Digital Innovation in DBAS

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Background

- Systemically manage the financial management information of related organizations
- Promptly reflect the internal/external changes in financial management
- Prior DBAS, financial management information systems operated separately
Reform process

• After fiscal crisis of 1997–1998, benchmark around the world

  1) Introduction of the national finance management plan (MTEF);

  2) Introduction of the top-down budgeting system;

  3) Introduction of the program budgeting system;

  4) Development of the performance management system;

  5) Introduction of the accrual-based accounting and financial statements;

  6) Construction of the integrated financial management information system
Primary Function of DBAS

- Program management system (PMS)
- Budget Management System (BMS)
- National Treasury Management System (NTMS)
  - Electronic Billing Presentation and Payment (EBPP) Electronic Fund Transfer (EFT)
- Assets and Debt Management System (ADMS)
- Real-Time Receipts/Disbursement System (RTRDS)
- Performance Management System (PfMS)
Reason for Fiscal Reform

- Traditional budget system, centralized way, strict control of the budgetary inputs.
- Spending without a thorough performance evaluation.
- National priorities is often harmed by the line ministries’ self-interests.
- Line ministries were likely to obtain more of an allocation with more budget requests.
- MOSF’s Budget Office cutback (or decrease) budget as much as possible.
- Budget review process became a game-theory, time-consuming.
## Big bang Approach Reform

<table>
<thead>
<tr>
<th>Year</th>
<th>Introduction of New System</th>
<th>Remark</th>
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</thead>
<tbody>
<tr>
<td>1999</td>
<td>Performance-oriented Budgeting System</td>
<td>Pilot test with 16 agencies</td>
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<tr>
<td>2003</td>
<td>Top-down Budgeting</td>
<td></td>
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<td>2005</td>
<td>National Finance Management Plan (NFMP)</td>
<td></td>
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<tr>
<td></td>
<td>Performance Management System (PfMS)</td>
<td>Submission of Performance Plan, all ministries</td>
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<td></td>
<td>Self-Assessment of Fiscal Projects (SAFP)</td>
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<tr>
<td>2006</td>
<td>Program Budgeting</td>
<td></td>
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<tr>
<td>2008</td>
<td>Operation of KFMIS (DBAS)</td>
<td>Developed since 2004</td>
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<tr>
<td>2009</td>
<td>Accrual Accounting</td>
<td>Developed since 1999</td>
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<td></td>
<td>Submission of Performance Report</td>
<td>All ministries</td>
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First Generation

- **Early FIMSys** is a DOS-based (DOS-NARA), run 5.25 floppy diskettes, client-server method. Afterwards, Windows IBM (A/S 400) method was applied.
  - budget management (NBS-Net) and fund management (FMS-Net).

- **SALIMI** is a simple, while NaFIS is much more specific.
  - provide: integrated settlement of cash-based standards

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**SALIMI (early version of NaFIS)**

- **National Treasury Management**
  - Revenue
  - Expense
  - Fund

- **Asset · Dept Management**
  - Nation Property
  - Nation debt
  - Goods
  - Treasury bond

**Early FIMSys function (From DOS to Window)**

- Budget Management
  - National finance operation plan
  - Budget Compilation & Execution
Second Generation

- **FIMSys** function (Window_based)

- **NaFIS** (update version of SALIMI)
OLAP: On-Line Analysis Processing
EIS: Executive Information System
EDW: Enterprise Data Warehouse
GFS: Government Finance Statistics
Evolution of DBAS

**1’st Generation**
- FIMSys
- SALIMI

1999

**2’nd Generation**
- FIMSys (3)
- NaFIS (2)

2000

**3’rd Generation**
- DBAS (fully upgrade)
  - FIMSys + NaFIS + Program Manag’t + Performance Manag’t

- dBrain
- Official Launch
- e-Nara Doeum

- January 2007
- July 1, 2016
- January 2017

Outsourced to private IT corporations supervised by Ministry Of Strategy and Finance (e.g. Samsung SDS, LG CNS)

Managed by public organization (KPFIS)

<table>
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<tr>
<th>ministry of planning and budget</th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIMSys(DOS-&gt;Windows) -&gt; Budget Manag’t (incl. Fund)</td>
<td>FIMSys (Windows) Budget Manag’t (incl. Fund)</td>
<td>DBAS (fully upgrade) FIMSys + NaFIS + Program Manag’t + Performance Manag’t</td>
<td></td>
</tr>
<tr>
<td>SALIMI -&gt; National Treasury Manag’t + Asset/Debt Manag’t</td>
<td>NaFIS SALIMI + EBPP/EFT + Accounting Manag’t (accrual_based)</td>
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Ministry of Finance Economy
Life Cycle of Public Finance Management

1. National Fiscal Management Plan
   - 5-year Medium-term Expenditure Framework (MTEF)

2. Budget Formulation
   - $341.8 Billion Budget Request
   - Review & Adjustment

3. Budget Execution
   - Avg. Daily Treasury Funds Transfer: $7.1 billion
   - Avg. Daily Treasury Funds Receipt: $2.6 billion

4. Asset & Debt Management
   - Asset: $1,643 billion
   - Debt: $1,137 billion

5. Accounting & Settlement
   - Prepare 510 Settlement Reports

6. Performance Evaluation
   - Manage 2,244 Fiscal Programs
   - 5,250 Performance Indicators

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(Based on FY 2015 figures, except for Budget Formulation-FY 2016)

1) DBAS (Digital Budget & Accounting System)
2) dBrain: nickname for DBAS; combination of ‘D’ which stands for “digital and “brain”
Accomplishments

- **NFMP** has positive changes:
  1) Set up national priorities with long-term views,
  2) Line ministries are more cautious when they set up ministerial planning
  3) Many discussions about the strategic allocation of resources
  4) Targets economic stabilization for the long-term

- Expenditure ceilings for **Top-down budgeting** is important, pilot operations for four agencies before fully adoption

- **SAFP** has a direct effect on connecting the budget with the performance
  Project evaluated as “unsatisfactory” by the SAFP loses budget allocation
  Operates Preliminary Feasibility Test; Preliminary Feasibility Test is a prerequisite necessary to ensure the future performance of the projects.

- **Reforming the budget system** (NFMP, top-down, and SAFP) is important issue

  *Republic of Korea’s DBAS is one of the most developed finance management information systems which I ever seen...DBAS is one of the most integrated and unique financial information systems in the world.* (Dener, 2010)
In recent years, government has been considering the next generation of the DBAS

- Reflects new technologies and 4\textsuperscript{th} industrial evolution (e.g., big data, AI, chatbots).

- Promotes change to an integrated system seamlessly link (central government, local government, and state-owned enterprises and so on)