Water Resource Management Public Expenditure Review

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Indonesia faces an extraordinary water management challenge: huge variation of water availability among region and low water storage per-capita.
Water availability among regions

Comparison of water storage (m$^3$) per capita among countries

![Water availability map and comparison graph]

Indonesia Public Expenditure Review 2020
Water resources management (WRM) is essential for Indonesia’s economic growth and social development: providing food security, water security and, indirectly, employment.
**Concept of irrigation policy to achieve food security**

- In 2011, out of 65 million metric tons produced, of which more than 95 percent was derived from irrigated rice fields.

- Only 11% of the total irrigation served by reservoirs. The new dams will increase to 19% by the end RPJMN 2015-2019.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Intermediate Outcome</th>
<th>Outputs</th>
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<tr>
<td>Additional annual rice production: 12 million metric tons of rice</td>
<td>Improved irrigation efficiency and agricultural productivity (“more crop per drop”).</td>
<td>Rehabilitation of 3.0 million ha of irrigation systems</td>
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<td></td>
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<td>Development of 1 million ha of new irrigation systems;</td>
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<td>65 new dams constructed in the period 2015-23, of which 29 dams completed to enhance water security for agriculture in the period 2015-19</td>
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Irrigation reforms:

- Delegation of authority to SNG and endorse farmer involvement as key stakeholder for the irrigation development agenda.
- Irrigation Commission and Water Resource Board are formed as platform for multi stakeholders coordination.

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<th>Dam</th>
<th>Irrigation</th>
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<tr>
<td>Central Government</td>
<td>Construction, management, rehabilitation and O&amp;M</td>
<td>- Construction, management, rehabilitation and O&amp;M above 3.000 Ha</td>
</tr>
<tr>
<td>Province</td>
<td>n.a</td>
<td>- Construction, management, rehabilitation and O&amp;M 1.000-3.000 Ha</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- O&amp;M Central Government’s Irrigation (as assigned)</td>
</tr>
<tr>
<td>District/City</td>
<td>n.a</td>
<td>- Construction, management, rehabilitation and O&amp;M below 1.000 Ha</td>
</tr>
<tr>
<td>SOE (PJT)</td>
<td>Operate and manage selected dams</td>
<td>- n.a</td>
</tr>
<tr>
<td>Farmer Association</td>
<td></td>
<td>- Management and O&amp;M tertier channels for all irrigation (Central, Province, District)</td>
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Despite decentralization of authority, in fact major expenditure (65%) are still managed by **Central Government**. Expenditure by SNG highly depend on fund transfer

Even though much smaller budget, role of MoA to provide support, through WUA for rehabilitation and construction of irrigation at the farmers’ level and post production are critical.
Limited budget, especially for O&M implicated damage of the facility, especially those are managed by district.

**District** governments not only manage half of overall irrigation system. They are also responsible for creation and establishment of water user association for all systems.
Central Government’s expenditure too focused for new infrastructure development

- O&M for irrigation was 16% of total irrigation expenditures in 2017
- O&M allocation per hectare is still lower than needed
- O&M for DAM 3% of total expenditure in 2017. Dam safety is unnegotiable.
More realistic planning needed

Ambitious infrastructure development is not only a burden for fiscal but also need to consider institution capacity
Estimated irrigation development meets only 68% of target in 2019 as per DGWR Renstra.

Except in 2015, budget allocation in the Renstra always almost twice as much as budget at the RPJMN and APBN.
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## Summary of Recommendations

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<td><strong>Improved O&amp;M system</strong></td>
<td><strong>Scaling-up &amp; institutionalization of participatory irrigation at the subnational level</strong></td>
<td><strong>Improve convergence in planning, budgeting, targeting and result monitoring</strong></td>
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</table>
1 Improved O&M system

i) create incentives for SNGs to increase O&M budget
ii) apply full lifecycle cost planning
iii) introduce SOE-public-partnerships
iv) build capacity for O&M
v) introduce clear service agreements

2 Scaling-up & institutionalization of participatory irrigation at the subnational level

i) ensure local commitment to support food security agenda
ii) strengthen the role of irrigation commission and water resource boards,
iii) revise DAK to include the procurement of TA, iv) improve clarity on the mechanism for irrigation scheme above 3,000 hectares (ha)

3 Improve convergence in planning, budgeting, targeting and result monitoring

i) disseminate best practices on integrated sector planning and incentivizing coordination
ii) endorse an integrated, outcome-driven planning framework to enable stronger coordination and convergence of planning among related sectors.