

# Preliminary Feasibility Study (PFS):

## Performance and Challenges

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**PIMAC**

Korea's Leading Think Tank

**KDI**

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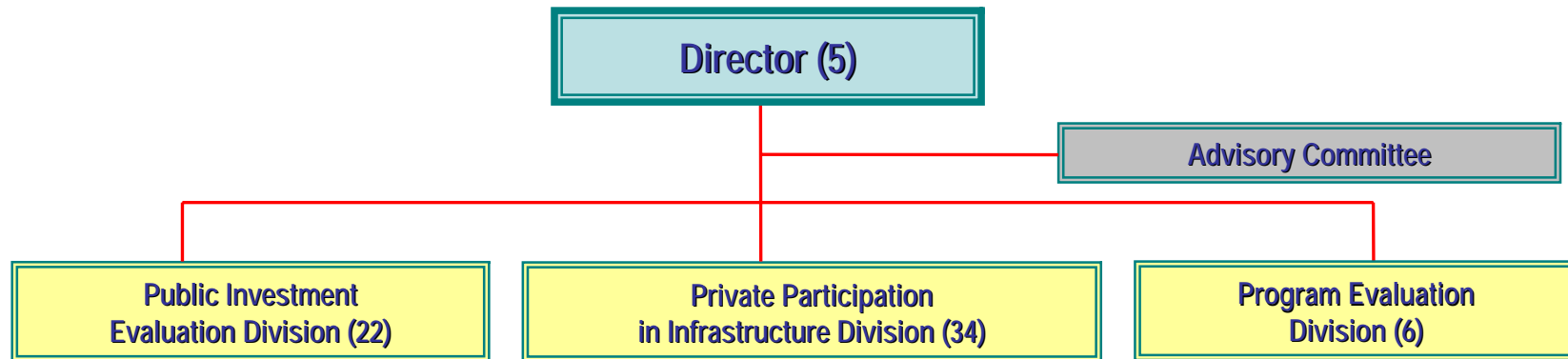
**Background and Status Quo of PFS**

**Performance**

**Challenges**

- ◆ PIMAC is an affiliated body of KDI.
  - KDI, founded in 1971, has emerged over the past three and half decades as a Korea's leading think tank
  
- ◆ PIMAC is an statutory organization established as a merger of PICKO and PIMA by the amendment of 'The Act on Private Participation in Infrastructure' in January 2005.
  - The PIMA (Public Investment Management Center) of KDI, founded in Jan 2000, centered on research and management of public investment projects.
  - The PICKO (Private Infrastructure Investment Center of Korea) of KRIHS (Korea Research Institute for Human Settlements), founded in April 1999, centered on research and management of PPI projects.

- Currently 67 members at PIMAC



**Duties :**

**-PFS**

- Re-assessment Study of Feasibility
- Researches on Public Investment Management

**Duties :**

- PPI Annual Plan
- PPI Project Evaluation
- Support for PPI Project Management
- Researches on PPI system

**Duties :**

- Program Evaluation
- Performance Management

- [www.pimac.org](http://www.pimac.org)

**Part-01 | Background and Status Quo of PFS**

**KDI**

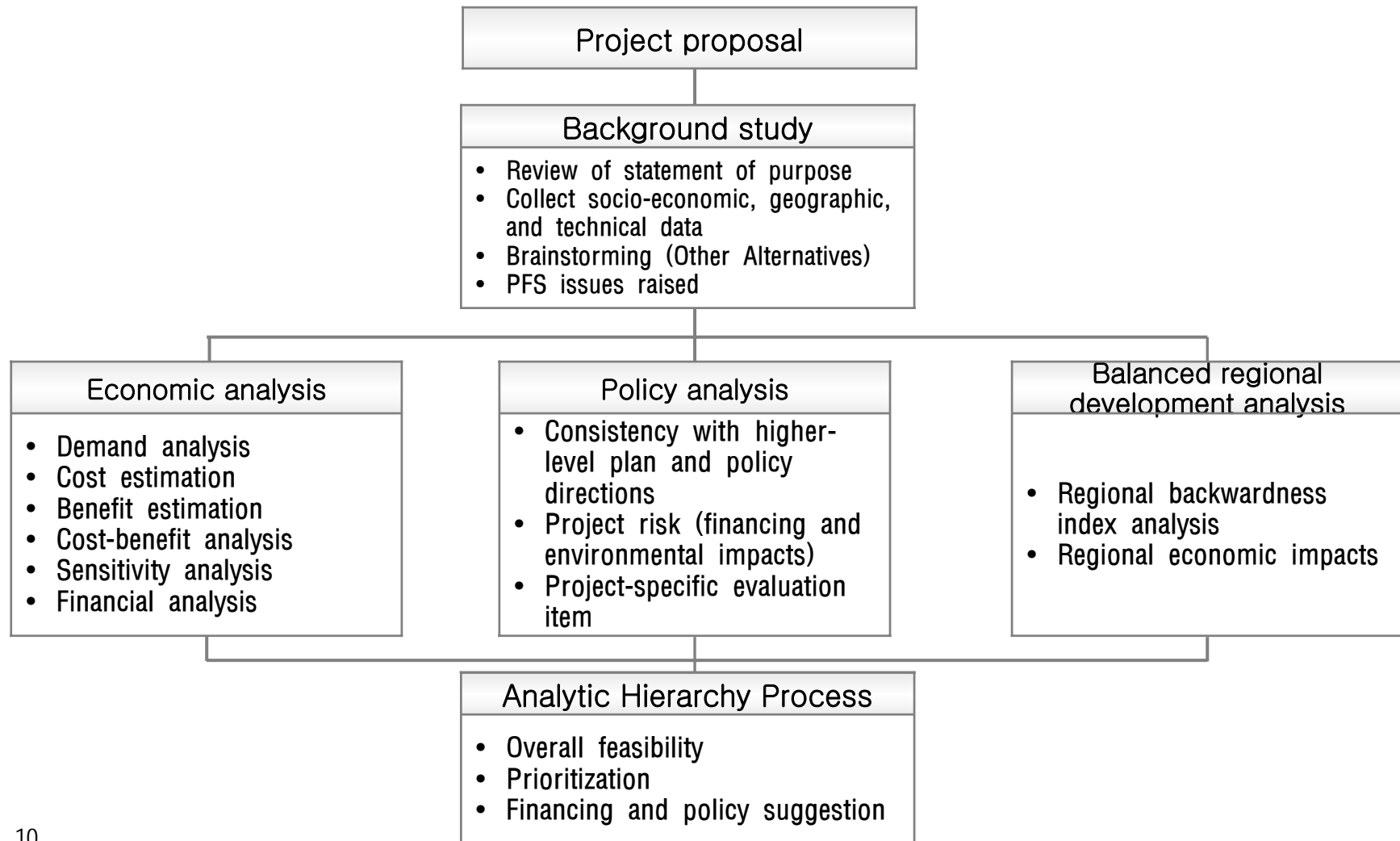
- ◆ Short and brief evaluation of a project to produce information for budgetary decision
  - Owned by the Ministry of Planning and Budget (MPB)
  - Managed by PIMAC
  
- ◆ Meaning of “PRELIMINARY” is two-folded:
  - Provisional; and
  - Preceding a (detailed) feasibility study
  
- ◆ PFS aims to enhance fiscal productivity by launching large-scale public investment projects based on transparent and objective ex ante project evaluations.

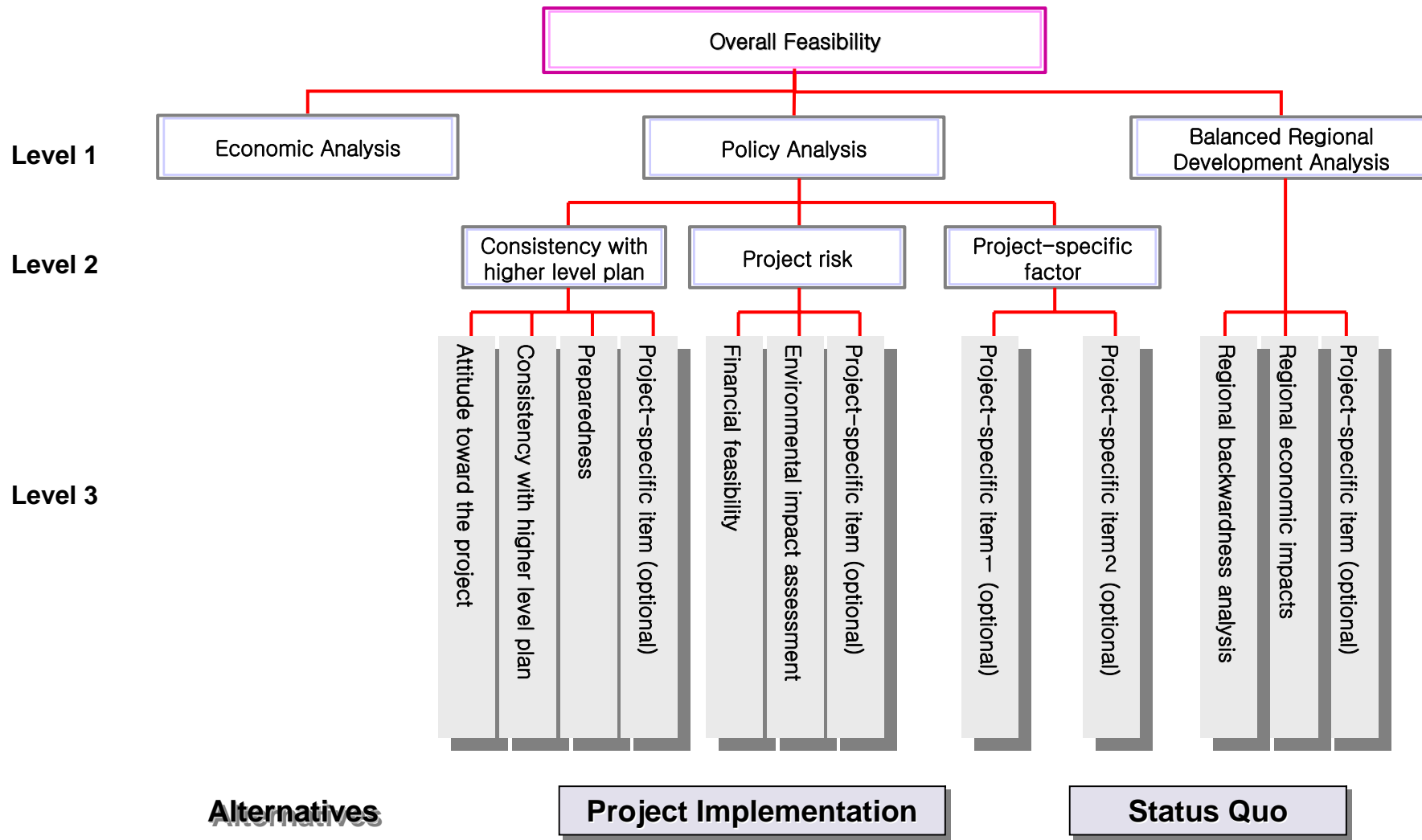
- ◆ The National Finance Act of 2006 provides the legal framework of PFS.
  - Before legislation of the NF Act, PFS was based on the Enforcement Decrees of the Budgeting and Accounting Act, and the Fund Management Act.
  - These two Acts were merged into the National Finance Act in 2006.

- ◆ PFS was introduced in April 1999 as a public sector reform initiative in the wake of the financial crisis of 1997–98 in Korea.
  - Criticism against feasibility studies for the Seoul–Busan Express Railway project
    - ❖ The largest single construction project in the Korean history.
    - ❖ The baseline cost has increased from 5.5 trillion Won (\$5.5 billion USD) to 18.5 trillion Won (\$18.5 billion USD)
  - Feasibility Studies before PFS
    - ❖ Since the 1970s, line ministries have conducted Feasibility Studies to get government budget funding
    - ❖ 32 out of 33 projects (1994–98) were evaluated as feasible in FS
    - ❖ FS team used to be under the influence of the line ministries
    - ❖ FS used to underestimate costs, and to overestimate benefit

- ◆ PFS is a settlement of bargaining b/w budget ministry and line ministries
  - The MPB tried to take over the FS from the line ministries
  - Line ministries, esp. MOCT, resisted to the FS ownership transfer
  - PFS was 'invented' as a resolution despite of resistance from the line ministries.

- ◆ All new large-scale projects with total costs amounting to 50 billion Won (\$50 million USD) or more are subject to PFS.
  - Before the NF Act, PFS was centered on infrastructure projects.
  - PFS has expanded to non-infrastructure (e.g. R&D) projects.
- ◆ Local government and PPI(Private Participation in Infrastructure) projects are also subject to PFS if central government subsidy exceeds 30 billion Won.
- ◆ The following types of projects are exempted from PFS:
  - Typical building projects such as government offices and correctional institutions
  - Legally required facilities such as sewage and waste treatment facility
  - Rehabilitating projects and restoration from natural disaster
  - Projects implemented based on international accord and by inter-Korea exchange and cooperation program
  - Military facilities and projects related with national security





	PFS	(Detailed) Feasibility Study
Definition	An overview survey preceding a detailed feasibility study aimed at budget planning and setting priorities	Detailed analyses of economic and technical feasibility before beginning construction of the projects that have already met the criteria of the preceding PFS
Economic Analysis	Broad analyses to decide whether the next phase of detailed feasibility study is necessary. Finding an alternative way to achieve the project goal	Precise and detailed analyses to decide whether a construction should be started. Analysis focuses on a given alternative.
Policy Analysis	Examination of macro aspects of the project, such as necessity of the project in a national–economy perspective, consistency with higher level plans, and balanced regional development	Not applicable except for detailed environmental impact assessment and analyses of some related issues that have significant expected impacts
Technical Feasibility Analysis	Detailed analysis is not required but replaced by expert's consulting	Various detailed analyses including soil analysis and analysis of engineering techniques
Evaluation Ownership	Ministry of Planning and Budget	Spending Agency (Line Ministries)
Research Fund/Duration	80 – 100 million won Approximately 6 months	300 million – 2 billion won Depending on the project size

- ◆ Pillars of PFS: Objectivity, consistency and transparency
  
- ◆ Well developed evaluation guidelines
  - Detailed description of methodology and procedures of PFS implementation
  
  - PFS guidelines by sector:
    - ❖ Roads, rails, seaports, airports, dams, and cultural facilities
  
    - ❖ Using the same dataset for different projects in the same sector
  
  - Continuous revision of guidelines through academic research

◆ Multi-disciplinary PFS team

- Three or more organizations are involved
- e.g. KDI (Project manager), University professors (Transportation demand analysis), and private Engineering firms (Cost estimation)
- Induce balanced decision-making

◆ Open review process

- Open discussion on a mid-term and final PFS reports
- Reviewed by the MPB and line ministries, PIMAC, and field specialists from private and public sectors

Part-02 | **Performance**

KDI

(unit: No)

	1999	2000	2001	2002	2003	2004	2005	2006	Sum
Road	11	11	20	9	10	24	11	27	123
Railway	2	7	14	8	7	13	6	10	67
Seaport	1	5	1	2	3	1	2	6	21
Culture and tourism	4	2	5	2	5	2	1	5	26
Water resources	1	1		5	5	3	3	1	19
Others	1	4	1	4	2	12	6	4	34
Sum	20	30	41	30	32	55	29	53	290

(unit: %, No)

	1999	2000	2001	2002	2003	2004	2005	2006	Total Projects (A)	Total Feasible Projects (B)	(B)/(A)
Road	45.5	27.3	30.0	33.3	70.0	87.5	36.4	63.0	123	66	53.7
Railway	50.0	57.1	35.7	75.0	71.4	53.8	83.3	40.0	67	37	55.2
Seaport	100.0	80.0	100.0	50.0	100.0	100.0	100.0	33.3	21	15	71.4
Culture and tourism	100.0	-	40.0	-	-	100.0	100.0	40.0	26	11	42.3
Water resources	100.0	100.0	-	-	60.0	66.7	66.7	100.0	19	10	52.6
Others	100.0	75.0	-	75.0	50.0	66.7	66.7	50.0	34	22	64.7
Average	65.0	50.0	34.1	43.3	59.4	74.5	62.1	52.8	290	161	55.5

# Results of PFS (1999~2002)

(Unit: No, %)

Year	B/C ≥ 1		B/C < 1		Total (A)	Feasible (B)	(B)/(A) (%)
	Feasible	Non-feasible	Feasible	Non-feasible			
1999	8	1	5	6	20	13	65.0
2000	14	3	1	12	30	15	50.0
2001	12	2	2	25	41	14	34.1
2002	11	3	2	14	30	13	43.3
Sum (%)	45 (37.2)	9 (7.4)	10 (8.3)	57 (47.1)	121 (100.0)	55	45.5

# Results of PFS (2003~2006)

(Unit: No, %)

Year	B/C ≥ 1		B/C < 1		Total (A)	Feasible (B)	(B)/(A) (%)
	AHP ≥ 0.5	AHP < 0.5	AHP ≥ 0.5	AHP < 0.5			
2003	17		2	13	32	19	59.4
2004	27	1	14	13	55	41	74.5
2005	14	1	4	10	29	18	62.1
2006	21	2	7	23	53	28	52.8
Sum (%)	79 (46.7)	4 (2.4)	27 (16.0)	59 (34.9)	169 (100.0)	106	62.7

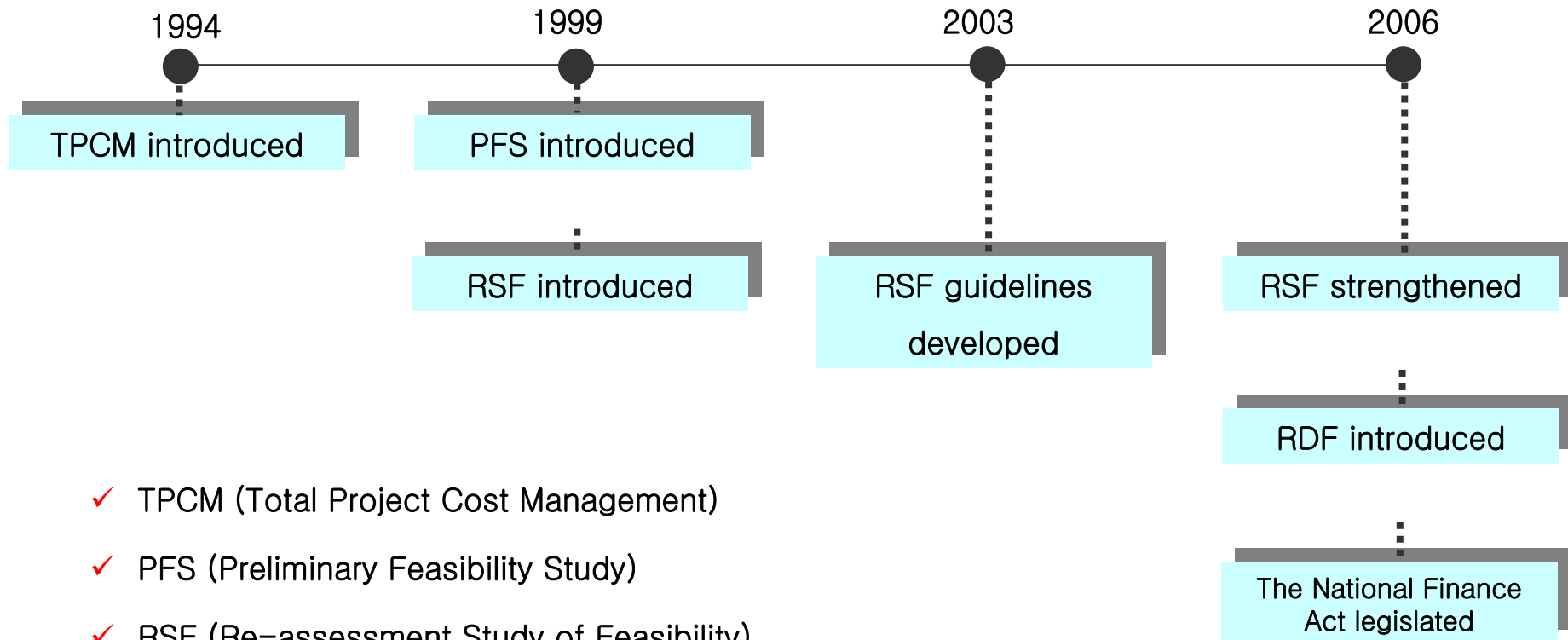
◆ PFS is regarded as a necessary step in the process of budgeting.

- Most of the PFS results are directly reflected to a budget formulation
- The results of PFS are important over the whole period of the project in the context of budgeting.
- The legal basis of PFS was upgraded from the law enforcement decrees to the National Finance Act in 2006.
- The attitude of public officials of line ministries toward PFS has been changed.

- ◆ PFS has contributed to enhancing fiscal efficiency by preventing non-feasible projects from getting launched.
  - Between 1999 and 2006, 290 PFS of which the total project costs amount to 144.9 trillion Won were conducted
  - 129 projects were evaluated as 'Non-feasible'
  - 72.9 trillion Won of tax payer's money was allocated to other uses

- ◆ PFS provides high quality information for decision–making in budget allocation.
  - Budget allocation involves bargaining b/w the MPB and line ministries.
  - In the past, line ministries used to provide selective information to get more budget.
  - The MPB used to cut/increase project budget not always on a reasonable basis.
  
- ◆ PFS mitigates information asymmetry between the MPB and line ministries and leads to better decision–making.
  - The MPB produces its own information more reliable than before.
  - PFS report includes information not just for binary decision (feasible/non–feasible). PFS provides policy suggestions to implement the project, and other information.

- ◆ The performance of PFS has disseminated into other areas and contributed to establishment of public inquiry process.
  - Many local governments adopted pseudo-PFS.
  - Some line ministries introduced similar ex ante evaluation system as PFS
    - ❖ The Ministry of Science and Technology and Ministry of Information and Communication as well as MOCT developed their own evaluation guidelines.
  - PFS provided TPCM system with ground to introduce Re-assessment Study of Feasibility in 2004
- ◆ PFS put emphasis on the importance of the project conception and ex ante evaluation in the public investment management system
  - The PFS team requires more concrete plan for evaluation purposes, which leads to elaboration of the project proposal in more concrete and economic way.
  - Some initial proposals for museums included only a building plan without exhibition plan.



- ✓ TPCM (Total Project Cost Management)
- ✓ PFS (Preliminary Feasibility Study)
- ✓ RSF (Re-assessment Study of Feasibility)
- ✓ RDF (Re-assessment of Demand Forecast)

- ◆ PFS triggered research on evaluation methodologies
  - Series of evaluation issues were raised over the PFS guidelines
  - PIMAC is the hub of the research on the issues
  - The results of the research are incorporated into the revision of the PFS Guidelines
  
- ◆ PFS also triggered establishment of evaluation guidelines in line ministries.
  - MOCT, MOST, MIC, local governments and KORAIL have developed their own evaluation guidelines
  - PFS Guidelines is a benchmark.

- ◆ PFS improved the quality of decision-making by explicitly incorporating ‘social value’ shared by people into evaluation process
  - Policy analysis allows non-economic and qualitative factors to be incorporated into the evaluation in a formal way
  
- ◆ PFS managed by KDI, an independent research institute, provided some buffer from political pressure and other influence over the project

Part-03 | **Challenges**

KDI

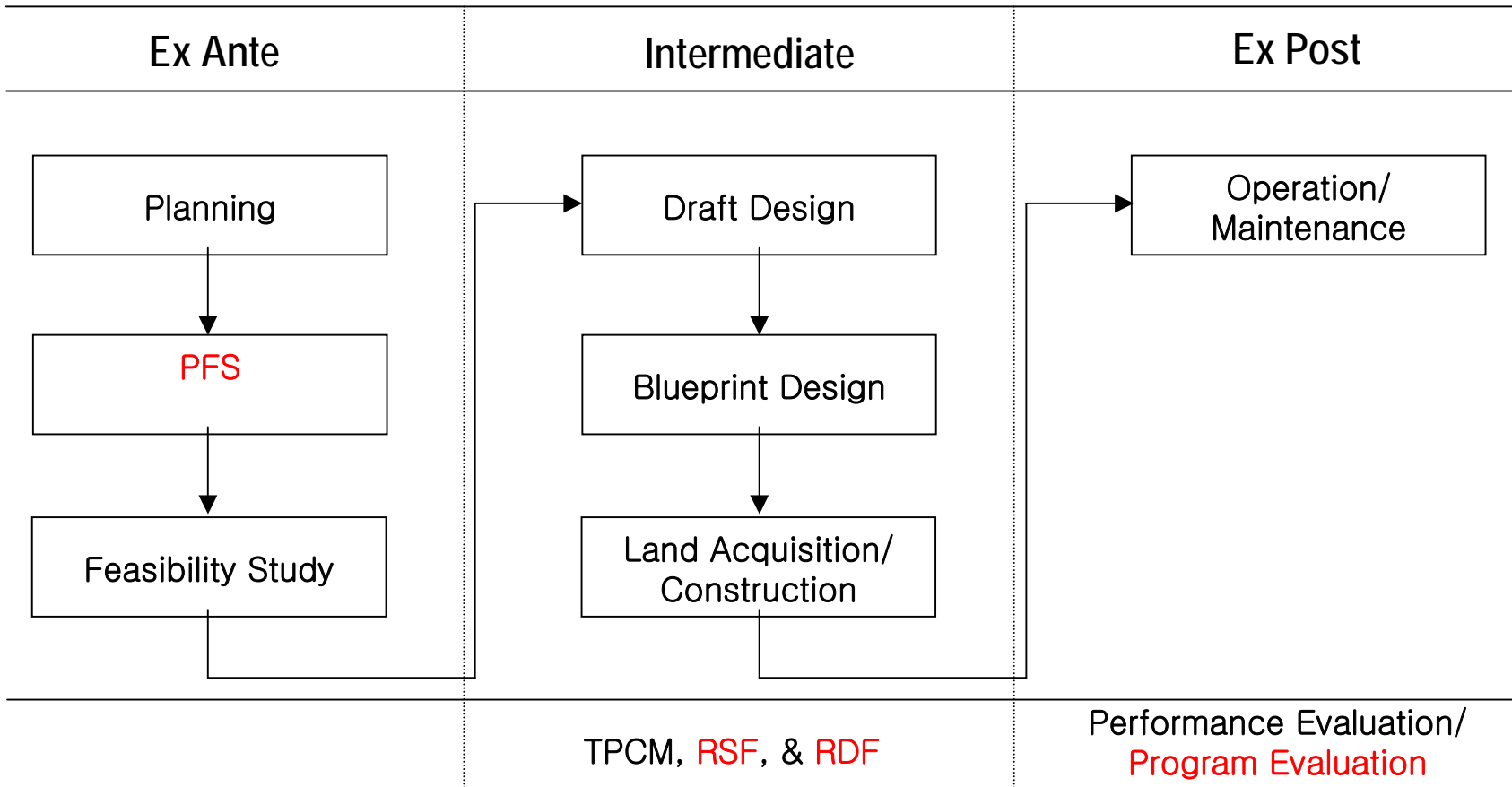
- ◆ The new fiscal management system emphasizes autonomy and accountability of line ministries
  - Top-down budgeting system
    - ❖ Ceilings on ministerial expenditure are set based on the National Fiscal Management Plan
    - ❖ Line ministries autonomously formulate their respective budgets and submit budget requests
    - ❖ The MPB formulates the budget proposal through consultation with line ministries, in accordance with spending priorities of the National Fiscal Management Plan

➤ Performance management system

- ❖ When line ministries make budget requests to the MPB, they submit 'performance plans' which present performance goals and indicators to assess whether the goals have been achieved or not.
- ❖ Through comparison and analysis of goals set by performance indicators presented in the performance plans and actual fiscal program execution results, performance will be reflected in the budget formulation process resulting in the reform of program execution methods or budgetary adjustment.

- ◆ The focus of PFS needs be changed
  - To help line ministries to implement the project to achieve the goal in an efficient way
  - As well as to make a binary decision whether the projects are feasible or not
  - The coverage of PFS may shrink to ultra-scale projects
  
- ◆ The role of line ministries with regard to feasibility study should be strengthened

- ◆ Integrated public investment management system
  - An infrastructure management system covering a project lifecycle from planning, design, and construction to operation/maintenance
- ◆ PFS is a first step of a project of which the results will have an impact on the following phases of the project.
- ◆ Consistency in project evaluation in every phase of implementation
  - Major indicators of a project at each phase can be compared with those at the preceding phases.
  - The reasons for the changes in results can be analyzed.
- ◆ Database and accounting system
  - Digital budget and accounting system makes it possible to manage a project throughout the life cycle of a project
  - PIMAC is building database on PFS and RSF



\* Evaluation works in RED characters are conducted by PIMAC.

- ◆ The current advisory committee on public investment needs to be changed into the PFS committee which has decision-making power
  - As PFS has been established as a necessary step in budget formulation, the PFS is more vulnerable to political pressure. Delays in finalizing PFS are resulted.
- ◆ The PFS committee discusses and makes final decision-making on important issues of PFS.
  - Including selection of PFS projects and approval of the PFS reports
- ◆ The committee is presided by the vice-minister of the MPB
- ◆ The committee members include a director-level official from the MPB, a first-ranking official from the ministry in charge, experts from the private and public domain and a director of PIMAC.

- ◆ The guidelines how to integrate the PFS results into budget formulation need to be formulated?
- ◆ Is post-PFS process a matter of political arena?
  - Some non-feasible projects get a budget by the National Assembly
  - Some other projects are implemented by discretion of the MPB in consultation with line ministries.
- ◆ For the rejected projects, PFS team needs to express its opinion about 'how to manage them'.
  - Some rejected projects can pass second round PFS under some conditions.

All the public investment projects are open to the following question:

“Can we be better off by spending taxpayer’s money on something else?”

