

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

Seminar on Evaluating Innovative Approaches to Public Service Delivery

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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)

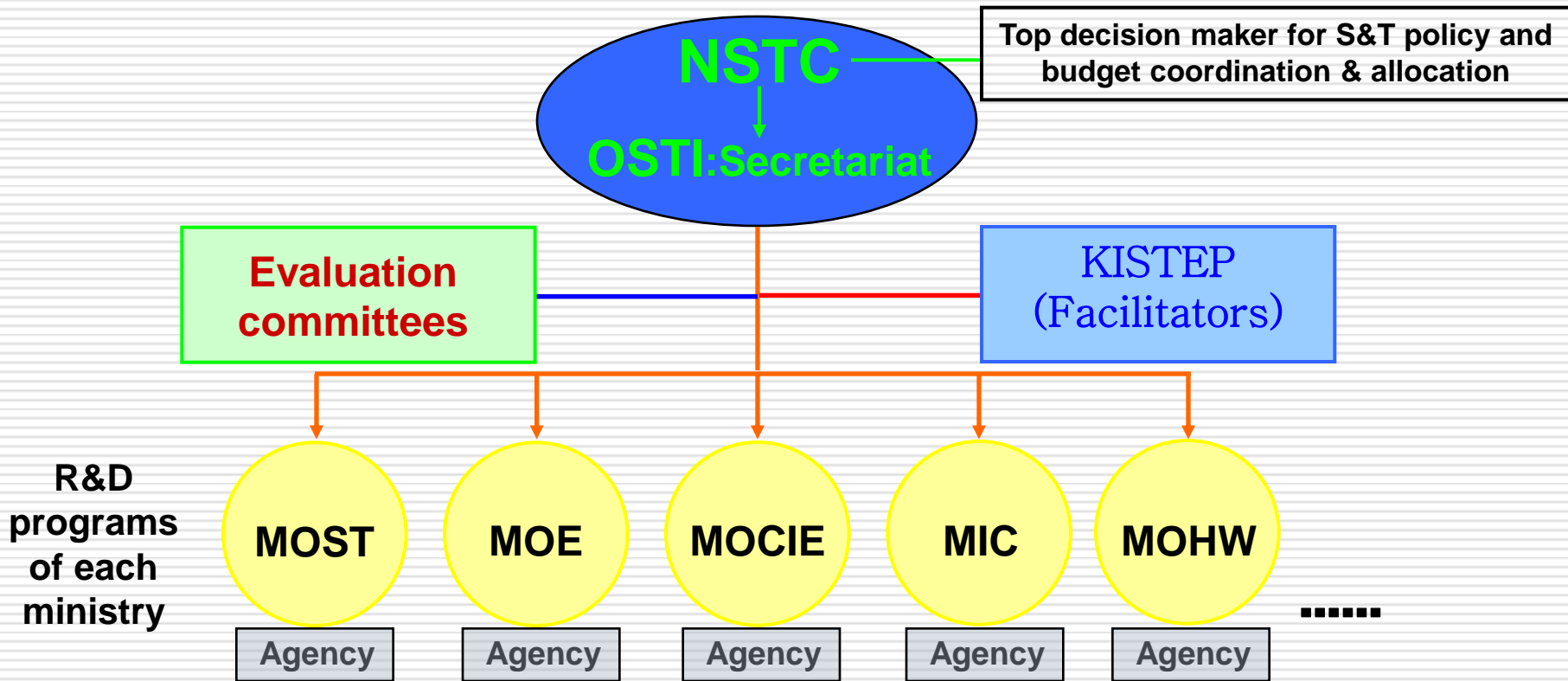
- Facilitating agency for all evaluation activities (Survey/Analysis and Evaluation of R&D Programs, R&D Program Budget Review *etc.*)

Ministries and agencies with R&D activities

- Prepare and submit evaluation materials, accept evaluation results and take steps

Architecture of kNES 2

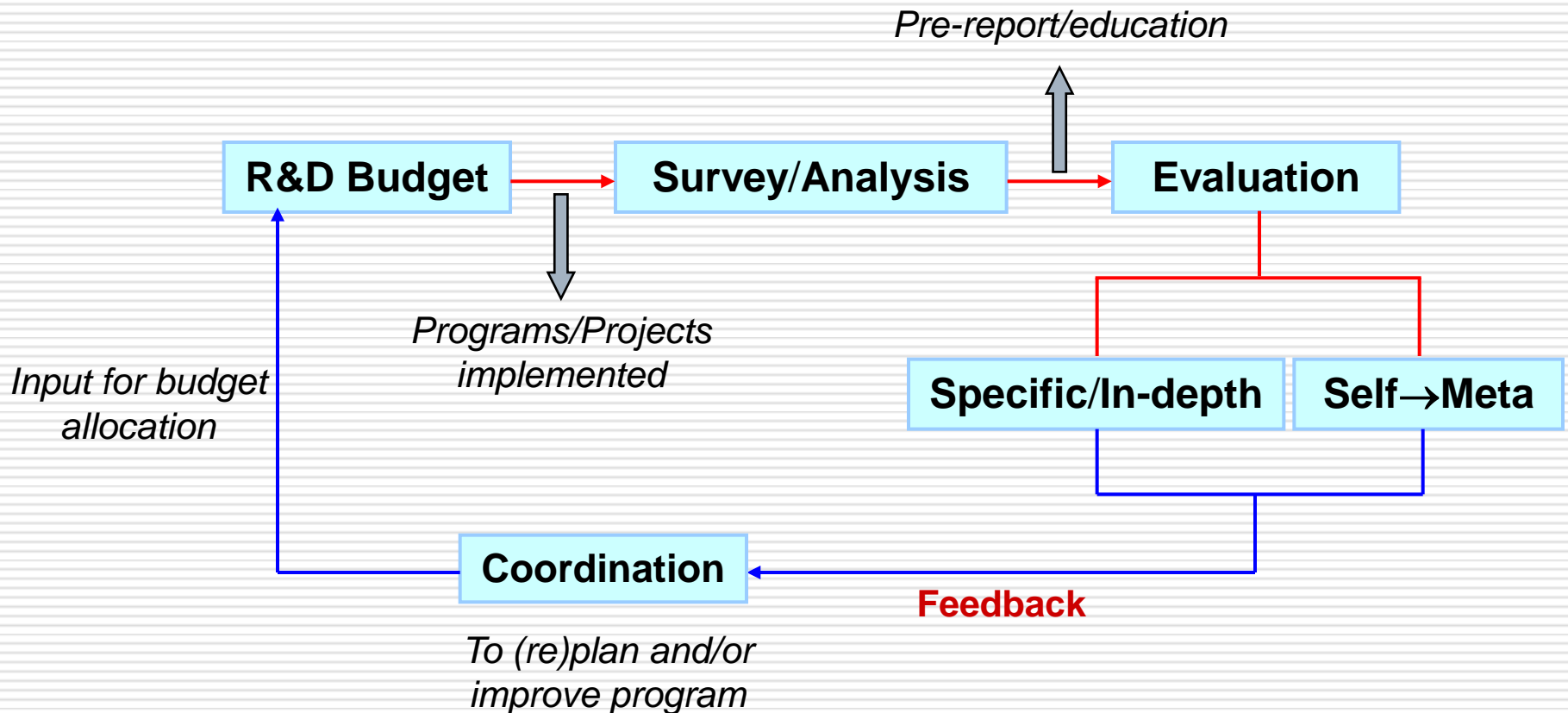
- Main Players 2



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

Architecture of kNES 3

- Procedure



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 fo 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

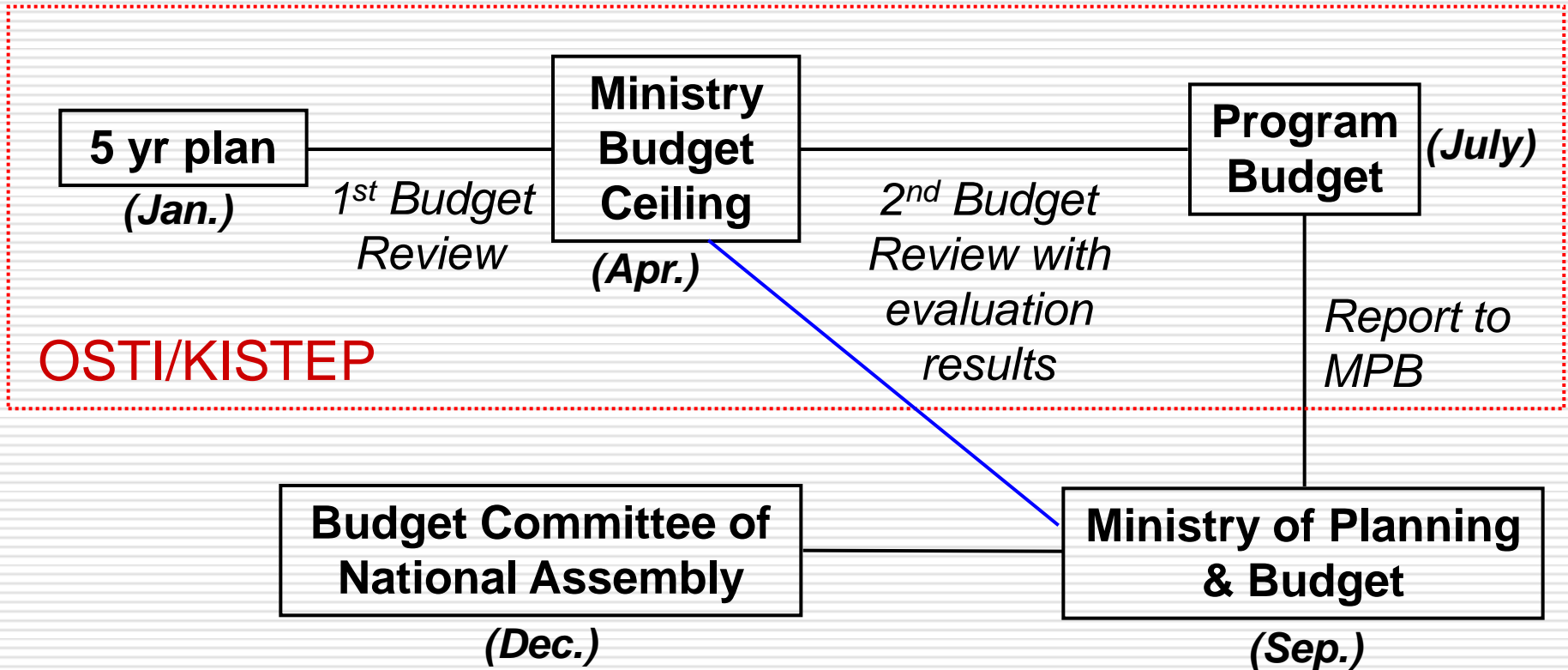
- Legal Basis

R&D Performance based Evaluation Law (2005)

- 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



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!



Innovate Korea! Ask Kistep!