Authority

- New legislation
- Primary functions:
  - voluntary formalisation of customary land and the issue of “registration certificates”
  - recording of land transactions (eg leases)
- Legislation specified the need for a database & backups
- Very low volumes of applications & transactions
- Very limited number of local software developers
- Initially commercial elite appear main beneficiaries

# Samoa



# Samoa

## Land Administration component of SIAM2 Project

### 1. Land Registration System

- must meet existing & future legal requirements
- provides easy access to all records (including scanned documents)
- comprehensive searching
- appropriate security
- need to convert existing paper register volumes into the LRS database
- Implementation of new title registration legislation has been delayed

# Samoa

## 2. Digital Cadastral Database (DCDB)

- data capture of paper based cadastral maps almost complete
- staff retention has been major problem
- limited local support
- SOPAC GIS support has been useful

## 3. Conversion of microfilm records to scanned images

## 4. Geodetic Database

# Sustainable Land Administration

## Key Computerisation Issues:

1. Minimise support dependency beyond period of development assistance
  - use main stream approaches for system requirements & system design
  - maximise use of security measures to minimise intentional and unintentional record changes
  - select simple programming language
  - establish coding & naming standards
  - consider use of code generation tools using templates
  - consider use of 3<sup>rd</sup> party software modules (eg scanning)

# Sustainable Land Administration

## Key Computerisation Issues:

### 2. Minimise Ongoing Software License & Support Costs

- consider use of “Express” versions of Database
- consider Open Source options for DBMS & GIS functionality
- System Design should identify ongoing costs for any software recommended in the design solution

# Sustainable Land Administration

## Key Computerisation Issues:

### 3. Maximise User Confidence & Competence

- user training
- appropriate user documentation (including Online Help)
- establish local user support mechanisms
- minimise time when both computerised & paper based processes are run in parallel

# Sustainable Land Administration

## Key Computerisation Issues:

### 4. Ensure Reliability of System Backup Processes

- backups must include ALL data required to restore system and the land administration application software (including source code)
- automated & pre-scheduled backup processes wherever possible
- offsite storage of key backups
- make sure backup processes are “main streamed” during the period of development assistance

# Sustainable Land Administration

## Key Computerisation Issues:

5. Ensure redundancy in the procurement of critical hardware items
  - scanners and printers
  - minimise use of high cost hardware items wherever possible particularly after data conversion (eg. Wide format scanners and plotters)
  - encourage A4 and A3 format standard outputs from computerised systems