The Third UN-GGIM-AP Plenary Meeting

Capacity Building for Geospatial Information Management in Malaysia
(Case Studies in JUPEM)

Bali Indonesia
10 November 2014

Hasan Jamil
Department of Survey and Mapping Malaysia

OUTLINE

- Introduction
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- JUPEM Personnel Information
- Qualification of JUPEM Officers
- Recruitment Process
- Career Opportunities
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- Capacity Building Required
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Professional Bodies for Geospatial Information Management

- Land Surveyors Board, Peninsular Malaysia
  446 LLS, 283 Articled Graduates, 557 Field Assistants

- Land Surveyors Board Sabah
  27 LLS, 17 Articled Graduates, 143 Field Assistants

- Land Surveyors Board Sarawak
  48 LLS, 35 Articled Graduates, 113 Field Assistants

Higher Education System for GIM – Universities

Universiti Teknologi Malaysia (UTM)

- Diploma in Land Surveying - 29 students
- BSc. of Engineering (Geomatic) - 38 students
- BSc. of Engineering (Geoinformatics) - 28 students
- MSc. (Geomatics / Geoinformatics) - 66 students
- Phd. (Geomatics / Geoinformatics) - 30 students
INTRODUCTION - cont

Higher Education System for GIM – Universities

Universiti Teknologi Mara (UiTM)

- Diploma in Geomatics Science – 161 students
- Diploma in Geomatics Science (GIS) – 108 students
- Diploma in Geomatics Science (RS) – 90 students
- B.Surv. Science and Geomatics (Hons.) – 113 students
- MSc. in Geographical Information Science – 12 students

INTRODUCTION - cont

Higher Education for GIM – Polytechnics

- Politeknik Ungku Omar, Ipoh
  - Diploma in Land Surveying – 80 students

- Politeknik Sultan Haji Ahmad Shah, Kuantan
  - Diploma in Land Surveying – 160 students

- Politeknik Merlimau, Melaka
  - Diploma in Geomatics – 80 students

- Politeknik Tuanku Sultanah Bahiyah Kedah
  - Diploma in Land Surveying – 80 students
Higher Education for GIS – Private Institutions

**Infrastructure University**
- Diploma in Geomatics Engineering - 8 students

**Geomatika University College**
- Diploma in Geomatics Engineering - 80 students
- Diploma in GIS - 80 students

Private Companies that Employ Qualified Geospatial Information Professional

- Licensed Land Surveyors
- Equipment Vendors
- Land Developers
- Oil and Gas Companies, i.e.: PETRONAS, SHELL
- GIS Vendors
- Others
JUPEM’S PERSONNEL INFORMATION

- Top Management
  - Land Surveyor - 11

- Management and Professional
  - Land Surveyor - 301 (inc. 60 cadre post)
  - Geospatialist - 12
  - System Analyst - 16
  - Administrator - 6
  - Accountant - 1
  - Legal Adviser - 1
  - Librarian - 1
  - Military - 26

- Supporting Staff I
  - Assistant Surveyor - 1,951 (inc. 116 cadre post)
  - Programmer - 28
  - Assistant Administrator - 19

- Supporting Staff II
  - General Field Worker - 2,035
  - Driver - 135
  - Other office Staff - 328
### QUALIFICATION OF JUPEM OFFICERS

<table>
<thead>
<tr>
<th>LEVEL OF QUALIFICATION</th>
<th>TOP MANAGEMENT</th>
<th>MANAGEMENT &amp; PROFESSIONAL</th>
<th>SUPPORTING STAFF</th>
<th>TOTAL</th>
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<tbody>
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<tr>
<td>MCE/ SPM Certificate</td>
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<td>1943</td>
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</table>

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### RECRUITMENT PROCESS

- Post Approved by Public Service Department and Treasury
- Recruitment by Public Service Commission
CAREER OPPORTUNITIES

- Vacancy of Promotional Post

- Time Based for Supporting Staff I and II – 13 years subject to recommendation by Head of Department

PERSONNEL EXCHANGE BETWEEN ORGANISATIONS

Cross Fertilisation Programme

<table>
<thead>
<tr>
<th>DEPARTMENT/ AGENCY</th>
<th>PARTICIPANT</th>
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<tbody>
<tr>
<td>Department Director General of Lands and Mines (JKPTG)</td>
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<tr>
<td>Department of Irrigation and Drainage (JPS)</td>
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<tr>
<td>Malaysian Centre for Geospatial Data Infrastructure (MaCGDI)</td>
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<td>TOTAL</td>
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**TRAINING PROGRAMMES**

- Formal Education at Universities / Polytechnics

<table>
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<th>STUDY LEVEL</th>
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<td>TOTAL</td>
<td>23</td>
<td>41</td>
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**TRAINING PROGRAMMES - cont**

- Programmed Courses
  - National Institute of Land and Survey (INSTUN)
  - National Institute of Public Administration (INTAN)

- On the Job Training
  - Based on Projects

- Compulsory 7 days of courses per year for every government employee effective 1st January 2005 (Service Circular 6/2005)
Professional Development Programmes

- Continuous Professional Development Programme
  Sponsorship by Japan International Cooperation Agency (JICA) & Public Service Department (JPA):
  
  ✓ The Management Training For Junior Officer In The Field Of Human Resource (Gred 41-44)
  ✓ Leadership Development Program For Middle Management Level (Managers) (Gred 48-54)
  ✓ Administrative Management Course (Gred 41 and above)

**TRAINING PROGRAMMES - cont**

<table>
<thead>
<tr>
<th>YEAR</th>
<th>The Management Training For Junior Officer In The Field Of Human Resource (Gred 41-44)</th>
<th>Leadership Development Program For Middle Management Level (Managers) (Gred 48-54)</th>
<th>Administrative Management Course (Gred 41 and above)</th>
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<td>TOTAL</td>
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</table>
TRAINING PROGRAMMES - cont

- Continuous Professional Development Anjuran Central Officials Training Institute (COTI), Korea & JPA:
  - Executive Development Programme for Supporting Level (Gred 27 - 40)
  - Executive Development Programme for Junior Level (Gred 41 - 44)
  - Executive Development Programme for Senior Level (Gred 48 - 54)
  - Malaysia – Korea Youth Exchange Programme

YEAR | Executive Development Programme for Supporting Level (Gred 27 - 40) | Executive Development Programme for Junior Level (Gred 41 - 44) | Executive Development Programme for Senior Level (Gred 48 - 54) | Malaysia – Korea Youth Exchange Programme
--- | --- | --- | --- | ---
2014 | 1 | - | - | -
2013 | - | - | 1 | -
2012 | 1 | - | - | -
2011 | - | - | - | -
2010 | - | - | - | -
2009 | 1 | - | - | -
2008 | - | - | 1 | -
TOTAL | 3 | 2 | - | -
Foreign Short Courses
Sponsorship by Public Service Department (JPA):

<table>
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<tr>
<th>YEAR</th>
<th>Foreign Short Course</th>
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<td>TOTAL</td>
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</table>

CONFERENCES AND SEMINARS

• International Survey Congress
• Geospatial Malaysia
• ESRI Malaysia Users Conference
• International Geoinformation Conference and Exhibition
• National GIS Conference
• Others
New Technology on Geospatial Data Acquisition and Processing
- Global Navigation Satellite System (GNSS)
- Light Detection and Ranging (LiDAR)
- Interferometric Synthetic Aperture Radar (IFSAR)
- Unmanned Aerial System (UAS)
- Underground Utility Mapping
- Terrestrial Laser Scanning

Geospatial Data Standards
- ISO/ TC 211 standards
- Local Standards
- Feature and Attribute Codes
- Metadata
CAPACITY BUILDING REQUIRED - cont

- Web Services
  - Cloud Computing
  - Crowd Sourcing

- Geospatial Analysis
  - Big Data
  - Open Data

CHALLENGES

- Finance
- Technology changing too fast
- Demand for accurate data
- Demand for up-to-date date
- Demand for easily accessible geospatial data
- Demand for free data
Contact information

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Thank you for your attention ....