

PROPOSALS FOR STUDIES TOWARD EFFECTIVENESS  
DEVELOPING AND IMPLEMENTING MALAYSIA  
GEOPORTAL AND GEOSPATIAL DATA FOR  
MINISTRY OF NATURAL RESOURCES AND  
ENVIRONMENT (NRE)



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**1st Retreat Report**

**MaCGDI STUDY ON ORGANISATIONAL STRUCTURE, ROLES  
AND DIRECTIONAL, HUMAN CAPACITY BUILDING AND  
ORGANISATIONAL DIAGNOSTIC**

By



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9 -10 November 2006  
Selesa Beach Resort, Port Dickson

**Final Version**

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**9 -10 November 2006**

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## 1.0 Introduction

### 1.1 Introduction of MaCGDI Studies

The 1st Retreat was held for MaCGDI study on organisational structure, roles and directional, human capacity building and organizational diagnostic.

#### **Subject or matters discussed are as below:**

1. The Lead Consultant, En Mohaizi briefed on the program schedule from Session 1 to Session 6 (see *Appendix A*, for Program Schedule, Session 1 to 6).
2. MaCGDI Organisation Chart to be restructured and create Business Process.
3. Human Resource Development was discussed by Dr Sharifah and Dr Tan.
4. Discussion on 2<sup>nd</sup> Technology Update cum study on metadata/IMS and Technical Visit to Perth, Australia.
5. Extract of Renong report will be used for MaCGDI Studies.
6. Vision, mission, objectives and direction of MaCGDI to be restructured.
7. Exchange issues and identify areas of concern and circle of influence.
8. Pn Fuziah and KPP presented present MaCGDI organisation chart.
9. Work Schedules for MaCGDI Studies from October 2006 to May 2007 were discussed:
  - i. 2nd Retreat will be held in Seremban or Pahang.
  - ii. Workshops will be held according to zones in Malaysia
    - a) Workshop 1 will be held on 11th to 12 Dec 2006.
    - b) Workshop 2 will be either held in Sabah or Sarawak.
    - c) Workshop 3 will be held in Ipoh.
  - iii. Technology Update will be held to improve the understanding of Geospatial System ad Geoportal.
    - a) Technology 1 will be held on 16<sup>th</sup> Nov by David Hisdal.
    - b) Technology 2 will be held on 6,7<sup>th</sup> Dec 2006 by Mike Jensen, DLI, Perth.
    - c) Technology 3 will be held on 25 January 2007.
    - d) Technology 4 will be held on 22<sup>nd</sup> February 2007.

### **Suggestions and Opinions:**

1. Workshops to study stakeholders to be done in every state in Malaysia as the GIS Development is different for every state.
2. Technical Visit to Perth to be held on 20<sup>th</sup>- 23rd February 2007. ERAS need to discuss further on sponsorship.

## **2.0 Session 1 Internal Elements**

### **2.1 Briefing on MaCGDI Organization Function**

#### **Subjects or matters discussed are as below:**

1. The objective of MaCGDI is to encourage agencies participation; to avoid duplication of data production and collection; and to identify data custodians.
2. MaCGDI is responsible for identifying and determining the types of data.
3. MaCGDI develops policy, prices of data, standard and determines the technology to be used.
4. The current organisation of MaCGDI is a matrix structure, it consists of three levels. Each department is represented by a Ketua Penolong Pengarah (KPP) (*see Appendix B, Current Organisation Chart of MaCGDI*).
5. MyGDI has two common administrations and three technical committees.
6. Differences between Majlis Tanah from Majlis Geospacial.
7. To transform the MyGDI Clearinghouse into a Data Center.

#### **Suggestion and Opinion:**

1. MaCGDI is to develop a Geospacial Act based on the proposed MaCGDI Organisational structure. ERAS to study Geospacial Act of WA, UK and Australia.

### **2.2 Framework Data**

**Subject or matters discussed are as below:**

1. MaCGDI is a government advisor on Geospatial Data Infrastructure. 80% of Malaysian Government organizations use Geospatial Data.
2. Data must be stored in hardcopy and softcopy.
3. Data is disseminated either for free or purchased via the proposed channel, i.e. eCommerce.
4. MaCGDI should have database for data sharing purposes to meet stakeholders' needs, namely for students and the general public.
5. The "committee" will determine the types of data, whether restricted, unrestricted, free, or copyright.
6. The directional of MaCGDI' organisation is to store all geospatial data in a warehouse, which will be named as National Geospatial Data Center (NGDC).

**Suggestions and Opinions:**

1. Students need data and the option 'should the data be provided free for universities' must be studied.
2. Data custodian must be identified and participating agencies who maintain geospatial data must publish their data.
3. The Data Framework concept, i.e. data sharing, policies and power must be clearly defined and understood before presented to the Ministry under the Act.

### **2.3 MyGDI Standards**

**Subject or matters discussed are as below:**

1. The difference of standards in MS1759 – features and attributes must be synchronized but only implemented for eight states in 2004 (except in Melaka, Labuan, Kedah, Perlis and Kuala Lumpur).
2. The converter MS1759 in MyGDI application is able to convert all other standards to MS1759 automatically. The search engine assists in finding codes which is compatible/ acceptable to MS1759.

3. eTanah is implemented in MyGDI application, however, the coding is not uniform throughout Malaysia. Usually JUPEM codes are followed. Guidelines should be set-up for coding.
4. The hierarchy of administrative area definitions is not standardized.
5. For publishing cartography, map standardized dataset must be available.

**Suggestions and Opinions:**

1. The suitability of the 12 categories of themes in MS1759 must be studied.
2. The feedback from agencies is that MS1759 does not comply with agencies' application, thus the MS1759 standard should be revised.
3. ERAS should study the 3 structure of UPI to obtain 1 structure for MaCGDI.
4. Who should gazette?

## **2.4 MyGDI System Development**

**Subject or matters discussed are as below:**

1. The Malaysian Geoportal is just a portal which consists of MyGDI application. MyLIIS is related to land; G4E for Sectoral Based.
2. Search Engine Converter, GNIS, and Web Gazetteer were discussed.
3. In the operational part of the organisation chart there are 2 levels of support. The first level contact is the operation section and the second level is the help desk.
4. The database section manages the structure of data stored.
5. Many staffs lack cartographic knowledge although it is one of the important parts of GIS development.

**Suggestions and Opinions:**

1. Every data that enters NGDC must comply with MaCGDI's standard.

2. The Data Center must ensure there is quality assurance for all data stored.
3. The Malaysian Geoportal must have application and it should not be just a portal.
4. Data Security should be strengthened, referring to GIS and remote sensing data.

### **3.0 Session 2 External Element**

#### **3.1 Renong Report**

##### **Subject or matters discussed are as below:**

1. The Renong's vision for NaLIS states:
  - a. The system should be smart.
  - b. It promises that the future implementation shall include work processes and procedures, reduce complexity and integrated technology.
2. MaCGDI's current vision does not state the purpose of system, how to do it and for whom.
3. The Renong's mission for NaLIS states:
  - a. Referred to future scenario which has motive and the cause of its existence.
4. Current MaCGDI's mission does not clearly state their mission and it seriously needs to be restructured.
5. Brief contents of Renong report:
  - a. Volume 1 studies all level of government in Malaysia.
  - b. Volume 2 summarises the Geographic Information System (GIS) technology.
  - c. Volume 3 understands the government machinery.
6. Legal Sarawak Land Code and Sabah Land Ordinance should be amended to be incorporated with National Land Code.
7. Miscommunication among agencies should be solved by diplomatic way.

##### **Suggestions and Opinions:**

1. MaCGDI's operation by should be guided its own Act.
2. MaCGDI must have a benchmarking plan before attending the Technical Visit in Perth.

## 4.0 Session 3 Development Issue

### 4.1 Human Resource Development

Subject or matters discussed are as below:

1. In order to achieve strategic fit, the strategy of MaCGDI must be established.
2. Projection of people or man power in MaCGDI includes Technology, Administration and Supporting for each application, MyGDI, Geoportal and G4E. (see Figure 1 a, b ,c)

#### Standard

<b>MYGDI</b>		
<b>TECHNICAL</b>	<b>Project</b>	<b>SUPPORTING</b>
<p><b><u>ICT:</u></b></p> <p>1 F52 – Kamaliah / Kpp(Operasi) (Hardware)</p> <p>1 F48 – Hashim (KPP(ps3), (G4E&amp;Sectoral Base)</p> <p>1 F48 – Ria /KPP(rep), (Security &amp;Networking)</p> <p>1 F48 – Mariyam /KPP(rep), (Application)</p> <p>1 f48 – Sapura /KPP(rep), (Multimedia)</p>	<p>- MS 1759 - Unique Parcel Identifier (UPI)</p>	<p>3 F41, 1 F32, 2 F29, 2FT17 1, F44, 1 F41, 1 J41, 3 F29 2 F41, 1 F32, 2 F29 4 F41, 1 J41(JPBD) 1 F44, 2 F41, 1 F29</p> <p>Note: All F41 PP(sistem) negeri / agensi, all F32 and below PP(Sokongan)</p>
<p><b><u>DATA:</u></b></p> <p>1 J52 - Dr Zainal/KPP(FD1), Framework Data from all states)</p> <p>1 F48 – Siti Zaleha/(KPP(PD)</p>		<p>1 – J44, 3 J41, 1 J36 3 – J41, 1 J29 3 – J41, 1 J29</p> <p>1-J41,3-F41,1-F38,1-F11</p>
<p><b><u>STANDARD:</u></b></p> <p>J48 – Mazlan (KPP(rep)N.Sembilan</p>		<p>1 J41, 1 F41, J29</p>
<p><b><u>R&amp;D:</u></b></p> <p>1 J48 – Dr Zainal (tanggung) KPP(Rep)Feddeal</p>		<p>2 J41, 1F41</p>
<p><b><u>Outreach:</u></b></p> <p>1 J48 – Sapura (tanggung) KPP(Sabah)</p>		<p>3 J41,1J29,1N17</p>

Figure 1 (a)

#### G4E

<b>MYGDI</b>		
<b>TECHNICAL</b>	<b>ADMIN</b>	<b>SUPPORTING</b>
<p><b>ICT:</b></p> <p>1 F52 – Kamaliah (KPPrrp Perak)</p> <p>1 F48 – Hashim (KPP(ps3), KPP(rep) Perlis, KPP(rep) Kedah)</p> <p>1 F48 – Ria KPP(rep)Terengganu</p> <p>1 F48 – Mariyam KPP (rep) Pahang</p> <p>1 F48 – Sapura KPP(rep) Johor</p>	NONE	<p>3 F41, 1 F32, 2 F29, 2FT17 1, F44, 1 F41, 1 J41, 3 F29 2 F41, 1 F32, 2 F29 4 F41, 1 J41(JPBD) 1 F44, 2 F41, 1 F29</p> <p>Note: All F41 PP(sistem) negeri/ agensi, all F32 and below PP (Sokongan)</p>
<p><b>DATA:</b></p> <p>1 J52 - Dr Zainal KPP(rep)Kelantan, KPP(rep)Labuan</p> <p>PFD2 –1 J48 - Mariyam (Tanggung) KPP Rep P.Pj</p> <p>PFD3 – 1 J48 – Kamaliah (tanggung)</p> <p>PD – 1 F48 – Zaleha KPP(rep) Selangor</p>	NONE	<p>1 – J44, 3 J41, 1 J36 3 – J41, 1 J29 3 – J41, 1 J29</p> <p>Note:All J41 &amp; J44 PP(Data) Negeri, all J32 and below PP(Sokongan)</p>
<p><b>STANDARD:</b></p> <p>J48 – Mazlan (KPP(rep)N.Sembilan)</p>	NONE	1 J41, 1 F41, J29
<p><b>ADMIN:</b></p> <p>1 M 48 – Bahar kpp(rep)Melaka</p>	NONE	
<p><b>R&amp;D:</b></p> <p>1 J48 – Dr Zainal (tanggung) KPP(Rep)Federal</p>		
<p><b>OUTREACH:</b></p> <p>1 J48 – Sapura (tanggung) KPP(Sabah)</p>		

Figure 1 (b)

**MyGDI**

<b>MYGDI</b>		
<b>TECHNICAL</b>	<b>ADMIN</b>	<b>SUPPORTING</b>
<p><b>ICT:</b></p> <p>OPR – 1 F52 (MyGDI impl. &amp; KPPrep)</p> <p>PS1 – 1 F48 (MyGDI appl. &amp; KPP rep)</p> <p>PS2 – 1 F48 (KPP rep negeri)</p> <p>PS3 – 1 F48 (kpp rep negeri)</p> <p>KKICT– 1 F48 (network &amp; KPP rep negeri)</p>	<p>NONE</p> <p>-1 M48 (eCommerce)</p>	<p>3 F41, 1 F32, 2 F29, 2FT17 1, F44, 1 F41, 1 J41, 3 F29 2 F41, 1 F32, 2 F29 4 F41, 1 J41(JPBD) 1 F44, 2 F41, 1 F29</p>

		Note: All F41 PP(sistem) negeri/ agensi, all F32 and below PP(Sokongan)
<b><u>DATA:</u></b> PFD1 – 1 J52 (Data collection/ preparation/planning/quality data & KPP rep) PFD2 – 1 J48 (sea's) PFD3 – 1 J48 (s.a.a) PD – 1 F48 (MyGDI data mgmt & KPP rep)	NONE	1 – J44, 3 J41, 1 J36 3 – J41, 1 J29 3 – J41, 1 J29  Note: All J41 & J44 PP(Data) Negeri, all J32 and below PP(Sokongan)
<b><u>STANDARD:</u></b> J48 – 1 (Metadata, all std eg color, UPI dll)	NONE	1 J41, 1 F41, J29
<b><u>POLICY:</u></b> PFD1	NONE	1 J44
<b><u>R&amp;D:</u></b> J48 – 1 (KPP rep negeri)		2 J41, 1 F41
<b><u>Outreach:</u></b> J48 – 1 (KPP rep negeri)		

Figure 1 (c)

## 5.0 Session 4 Feedback

### 5.1 Questionnaires

#### Subject or matters discussed are as below:

1. R&D department which suits the organization's mission and vision.
2. Allow for ad-hoc projects.
3. Review of questionnaires revealed various factors:
  - i. Unclear scope of work.
  - ii. Extensive operational problems.
  - iii. Absence of knowledge sharing.
  - iv. Unsustainable organization development.
  - v. Over utilization of expertise.
  - vi. Lacking flow of information.
  - vii. Communication gap within sector and between sectors.

## 6.0 Session 5 Development & Implementation Aspects

### 6.1 Facilitating Mechanism

#### Subject or matters discussed are as below:

1. Relevant Environment:
  - i. Fast Changing technology in ICT – think of time-bases management
  - ii. Fast expanding business/service required
2. Reasons for restructuring MaCGDI's organisation structure to cell-type:
  - i. Matrix structure inappropriate.
3. Discussion on Fundamental of organisational structure.
4. Post-industrial state
  - i. Abandon specialization of work (*Pengkhususan kerja*) which only focuses on mass production.
  - ii. Giving back craftsmanship to the employees.
5. Structured defined:
  - i. Work unit
  - ii. Communication Links
  - iii. Work process
  - iv. Leadership
  - v. Emphasizes on process
  - vi. Boundary exists to facilitate work
6. Committee for decision making:
  - i. Core services: Expert (knowledge worker) in their respective field.

#### Suggestions and Opinions:

1. Ad-Hoc committee should be established.

## 7.0 Session 6 Conclusions

### 7.1 Conclusion & Future Plans

1. Business Process Reengineering (BPR):
  - i. Identify area of concern.
2. Virtual Organisation.
3. Scope of work.
4. Skill Issue.
5. Direction of MaCGDI.
6. Prepare benchmark.
7. HR Development:
  - i. Existing human resource
  - ii. Project human resource needs
  - iii. Prepare training plan
  - iv. Must have own training center
  - v. MaCGDI to be involved only with higher level training.
8. Proposed MyGDI management structure (see Figure 2):
  - i. Under National Geospatial Management Structure
  - ii. To establish Geospatial Act

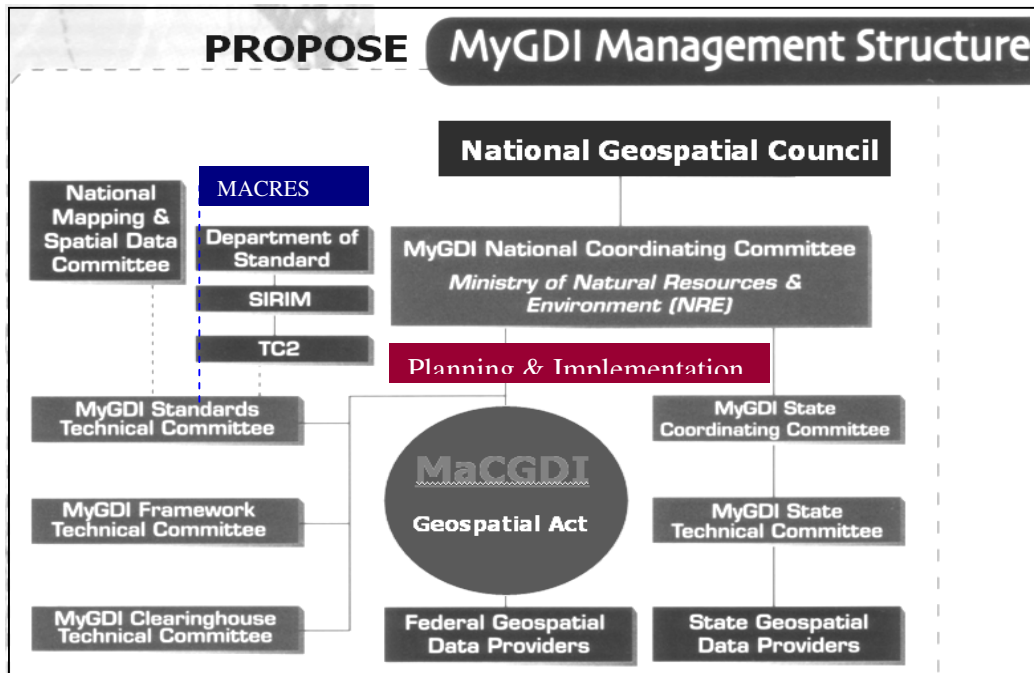


Figure 2: Proposed MyGDI management structure

9. Proposed Tentative MaCGDI Organisation (see *Appendix C*):
  - i. Research expertise.
  - ii. Differentiate role of MaCGDI and MACRES.
  
10. Eight Working groups are as below:

<p>Team 1  <b>MaCGDI/MyGDI/ROI :</b>  a. Fuziah  b. Dr. Zainal  c. Mazlan  d. Mariyam</p>	<p>Team 2  <b>System Development &amp; Implementation:</b>  a. Mariyam  b. Ria  c. Hashim</p>
<p>Team 3  <b>Geodata:</b>  a. Dr. Zainal  b. Mariyam  c. Hashim  d. Zaleha  e. Jasmani</p>	<p>Team 4  <b>Applications:</b>  a. Hashim  b. Mazlan  c. Mariyam  d. Nik Zamri</p>
<p>Team 5  <b>MIS / Multimedia:</b>  a. Sapura  b. Ria</p>	<p>Team 6  <b>R&amp;D, Consultancy &amp; Training :</b>  a. Mazlan  b. Mariyam  c. Hashim</p>
<p>Team 7  <b>Data Centre and Warehouse:</b>  a. Kamaliah  b. Siti Zaleha</p>	<p>Team 8  <b>Stakeholders Coordinator:</b>  a. Kamaliah</p>

 **MaCGDI Secretariat to refine the 8 Working Group.**

### **Suggestions and Opinions:**

1. Director of MaCGDI should be upgraded to JUSA 'A' (see *Appendix C*).
2. Head of Framework Section should be headed by Deputy Director with JUSA C (see *Appendix D*).

**RETREAT PERTAMA KAJIAN MaCGDI**

**MENGENAI STRUKTUR ORGANISASI, PERANAN & HALA TUJU, MODAL INSAN DAN DIAGNOSTIK ORGANISASI**

**TEMPAT : BILIK MESYUARAT SRI IMPIAN(9/11) & SRI KEMANG (10/11) , SELESA BEACH RESORT, PORT DICKSON**

**HARI : 9 - 10 NOVEMBER 2006 (KHAMIS - JUMAAT)**

Masa	7.00– 8.00 pg	8.00- 9.00 pg	9.00- 9.30 pg	9.30- 10.00 pg.	10.00-10.30pg	10.30- 11.30pg	11.30- 12.30 tgh.	12.30- 1.00tgh	1.00- 2.30 ptg.	2.30- 4.30ptg	4.30- 5.00 ptg.	7.00- 8.00 mlm	8.00– 10.30 mlm.
Tarikh													
09.11.06 (KHAMIS)			Pendaftaran Retreat  .....  Sarapan Pagi	<b>SESI 1 [ELEMEN DALAMAN]</b> <ul style="list-style-type: none"> <li>Penjelasan: visi (vision), misi (mission) &amp; pencapaian (target) MacGDI.</li> <li>Penjelasan: rasional struktur semasa MacGDI &amp; peranan (role) setiap unit/sector.</li> </ul> <p><i>Pemudahcara: Pn Fuziah / Pn Kamaliah</i></p> <p style="text-align: right;">(MaCGDI)</p>		<b>SESI 2 [ELEMEN LUARAN]</b> <ul style="list-style-type: none"> <li>Menilai laporan Renong</li> <li>Sepintas lalu selepas Renong</li> <li>Perbincangan khusus elemen-elemen luaran (external environment): teknikal (technical), insan (human), &amp; faktor institusi (institutional factors)</li> </ul> <p><i>Pemudahcara: Dr Sharifah</i></p> <p style="text-align: right;">(ERAS)</p>		Daftar masuk hotel / Makan Tengahari	<b>SESI 3 [ISU PEMBANGUNAN]</b> <p>Membincang aspek sumber manusia:</p> <ul style="list-style-type: none"> <li>Jenis (type), sumber (source), bilangan (number).</li> </ul> <p><i>Pemudahcara: Dr Tan /Dr Sharifah</i></p> <p style="text-align: right;">(ERAS)</p>	Minum Petang	Makan Malam	<b>SESI 4 [MAKLUMBALAS]</b> <p>Mengumpul maklumat strategik.</p> <p><i>Pemudahcara: Dr Tan / Dr Sharifah</i></p> <p style="text-align: right;">(ERAS)</p>	
10.11.2006 (JUMAAT)	Sarapan Pagi	<b>SESI 5 [ASPEK PEMBANGUNAN &amp; IMPLEMENTASI]</b> <ul style="list-style-type: none"> <li>Setiap unit menyediakan / mereka carta aliran kerja (flow chart) proses kerja (work process).</li> <li>Mereka carta kerja &amp; proses kerja komprehensif</li> </ul> <p><i>Pemudahcara: Dr Tan</i></p> <p style="text-align: right;">(ERAS)</p>		Minum Pagi	<b>SESI 6 [RUMUSAN &amp; PERANCANGAN KEHADAPAN]</b> <ul style="list-style-type: none"> <li>Pembentangan hasil retreat pertama dan kandungan perancangan retreat kedua</li> <li>Menyediakan nama pegawai yang bertanggungjawab atas proses utama</li> </ul> <p><i>Pemudahcara: Hj Mohaizi</i></p> <p style="text-align: right;">(ERAS)</p>		Daftar keluar hotel dan bersurai						

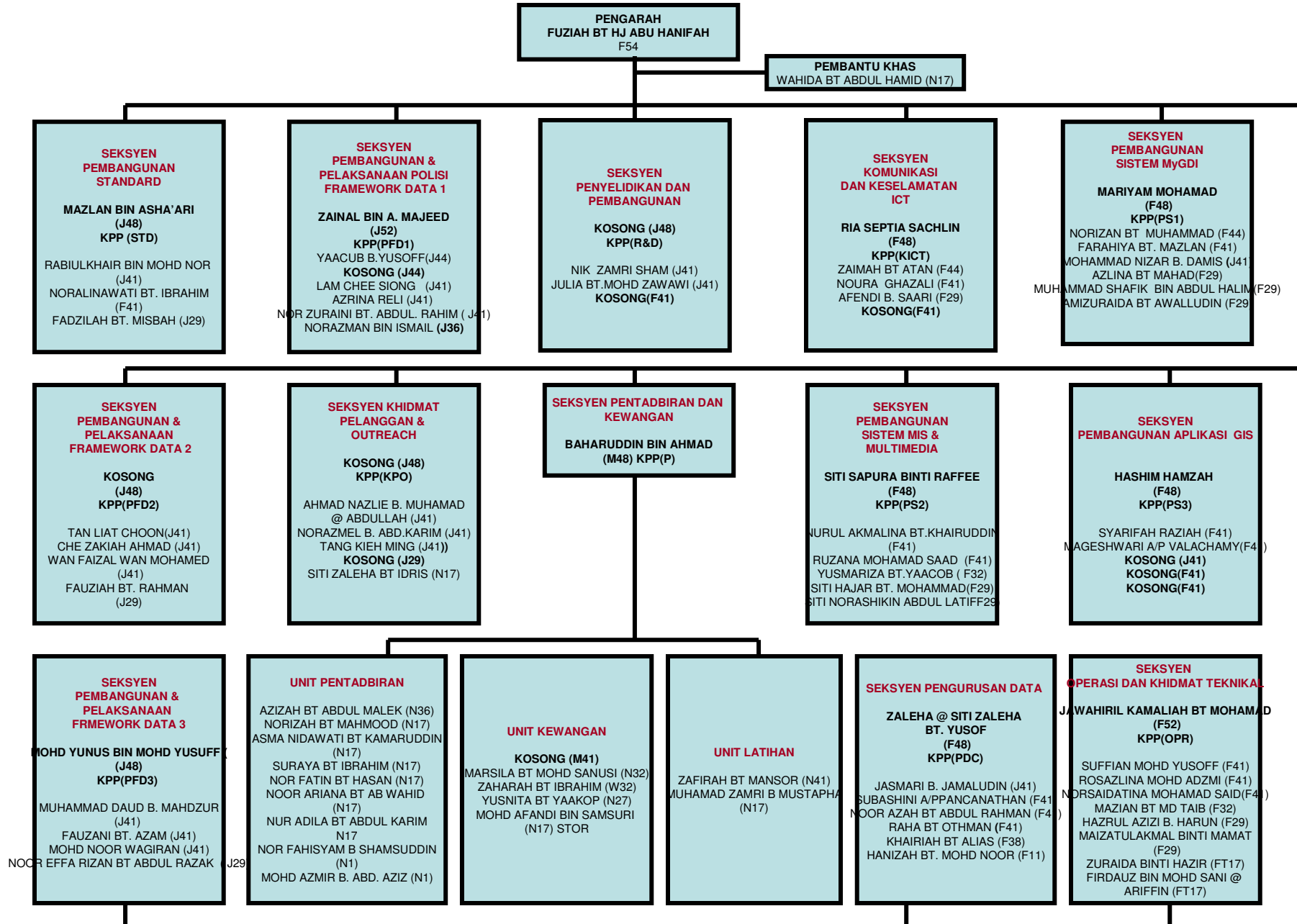
**ALAMAT PENUH TEMPAT TAKLIMAT:**  
SELESA BEACH RESORT  
Km 8.8, Jln Pantai,  
71050 Port Dickson, N. Sembilan  
Tel: 06-6474090

**PENGINAPAN & MAKANAN DISEDIAKAN OLEH PENGANJUR:**

Daftar Masuk pada 9 November 2006 (Khamis) - selepas jam 12.00 tgh  
Daftar Keluar pada 10 November 2006 (Jumaat) - sebelum jam 2.00 ptg

# CARTA ORGANISASI MaCGDI

## APPENDIX B



# PROPOSE NEW MaCGDI ORGANIZATION

## TECHNICAL EXECUTIVE BOARD

- Chairman
- Deputy Chairman
- 3 Government
- 3 Academic
- 2 Private

POLICY

DIRECTOR  
(JUSA A)

MANAGEMENT  
(CLOSE)

DEPUTY DIRECTOR  
Development  
(JUSA C)

★ DEPUTY DIRECTOR  
Geodata  
(JUSA C)

DEPUTY DIRECTOR  
Administration & Finance  
(M54)

DEPUTY DIRECTOR  
Operation  
(JUSA C)

SYSTEM DEVELOPMENT  
(Q54)

See Appendix D

DATA CENTRE & WAREHOUSE  
(Q54)

IMPLEMENTATION  
(HEAD - CLOSE)

COMMUNICATION & ICT  
SECURITY (Q54)

DISASTER  
MANAGEMENT  
(Q54)

R&D  
COMMERCIAL &  
CONSULTANCY  
(Q54)

CORPORATE &  
OUTREACH (Q54)

MIS & MULTIMEDIA (Q54)

POLICIES &  
LEGAL  
(Q54)

STATES MyGDI  
(Q48)

TRAINING & GIS  
RESOURCES (Q54)

SECTORIAL GIS  
APPLICATION  
DEVELOPMENT (Q54)

INTERNATIONAL  
AFFAIR (Q54)

IMAGE PROCESSING &  
MODELLING (Q54)

HUMAN RESOURCE  
PLANNING & DEVELOPMENT  
(Q54)

SPATIAL SOFTWARE  
DEVELOPMENT (Q54)

HARDWARE  
DEVELOPMENT (Q54)

CARTOGRAPHIC &  
PRINTING (Q52)

## An Example of Department Functions

