National Evaluation System of Public R&D Program in Korea (kNES)

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Overview of Public R&D Budget 1

- Public R&D Budget : $8.9 billion ('06)

- $6.5 bn ('03) → $7.1 bn ('04) → $7.8 bn ('05) → $8.9 bn ('06)
- No. of programs : 357 ($24.6 mil. / program)
- No. of projects : 31,967 ($0.27 mil. / project)
- Amount invested according to major technology fields:
  - mechanics ($0.79 bn), electronics ($0.78 bn), agriculture ($0.57 bn),
  - information ($0.56 bn), health ($0.53 bn), life science ($0.45 bn)
Overview of Public R&D Budget 2
- Public R&D Budget : $8.9 billion (’06)

- Amount invested of major ministries
  : MOST ($2.1 bn), MOCIE ($2.0 bn), DAPA ($1.0 bn), MOE ($0.94 bn),
    MIC ($0.79 bn), RDA ($0.33 bn), MOHW ($0.19 bn), etc.

*MOST (Ministry of Science & Technology), MOCIE (Ministry of Commerce, Industry & Energy)
DAPA (Defense Acquisition Program Administration), MOE (Ministry of Education)
MIC (Ministry of Information & Communication), RDA (Rural Development Administration)
MOHW (Ministry of Health & Welfare)
Architecture of kNES 1
- Main Players 1

□ NSTC (National Science & Technology Council)
- Top decision making body for S&T policy and budget coordination & allocation
- Approves master plan and results of evaluation / budget allocation

□ OSTI (Office of S&T Innovation, Secretariat of NSTC)
- Design, master plan of evaluation / budget allocation operating body

□ KISTEP (Korea Institute of S&T Evaluation and Planning)
- Facilitating agency for all evaluation activities (Survey/Analysis and Evaluation of R&D Programs, R&D Program Budget Review etc.)

□ Ministries and agencies with R&D activities
- Prepare and submit evaluation materials, accept evaluation results and take steps
Architecture of kNES 2

- Main Players 2

NSTC (National Science & Technology Council), OSTI (Office of Science & Technology Innovation)

Top decision maker for S&T policy and budget coordination & allocation

Evaluation committees

KISTEP (Facilitators)

R&D programs of each ministry

MOST
MOE
MOCIE
MIC
MOHW

*NSTC (National Science & Technology Council), OSTI (Office of Science & Technology Innovation)
Architecture of kNES 3
- Procedure

R&D Budget → Survey/Analysis → Evaluation

Pre-report/education

Programs/Projects implemented

Specific/In-depth → Self→Meta

Feedback

To (re)plan and/or improve program

Coordination

Input for budget allocation
Architecture of kNES 4

- Major Steps

Specific/In-depth Evaluation : once / 3 yr

- Selected based on investment size, term, special issue, etc.
- In-depth evaluation for selected programs (usually 3-5 / committee)
- step 1 : evaluation materials (submitted by each ministry) (KORDI system)
- step 2 : pre-report, evaluation committee education (KISTEP)
- step 3 : 1st evaluation with documents (2 times or so) (additional request)
- step 4 : 2nd evaluation with interview (actual inspection if needed)
- step 5 : interim results to each ministry for reappraisal (if needed)
- step 6 : 3rd evaluation and final results (5 grades)
Architecture of kNES 5
- Major Steps 2

Self→Meta Evaluation : every year

- meta evaluation for self evaluation (by each ministry)
- meta evaluation for evaluation system (procedure, methods, etc.)
- step 1 : self evaluation materials (submitted by each ministry)
- step 2 : 1st meta evaluation with documents (final results, if any)
- step 4 : 2nd evaluation with interview (final results, if any)
- step 5 : request for re-evaluation of each program
- step 6 : 3rd evaluation and final results (3 grades)
Evaluation Results (’07)  
- Specific/In-depth Evaluation

- 51 programs evaluated
- A (0, 0%), B (10, 19%), C (32, 63%), D (8, 16%), E (1, 2%)

- Comments on Evaluation Indicators
  - plan (clearness of goal & vision) : 18, 35%
  - plan (effectiveness of implementation system) : 27, 53%
  - do (differentiating & connecting related programs) : 11, 22%
  - see (supplementing goals & indicators) : 31, 61%
  - see (reinforcing outcome & management) : 9, 18%
Evaluation Results 2 ('07) - Self→Meta Evaluation

- 154 programs evaluated (procedure, frame, grading system, etc.)
- self: A(14, 9.1%), B(41, 26.6%), C(92, 59.7%), D(7, 4.6%), E(0, 0%)
- meta 1: A(2, 1.0%), B(41, 26.7%), C(95, 62.0%), D(15, 9.7%), E(1, 0.6%)
- meta 2: appropriate (81, 52.6%), appropriate w/ condition (46, 29.9%), inappropriate (27, 17.5%)

- Comments on Evaluation Indicators
  - goal of outcome: 17, 5.2%, **indicators of outcome**: 85, 25.9%
  - weight of indicators: 67, 20.4%, setting for outcome target: 38, 11.6%
  - goal/indicators of outcome next year: 63, 19.2%, validation of outcome: 27, 8.2%, formality: 31, 9.5%
Utilization of Evaluation Results 1

- Legal Basis


- Budget coordination & allocation should reflect evaluation results
- Each ministry should take step according to evaluation results such as replanning and/or modification of program
- Evaluation results of each ministry will be integrated into performance evaluation of ministries (2007)
Utilization of Evaluation Results 2
- Evaluation vs Budget Allocation

5 yr plan (Jan.)

1st Budget Ceiling (Apr.)

2nd Budget Review with evaluation results

Program Budget (July)

Report to MPB

OSTI/KISTEP

Budget Committee of National Assembly (Dec.)

Ministry of Planning & Budget (Sep.)
Utilization of Evaluation Results 3

- To Improve Programs

- To suggest the appropriate direction for improving programs
- To help (re)plan the program
- To enhance the efficiency and effectiveness of the program
- To monitor the performance of the program
- To improve transparency of public R&D expenditure
Utilization of Evaluation Results 4

- To Help Allocate Budget

- For better allocation of public R&D resources including budget
- To minimize the overlapped investments of related programs
- Evaluation committee & budget review committee share a couple of members for better utilization of evaluation results into budget coordination & allocation
- KISTEP facilitators coordinate both committees
Challenges and Discussion 1

- Peer Review

- Pool of evaluators with expertise and/or fairness
- Balance between expertise of technical specialty and of evaluation methodology (economist, policy making expert, etc.)
- Role of facilitators (of KISTEP) is very important…

* KISTEP facilitators have technical expertise with fairness…
(Persistent & systematic education is necessary…)
Challenges and Discussion 2

- Evaluation Results

- Reinforcing the connection between evaluation results and budget allocation in a systematic way

- Evaluation results / planning of program / budget allocation
Challenges and Discussion 3

- Communication

- Communication among stakeholders (OSTI, ministry/agency, Researchers, KISTEP, etc.)

- For better evaluation practices, communication and education is very important!
Muchas gracias!