PPP in the Seaport Sector: Case Study in Korea

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1. Ports in Korea

2. Private Participation in Port Development

3. Procurement Steps of a PPP Port Project

4. Performance Evaluation of PPP Port Projects

5. Issues

Part-01  Ports in Korea
Types of Ports in Korea

- **Designated (National) Ports**
  - Designated by presidential decrees
  - Ports with substantial impacts on national economy and public interests
    - 28 Trade Ports: export and import cargoes
    - 24 Coastal Ports: domestic cargoes

- **Fishing Ports**
  - Developed by the head of port approving authority
    - National fishing ports: Minister of Agriculture, Fishery and Food
    - Provincial fishing ports: governors and mayors
    - Fishing ports for fishermen’s settlement: mayors, county chiefs
  - Have no revenue-producing facilities

- **Provincial Ports**
  - Designated by provincial governors/mayors
  - No provincial ports yet in Korea.
Location of Ports in Korea

Map of Designated Ports

Source: Ministry of Land, Transport and Maritime Affairs.
Capacity of Ports in Korea (as of Dec 2007)

- Wharfs: 175 km
  - 744 berths under operation
    - 132 berths at the ports in Busan
    - 97 berths at the ports in Ulsan

- Cargo transportation
  - Capacity: 728 mill tons per year
  - 1,139 mill tons handled in 2008
  - No of containers handled: 17.5 mill TEU
Cargo Transportation Volume in Korea

Trend of Cargo Transportation Volume in Korea

- Year: 1994 to 2008
- Volume: 500,000 to 1,200,000 (Thousand tons)

Graph showing the trend of cargo transportation volume in Korea from 1994 to 2008, indicating a general increase over the years.
Part-02  Private Participation in Port Development
NCA (Non-competent Authorities’) Port Development

- Private entities (Non-competent Authorities) can take part in port development based on several laws.
  - the Act on Port (1964)
  - the Act on Industrial Location and Development
  - the Act on the Reclamation of Public Water Surface
  - the Act on Korea Container Terminal Authority

The Korean government has effectively induced private capital into port development to fill the infrastructure gap through NCA system.

- Export was a key engine of economic growth ever since the Korean government started economic development planning in the early 1960s.
- Port development was an integral part of economic planning to support the strategy.
- In the 1970s, the policy target became economic restructuring from labor-intensive light industry to capital-intensive heavy and chemical industries, which needs deep water seaports.
Non-competent authorities formulate plans for port development and get approvals from competent authorities.

- NCA port development covers wide range of construction works involving building, remodeling, maintaining and repairing of port facilities and dredging.

Users of facilities implement projects including designing, building, financing, and operation at their own.

- The pertinent facilities could either be returned to the state or be owned by private entities.
- Recover investment costs (or setting them off) by using the facilities free of charge for a contract period.

No established guidelines on implementation process and decision criteria, which has resulted in different implementation structure for similar projects.
Private Participation in Ports: PPP (1)

- Equipped with clear institutional arrangements
  - PPP Act (1994)
  - Enforcement Decrees on PPP Act
  - Annual PPP Plan
  - PPP Guidelines

- Through project financing, the sources of funding of PPP project is not limited to those of facility users.

- The focus of private investment into port facilities has shifted toward PPP projects in place of the Non-competent Authorities’ port construction.
Private Participation in Ports : PPP (2)

- 17 port facilities (6,277 billion KW) by February of 2012
  - Private investment : 4,925 billion KW (78.5%)
  - Government fiscal support : 1,352 billion KW (21.5%)
  - 14 port projects are in operation and 3 projects are under construction.
  - The Busan New Port Project (Phases 2-4) is under negotiation.

- Port development by PPP
  - Stipulated in the PPP Act
  - Methods : BTO, BTL, BOT, BOO, BLT, ROT, ROO, RTL
  - All the PPP ports in Korea have been implemented thru BTO scheme.
    - Even a fishing port, Gunsan Bieung Port, was carried out thru BTO.
    - Without a revenue-generating components in port facility itself, investors proposed hinterland development as a revenue source.
Port investment of Korea Container Terminal Authority, a government-invested agency, has decreased recently.
Trend of Investment in Ports (1)

Korea Container Terminal Authority
PPP project under the Act on PPP (purely private capital)
Non-competent authorities’ port construction
Fiscal investment
## Investment Trend into Port Facilities in Korea by Investor Groups

(Trend of Investment in Ports (2)

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiscal investment</td>
<td>261</td>
<td>1,730</td>
<td>265</td>
<td>931</td>
<td>974</td>
<td>1,584</td>
<td>1,789</td>
<td>1,795</td>
</tr>
<tr>
<td>Non-competent authorities’ port construction</td>
<td>60</td>
<td>363</td>
<td>57</td>
<td>244</td>
<td>186</td>
<td>593</td>
<td>352</td>
<td>216</td>
</tr>
<tr>
<td>PPP project according to the Act on PPP</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>5</td>
<td>10</td>
<td>239</td>
<td>353</td>
<td>811</td>
</tr>
<tr>
<td>Korea Container Terminal Authority</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>233</td>
<td>148</td>
<td>119</td>
<td>91</td>
<td>24</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>321</strong></td>
<td><strong>2,093</strong></td>
<td><strong>322</strong></td>
<td><strong>1,413</strong></td>
<td><strong>1,317</strong></td>
<td><strong>2,534</strong></td>
<td><strong>2,586</strong></td>
<td><strong>2,846</strong></td>
</tr>
</tbody>
</table>

(Unit: billion KW)
Part-03  Procurement Steps of a PPP Port Project
Procurement Steps of a PPP Port (Solicited)

1. Competent Authority
2. Selection of PPP Project
3. Competent Authority
4. Review by PIMAC
5. VFM Test
6. Competent Authority
7. Designation as the PPP Project
8. Announcement of RFPs
9. Competent Authority
10. Submission of Project Proposals
11. Private Sector → Competent Authority
12. Evaluation and Selection of Preferred Bidder
13. Competent Authority
14. Negotiation and Contract Award (Designation of Concessionaire)
15. Competent Authority → Preferred Bidder
16. Application for Approval of Detailed Implementation Plan
17. Concessionaire → Competent Authority
18. Construction and Operation
19. Concessionaire
Designation of a PPP Project

- Application to preliminary feasibility study (PFS)
- Review for PFS (MOSF)
- Preliminary feasibility study (PIMAC)
- Potential PPP project
  - VfM > 0
    - NO
      - Fiscal project
    - YES
      - Application for a PPP project
      - Designation of a PPP project

- • Results of a preliminary feasibility study
- • A competent authority → A Research institute, etc
- • Review by PIMAC
Negotiation and Designation of Concessionaire

1. Determination of Scope & contents of project
2. Consultation on appropriateness of design
3. Consultation & agreement on project cost incl. construction cost, operational reserves & financial incidentals
4. Determination on traffic volume & operational proceeds
5. Determination on user fees
6. Determination of target ROI
7. Determination on financial subsidy
8. Adjustment of financial model
9. Draft agreement reflecting negotiations
10. Initialing of draft agreement by parties concerned
11. Submit to MLTM
12. Request for deliberation by MLTM Minister & National PPP Committee
13. Deliberation & resolution
14. Request for MOSF review
15. Signature & seal by MLTM Minister & chief applicant
16. Signing concession agreements

(Concurrently proceeded)
Procurement Steps of a PPP Port (Unsolicited)

**Unsolicited Project**

1. Submission of Project Proposal → Competent Authority
2. VFM Test → PIMAC
3. Notification of Project Implementation → Proponent
4. Announcement of RFPs → Competent Authority
5. Submission of Project Proposals → Competent Authority
6. Evaluation and Selection of Preferred Bidder → Competent Authority
7. Negotiation and Contract Award (Designation of Concessionaire) → Preferred Bidder
8. Application for Approval of Detailed Implementation Plan → Competent Authority
9. Construction and Operation → Concessionaire
Part-04 Performance Evaluation of PPP Port Projects
### Summary of Survey on Policy Evaluation of PPP Port Projects

<table>
<thead>
<tr>
<th>Items</th>
<th>Sample</th>
<th>Sampling</th>
<th>No. of response</th>
<th>Ratio of response</th>
<th>Composition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction co.</td>
<td>88</td>
<td>74</td>
<td>26</td>
<td>35.10%</td>
<td>33.30%</td>
</tr>
<tr>
<td>Port user &amp; operator</td>
<td>29</td>
<td>17</td>
<td>8</td>
<td>47.10%</td>
<td>10.30%</td>
</tr>
<tr>
<td>Financial investor</td>
<td>46</td>
<td>24</td>
<td>6</td>
<td>25.00%</td>
<td>7.70%</td>
</tr>
<tr>
<td>Research &amp; advice</td>
<td>81</td>
<td>46</td>
<td>28</td>
<td>60.90%</td>
<td>35.90%</td>
</tr>
<tr>
<td>Public sector</td>
<td>19</td>
<td>17</td>
<td>10</td>
<td>58.80%</td>
<td>12.80%</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>263</td>
<td>178</td>
<td>78</td>
<td>43.80%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>
## Analysis of Performance Evaluation Survey

<table>
<thead>
<tr>
<th>Effects &amp; Items</th>
<th>Total (78 persons)</th>
<th>Concessionaire (40 persons)</th>
<th>Policy and advisory group (38 persons)</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost-reduction vis-à-vis government projects</td>
<td>3.22</td>
<td>3.33</td>
<td>3.11</td>
<td>0.784</td>
<td>0.436</td>
</tr>
<tr>
<td>Facility expansion vis-a-vis government projects</td>
<td>3.87</td>
<td>3.85</td>
<td>3.89</td>
<td>-0.218</td>
<td>0.828</td>
</tr>
<tr>
<td>Policy to diversify investors</td>
<td>3.36</td>
<td>3.2</td>
<td>3.53</td>
<td>-1.325</td>
<td>0.189</td>
</tr>
</tbody>
</table>

Note: Evaluation was based on a coded 6-score scale. 0: Totally disagree 5: Totally agree 2.5: Neutral
### Efficiency Gains in Cost Reduction

#### Cost Saving through PPP

<table>
<thead>
<tr>
<th>11 PPP Projects</th>
<th>Estimated cost at planning (A)</th>
<th>Concession agreement (B)</th>
<th>A-B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>5,291</td>
<td>4,279</td>
<td>1,012</td>
</tr>
</tbody>
</table>

- **Compared with conventional government projects procured through design-build scheme (or, Turn-Key), 649 billion KW was claimed to be saved via PPP.**
  - Reference successful bidding ratio for Turn-Key is 93.14%.

- **Compared with conventional government projects through alternative bidding, 342 billion KW was claimed to be saved via PPP.**
  - Reference Successful Bidding Ratio for Alternative is 87.35%. 
Part-05 | Lessons
Feasibility Study and VfM Test

<table>
<thead>
<tr>
<th>Issues</th>
<th>Current Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Feasibility studies done for only 5 PPP Ports.</td>
<td>✓ All the new port projects are subject to Preliminary and Detailed FS carried</td>
</tr>
<tr>
<td></td>
<td>out by MOSF (PIMAC) and MLTM respectively.</td>
</tr>
<tr>
<td></td>
<td>✓ First VfM Guidelines have been developed in 2008 and being updated on a</td>
</tr>
<tr>
<td>✓ Feasibility study turns out to be effective to reduce total cost.</td>
<td>regular basis.</td>
</tr>
<tr>
<td>➢ With feasibility study, the total cost was reduced by 14.5% on</td>
<td></td>
</tr>
<tr>
<td>average.</td>
<td></td>
</tr>
<tr>
<td>✓ VfM test, introduced in 2007, was not done for any PPP Ports yet.</td>
<td></td>
</tr>
<tr>
<td>➢ All the PPP Ports started before 2007.</td>
<td></td>
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</tbody>
</table>
Due to MRG (Minimum Revenue Guarantee), SPC has an incentive not to handle unprofitable cargoes.

- Mokpo New Outer Port refused to handle vehicle cargoes due to lower fees and high level of MRG.

Government tries to reduce guarantee level through refinancing gains for existing projects.

- MRG has been abolished in 2010 for new projects.

- Induce efficient operation from private sector using incentive mechanism

- Adjust user fees reflecting market condition
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>✓ Internal Rate of Return (IRR) tends to be decreasing.</td>
<td>✓ Government is keen to deliver Value for Money through PPP.</td>
</tr>
<tr>
<td>➢ Over 9% in 2000, down to 6.26% in 2006.</td>
<td>✓ No systematic tools to measure risk of port sector has been developed yet.</td>
</tr>
<tr>
<td>✓ Government support, such as construction subsidy, is crucial to determine the profitability of PPP Ports.</td>
<td></td>
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</tbody>
</table>
Facilitate PPP Ports

Issues

- Only BTO method was used for PPP Ports.
  - The facility for BTO method should be revenue-generating.
- NCA Ports induced less competition from private sector due to limitation.

Current Status

- BTO is still the dominant type of PPP.
- NCA system is applied only to small and medium sized port facilities.
Organization Chart of PIMAC

- 85 staffs in 3 divisions

**Executive Director (4)**

- **Policy and Research Division (21)**
  - Policy Research Unit
  - Public Institution Evaluation Unit
  - Program Evaluation Unit

- **Public Investment Evaluation Division (29)**
  - PFS Unit 1
  - PFS Unit 2
  - RSF Unit

- **Public-Private Partnerships Division (32)**
  - PPP Policy Unit
  - PPP Project Unit
  - Finance & Int’l Cooperation Unit

**Policy and Research Division**
- Researches on Methodology of Project Evaluation
- Program Evaluation and Performance Management of Public Investment Projects
- Appraisal for SOE Projects

**Public Investment Evaluation Division**
- Conduct and manage PFS and RSF and RDF
- Policy research on PIM

**Public-Private Partnerships Division**
- Formulate PPP Annual Plan and develop PPP guidelines
- Conduct Evaluation of PPP Projects
- Researches on PPP
- Financing and refinancing PPP
- Capacity building training
- Infrastructure DB management

http://pimac.kdi.re.kr/eng/
Thank you