

Korean rehabilitation PPP



Kyong-ae, Park

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Korean Rehabilitation PPP

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Korean Rehabilitation PPP



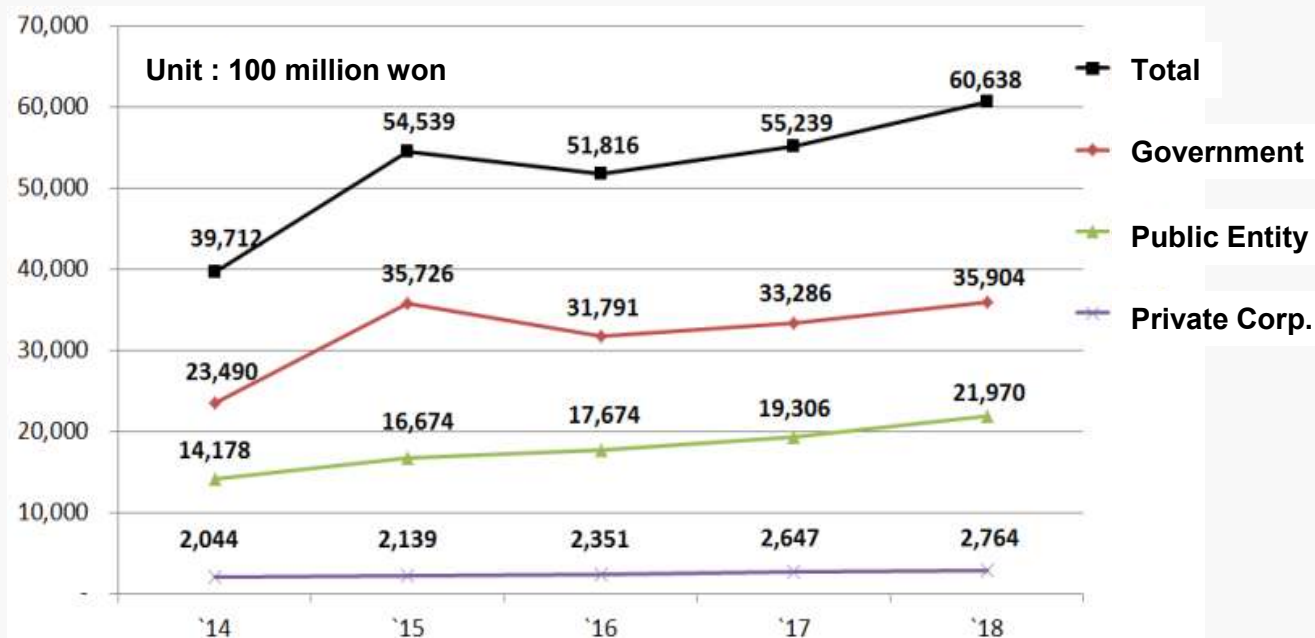
PART 01.

Korean Rehabilitation PPP?

KDI Public and Private Infrastructure
Investment Management Center

01 Background of Rehabilitation PPP Type

- ❖ The total amount spent on managing the old infrastructure from 2014 to 2018 was approximately KRW 26.2 trillion (USD 20 billion).



- ❖ According to the Infrastructure Management Plan, the cost required to improve the infrastructure amounts to KRW 40.4 trillion (USD 31 billion) from 2021 to 2025.

01 Background of Rehabilitation PPP Type

- ❖ As an alternative to the government's infrastructure management, **Rehabilitation PPP** can be an effective means.
- ❖ If **the government operates all** the infrastructure facilities, the investment in **new facilities will decrease.**
- ❖ If some infrastructure facilities are promoted as Rehabilitation PPP projects, the government will be able to take advantage of PPP in terms of **sharing investment costs and operational risks.**

01 Background of Rehabilitation PPP Type

- ❖ So far, PPP projects have been implemented to build **new facilities.**
- ❖ As many infrastructure facilities were built at an earlier time and some of them are now obsolete, it is necessary to **improve them** and to finance the improvement costs.
- ❖ In addition, **many PPP projects are nearing the expiration of their concession periods.**

01 Background of Rehabilitation PPP Type

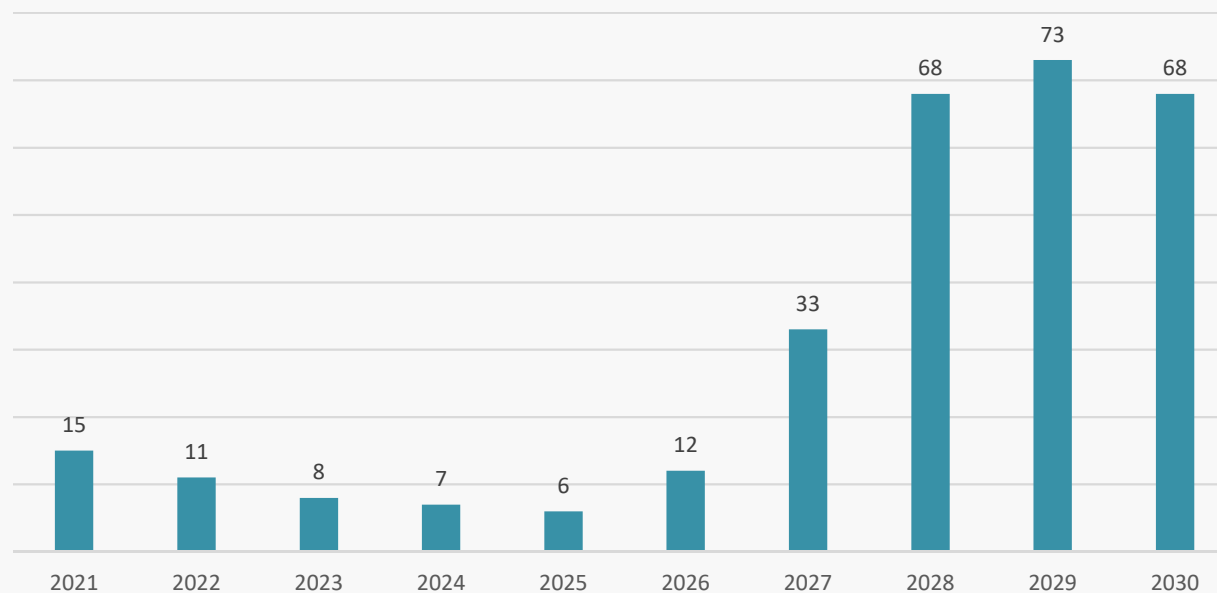
❖ **301 PPP concessions will expire** within the next 10 years (2021-

Item	Air Port	School	Military Housing	Road	Parking Lot
Project #	8	163	5	6	16
Item	Culture	Welfare	Information Communication	Port	Environment
Project #	19	1	3	1	79

01 Background of Rehabilitation PPP Type

❖ **301 PPP concessions will expire in the next 10 years (2021-2030).**

PPP concessions will expire in the next 10 years



❖ **Rehabilitation is needed to improve obsolete, outdated, and expired PPP facilities.**

01 Rehabilitation PPP Type

❖ **The rehabilitation method can be applied to:**

- **government procured facilities**
- **PPP facilities whose concession period has expired.**

01 Comparison with PPP projects

❖ General PPP projects

- Subject of Design, Build, and Finance = **Subject of Operation**
- A concessionaire makes profits through **operating the facility that it had built.**

❖ Rehabilitation PPP projects

- Subject of Design, Build, and Finance < **Subject of Operation**
- A concessionaire improves and/or expands the facility that it had not built.
- The concessionaire operates the **entire facility** and recovers the investment cost by collecting usage fees from the competent authority or users.

01 Comparison with PPP projects

❖ Similarities to general PPP projects

- Rehabilitation type follows the general **'DBFO'** (**Design-Build-Finance-Operate**) framework.
- Rehabilitation type should follow PPP rules **such as payment by beneficiary, profitability, early benefits generation, and efficiency.**

❖ Differences from general PPP projects

- The **demand risk** of rehabilitation PPP projects is lower than that of general PPP projects.
- Concessionaires' required **rate of return** can be lowered, and it is possible to decrease the **usage fees** or shorten concession periods.

01 Comparison with private operating contracts

❖ The difference in the contract period

- Rehabilitation PPP concession is **a long-term contract.**
- Private operating contract is a short-term contract of 3 to 5 years.

❖ The difference in contract scope

- Rehabilitation PPP concession includes **DBFO.**
- A private operating contract is an employment contract for operating personnel.

01 Rehabilitation Type

❖ The Rehabilitation type is suitable for:

- facilities that need **investments** for improvements and expansions.
- facilities that need **private operation** for more than 15 years.
- facilities that need **a transfer of operational risk** to the private sector.

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PART 02.

Infrastructure Sectors

02 Road Sector**❖ Examples of Improvements and Expansions of Road**

- Lane widening
- Extension of route length
- Interchange construction
- Straightening winding roads
- Building underground tunnels
- Improvements for Advanced intelligent roads or autonomous driving, etc.

❖ Examples of Improvements and Expansions of **Railway**

- Construction of double-track railway
- Introduction of express trains
- Connection of missing links
- Straightening winding links
- Increase vehicle fleet
- Improvements in systems and equipment such as railways, signals, communication, machinery, trains, and so on

02 Environmental Facilities

❖ Examples of **Sewage** Improvements and Expansions

- Expansion of a sewage treatment plant according to the amount of sewage inflow.
- Improvement of a sewage treatment plant to improve discharged water quality
- Expansion of sewage pipes

02 Environmental Facilities

❖ Improvements and Expansions of the **Garbage Incineration Facility**

- Expansions due to the increase in waste and expansion of treatment areas
- Replacements of main mechanical and electrical equipment
- Improvements due to changes in waste and strengthening of discharge standards

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PART 03.

Investment Structure

03 Investment Structure of Rehabilitation PPP

- ❖ The concessionaire **operates the entire facility**, earns user fees for the concession period, and recovers the investment cost.
- ❖ Since the **construction cost** is limited to **a certain portion of the entire facility**, user fees can be lowered.

03 Investment Structure of Rehabilitation PPP

❖ User fee and internal rate of return formula for **Rehabilitation PPP**

$$\sum_{l=0}^n \frac{RC_i}{(1+r)^l} = \sum_{l=n+1}^N \frac{OR_i - OC_i}{(1+r)^l}$$

n: Construction period for improvements or expansions

N: Operation period

RC_i: Improvement or expansion costs financed by a concessionaire

OR_i: Annual revenue earned by the concessionaire operating the entire facility

OC_i: Annual operating expenses for the entire facility (excluding corporate tax)

r: Internal rate of return (IRR)

03 Investment Structure of Rehabilitation PPP

- ❖ Shareholders must invest within **5% to 15% of the total investment costs.**
- ❖ The remaining **95% to 85%** would be financed by syndicated loans.
- ❖ The ratio of subordinated loans to the total investment cost is expected to be **5-10%**.

03 Operation of existing facilities during improvement and expansion period

❖ Who is the **most suitable operator during the improvement and expansion period?**

- If there is **a public operating entity in the province/region**, it may operate the facility.
- If not, **an ex-concessionaire** may continue to operate the facility by extending its concession period.
- **As it will enter the liquidation stage soon**, it may not have as much interest in operations as a new concessionaire.

03 Operation of existing facilities during improvement and expansion period

- ❖ **If a new concessionaire operates the facilities, it could improve and expand them considering the operation.**

- ❖ **During the improvement/expansion period, it does not have the right to operate the facility.**
 - **The operating cost must be deducted from the operating income and the remaining balance should belong to the competent authority.**

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PART 04.

Implementation Procedures

04 Project Implementation Procedures

- ❖ A solicited project is likely to have **more value for money** to the competent authority than an unsolicited project.
- ❖ Considering profitability, demand risk, etc., the competent authority can choose among **various PPP methods such as BTO, BTL, and so on.**

$$\sum_{l=0}^n \frac{RC_i}{(1+r)^l} = \sum_{l=n+1}^N \frac{OR_i - OC_i}{(1+r)^l}$$

04 Project Implementation Procedures

- ❖ **Competent authorities should establish and implement their **Infrastructure Management Plan** under their jurisdictions every five years.**
 - The infrastructure facilities presented in the plan can be improved or expanded **through Rehabilitation PPP projects.**

- ❖ **For unsolicited projects, prior consultation with the competent authority is essential before preparing project proposals.**

04 Project Implementation Procedures

- ❖ For PPP projects, the competent authority should decide **the future operation method five years before the concession expires.**
- ❖ There are 3 options for the competent authority:
 - Public entity operation
 - Private short-term operation
 - **Rehabilitation PPP**
- ❖ The competent authority needs to establish a schedule carefully to **ensure that the operation of the existing facility continues uninterrupted.**

04 Project Implementation Procedures

- ❖ Proponents may submit project proposals for an unsolicited Rehabilitation PPP project seven years before the expiration of the existing concession period.

- ❖ It is desirable for **a new concessionaire to be designated during the existing concession period.**
 - **Handover process** between the ex-concessionaire and the new concessionaire
 - **Without disruption in operation.**



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THANK YOU