

**PROGRAM RESULTS FRAMEWORK**

Results Indicators	DLI (Yes/ No)	Baseline Value	Baseline Year	Target Values of Results Indicators				
				2017	2018	2019	2020	2021
<b>Outcome: Sustainable and more productive irrigated agriculture in 74 Districts<sup>a</sup></b>								
By 2021, performance of irrigation systems in the program area improved by at least 15% from baseline level <sup>b</sup>	Yes/ DLI 1	The performance index for national schemes in the program area was 60%  No baseline for subnational schemes  Reporting system non-functional in some districts	2016		Baseline data updated and reported for all schemes in 74 districts	Annual report on performance by scheme submitted from all participating agencies at national, provincial and district levels	Performance for 826 irrigation schemes in program area improved by at least 10% from 2017 baseline value	Performance for 826 irrigation schemes in program area improved by at least 15% from 2017 baseline value
By 2021, at least 50% Irrigation Development Management Plans or <i>Rencana Pengembangan dan Pengelolaan Irrigasi</i> (RP2I) incorporated into five-year district, province and national plans and budgets <sup>c</sup>	No	4 RP2Is incorporated into five-year district, province, and national plans and budgets	2016					At least 50% RP2Is incorporated into five-year district, province, and national plans and budgets
Budget for O&M of irrigation infrastructure allocated as per needs	No	O&M funding for central schemes is monitored by DGWR  O&M funding for subnational schemes is monitored by MOHA	2016	Arrangements to collect baseline and annual data for subnational irrigation schemes established in 74 districts	Baseline data collected and reported for all schemes in 74 districts		At least 40% of budget needs for O&M of irrigation is allocated as per RP2I	At least 70% of budget needs for O&M of irrigation is allocated as per RP2I

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<b>Results area 1: Systems and institutional capacity for sustainable irrigated agriculture strengthened</b>								
Planning and Engineering Guidelines for Irrigation Delivery systems for irrigated agriculture management improved by 2019	Yes/ DLI 2	Government guidelines or regulations on delivery systems need adjustment and refinement	2016	5 guidelines updated, <sup>d</sup> of which 3 guidelines officially issued and disseminated	1 guideline updated <sup>e</sup> and 2 guidelines officially issued and disseminated	1 guideline officially issued and disseminated <sup>f</sup>		
National Competency Certification System for irrigation planning, financial management and participatory management established and operational <sup>g</sup>	No	No National Competency Certification System for irrigation field facilitators	2016	Modules jointly prepared by DGWR, MOA and MOHA	Competency certification system officialized by DGWR Program irrigation field facilitators certified by DGWR	Irrigation field facilitators certified by DGWR nationally	The competency certification system is evaluated	
5 irrigation management units (IMU) established and functioning for selected irrigation schemes by 2021	No	No IMU	2016	IMU concept developed and endorsed by DGWR IMU concept socialized and arrangements established for selected schemes	2 IMUs established in selected schemes and budget allocated	3 IMUs established and 2 IMUs functioning in selected schemes and budget allocated	5 IMUs established and 4 IMUs in selected schemes and budget allocated	5 IMUs functioning in selected schemes and budget allocated
Irrigation Commission operationalized to enhance institutional capacity for integration and coordination of agriculture and infrastructure development strengthened in 74 districts and 14 provinces by 2021 <sup>h</sup>	Yes/ DLI 3	No updated performance criteria for assessing institutional capacity  31 operationalized irrigation commissions	2016	Irrigation commission performance indicators updated <sup>i</sup>	At least 45 district or province irrigation omissions are assessed as operationalized based on the updated performance indicators	At least 55 district or province irrigation commissions are assessed as operationalized based on the updated performance indicators	At least 65 district or province irrigation commissions are assessed as operationalized based on the updated performance indicators	At least 88 district or province irrigation commissions are assessed as operationalized based on the updated performance indicators

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At least 74 District Irrigation Development Management Plans (RP2I) endorsed by district head <sup>d</sup>	Yes/ DLI 4	6 RP2Is endorsed in 2015 by District Head for incorporation into five-year district plans and budgets	2016			12 RP2Is endorsed by district heads	50 RP2Is endorsed by district heads	74 RP2Is endorsed by district heads
<b>Results area 2: Irrigation operation and maintenance, and management improved</b>								
Irrigation asset management improved for 2.5 million hectares of irrigation systems by 2021 <sup>k</sup>	Yes/ DLI 5	The irrigation asset management information system (IAMIS) software is outdated and cannot be used for planning and managing irrigation systems  Only 20% of national schemes assets are registered	2016	IAMIS software has been upgraded to a web-based geospatial system.  Guidelines for field verification developed and approved  Existing dataset on nationwide irrigation systems migrated to upgraded IAMIS	IAMIS has updated data and maps on at least 0.6 million hectares of irrigation systems, based on validated surveys and other existing data.	IAMIS has updated data and maps on at least 1.2 million hectares of irrigation systems based on validated surveys and other existing data.	IAMIS has updated data and maps on at least 1.8 million hectares of irrigation systems based on validated surveys and other existing data	IAMIS has updated data and maps on at least 2.5 million hectares of irrigation systems based on validated surveys and other existing data
Effective management of tertiary irrigation systems through operationalizing at least 4,500 Water User Associations (WUAs) by 2021 <sup>l</sup>	Yes/ DLI 6	No WUAs operationalized yet	2016	WUA performance indicators updated <sup>m</sup>  Baseline survey conducted	The number of WUAs operationalized by the program is at least 3,000	The number of WUAs operationalized by the program is at least 4,000	The number of WUAs operationalized by the program is at least 4,500	
Share of women in the governing boards of WUAs increased to at least 20% by 2021	No	<10%	2016	≥10%	≥12%	≥15%	≥17%	≥20%
Improved assessments integrating agriculture	Yes/ DLI 7	No Social, Economic Technical and	2016	SETIP/PSETK guidelines updated to	At least 500 SETIPs/ PSETK	At least 719 SETIPs/PSETK completed in		

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and infrastructure development conducted for at least 719 priority schemes by 2021 <sup>n</sup>		Institutional Profile (SETIP/PSETK) in line with expanded guidelines <sup>o</sup>		integrate planning and development of agriculture and infrastructure At least 50 SETIPs/PSETK completed in line with the expanded requirements for integrated planning and development of agriculture and infrastructure	completed in line with the expanded requirements for integrated planning and development of agriculture and infrastructure	line with the expanded requirements for integrated planning and development of agriculture and infrastructure		
<b>Results area 3: Irrigation infrastructure improved</b>								
Water resources accounting using satellite technology for additional schemes of more than 200 ha completed and validated by 2017	No	No additional schemes	2016	Water resources accounting using satellite technology for 10% additional schemes completed	Water resources accounting using satellite technology for 50% additional schemes validated	Water resources accounting using satellite technology for 100% additional schemes validated		
Detailed engineering designs prepared in line with DGWR technical standards completed for at least 800,000 hectares in the program area by 2020	No	45,000 ha	2016	250,000 ha	500,000 ha	800,000 ha		
Rehabilitated irrigation infrastructure in program areas increased by 500,000 ha by 2021 <sup>p</sup>	Yes/ DLI 8	Zero hectare of rehabilitated or upgraded irrigation infrastructure as per MPWH technical standards	2016	At least 45,000 hectares of irrigation infrastructure rehabilitated or upgraded as per MPWH technical standards	At least 145,000 hectares of irrigation infrastructure rehabilitated or upgraded as per MPWH technical standards	At least 300,000 hectares of irrigation infrastructure rehabilitated or upgraded as per MPWH technical standards	At least 400,000 hectares of irrigation infrastructure rehabilitated or upgraded as per MPWH technical standards	At least 500,000 hectares of irrigation infrastructure rehabilitated or upgraded as per MPWH technical standards

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					standards		standards	standards
At least 5 irrigation schemes initiated modernized according to Government technical standards by 2021 <sup>a</sup>	No	0 schemes	2016	Modernization guidelines completed and officially endorsed by DGWR  Modernization assessment completed for 2 irrigation schemes	Modernization assessment completed for 5 irrigation schemes	Modernization process initiated for 5 irrigation scheme modernized according to Government technical standards		
Hydropower generation capacity developed in selected schemes by 2019	No	0	2016	Assessment (technical, financial and institutional) methodology developed	Screening for eligible pilot conducted	Pilot implemented in 10 schemes		

DGWR = Directorate General of Water Resources, DLI = disbursement-linked indicator, IAMIS = irrigation asset management information system, IMU = irrigation management unit, O&M = operation and maintenance, MOA = Ministry of Agriculture, MOHA = Ministry of Home Affairs, MPWH = Ministry of Public Works and Housing, RP2I = *Rencana Pengembangan dan Pengelolaan Irigasi* (Irrigation Development Management Plan), SETIP = social, economic, technical and institutional profile, WUA = water user association.

<sup>a</sup> This includes the following districts: Aceh Besar, Aceh Utara, Aceh Timur, Bireun (Nanggroe Aceh Darussalam province); Tapanuli Tengah, Asahan, Humbang Hasundutan, Simalungun (North Sumatra province); Sinjungjung, Pasaman, Limapuluh Koto, Pasaman Barat, Pesisir Selatan (West Sumatra province); Musi Rawas, Empat Lawang, Ogan Komering Ulu Selatan, Muara Enim, Musi Banyuasin, Banyuasin, Lahat (South Sumatra province); Pesawaran, Tanggamus, Lampung Tengah, Tulangbawang, Mesuji (Lampung province); Serang, Pandeglang (Banten province); Garut, Indramayu, Kuningan, Ciamis, Sukabumi, Majalengka, Sumedang (West Java province); Kebumen, Banjarnegara, Purworejo, Pekalongan, Pati, Banyumas, Cilacap (Central Java province); Bojonegoro, Ngawi, Lamongan, Kediri, Madiun, Lumajang, Jember, Jombang, Tuban (East Java province); Ketapang, Kubu Raya, Sambas, Kayong Utara (West Kalimantan province); Hulu Sungai Tengah, Tapin, Barito Kuala, Tanah Bumbu (South Kalimantan province); Minahasa Selatan, Bolaang Mongondow (North Sulawesi province); Toli Toli, Poso, Banggai (Central Sulawesi province); Wajo, Pinrang, Sidenreng Rappang, Soppeng, Bone (South Sulawesi province); Lombok Tengah, Lombok Timur, Bima, Dompu (West Nusa Tenggara province); Manggarai Barat, Manggarai Timur (East Nusa Tenggara province). The government selected the target areas carefully, based on the need to improve irrigated agriculture.

<sup>b</sup> The irrigation performance index or *Indek Kinerja Sistem Irigasi* (IKSI) is calculated based on 6 criteria, with a possible total score of 100 as stipulated in the Ministry of Public Works and Housing regulation 12/2015. The 6 criteria are measured and weighted for every irrigation scheme as follows: (i) functioning infrastructure (45%); (ii) agriculture productivity (15%); (iii) supporting facilities for operations and maintenance (O&M) (10%); (iv) adequacy of human resources for O&M (15%); (v) adequacy of data and information (5%); and (vi) water user association participation (10%). Achievement of DLI 1 requires achieving outputs as well as strengthening the IKSI system so that baselines can be set. DLI 1 will cover irrigation schemes of more than 400 ha and 10 irrigation schemes with an area of less than 200 ha included in the selected 74 districts.

<sup>c</sup> The district or provincial parliament approves the aggregated irrigated agriculture management plan (IAMP) with appropriate allocations from the district/province budget so that the aggregated IAMP becomes part of the five-year development plan and budget for that district or province. The aggregated IAMP is to be updated every year. Based on the Ministry of Public Works and Housing Regulation 12/2015 and 30/2015.

- <sup>d</sup> Updated guidelines: (i) detailed engineering guidelines to incorporate adaptation for irrigation system management to increasing climate variability and change, climate proofing, water efficiency, mapping, and remote sensing; master planning and feasibility study methodology, construction management and technical specification and cost estimate standards; right of way management; hydro-mechanical works; (ii) participatory irrigation management or *Pengembangan dan Pengelolaan Sistem Irigasi Partisipatif* (PPISP) guidelines for water user associations (WUAs) and farmers empowerment; (iii) guidelines for preparation for operation and maintenance (PROM), (iv) social, economic, technical and institutional profile (SETIP) guidelines; (v) IAMP guidelines. Officially issued: (i) SETIP guidelines; (ii) IAMP guidelines; (iii) guidelines for PROM.
- <sup>e</sup> Updated guidelines: (i) decree for key performance indicators for river basin organizations (RBOs) and water resources associations (WRAs). Officially issued: (i) detailed engineering guidelines to incorporate adaptation for irrigation system management to increasing climate variability and change, climate proofing, water efficiency, mapping, and remote sensing; master planning and feasibility study methodology, construction management and technical specification and cost estimate standards; right of way management; hydro-mechanical works; (ii) participatory irrigation management or *Pengembangan dan Pengelolaan Sistem Irigasi Partisipatif* (PPISP) guidelines for WUAs and farmers empowerment.
- <sup>f</sup> Officially issued: (i) decree for key performance indicators for RBOs and WRAs.
- <sup>g</sup> Establishing and operationalizing the National Competency Certification System has the following steps: (i) modules to be prepared in collaboration with the National Body for Professional Certification (BNSP); (ii) the Competency Certification System to be legally recognized by DGWR; (iii) an operational certification process for irrigated agriculture facilitators; and (iv) by 2021, at least 100% of irrigation facilitators are certified.
- <sup>h</sup> Strengthening institutional capacity for integration and coordination of agriculture and infrastructure development requires three steps: (i) Irrigation Commission performance indicators are updated; (ii) Irrigation Commissions meet the minimum score to be considered as operational; and (iii) the Irrigation Commission's performance is assessed against updated indicators in all target provinces and districts.
- <sup>i</sup> The Irrigation Commission performance composite index includes: (i) establishment and legal status; (ii) staffing, job description, coordination and implementation of the work plan, documentations/reports and facilities; and (iii) annual operational budget.
- <sup>j</sup> The RP2I, prepared with a needs-based budget, is endorsed by the head of district, a necessary step for the regional parliament's approval for incorporation into five-year sector plans and budgets.
- <sup>k</sup> Improved irrigation asset management means: (i) irrigation asset management information system (IAMIS) software upgraded; (ii) existing dataset on irrigation systems migrated to upgraded IAMIS; (iii) surveys and remote sensing conducted on irrigation assets; (iv) survey data validated and entered into geospatial information systems; and (v) staff trained and appointed to use the IAMIS effectively.
- <sup>l</sup> A given WUA is considered operationalized as per performance evaluation in line with updated guidelines.
- <sup>m</sup> The WUA performance composite index includes: (i) establishment and legal status; (ii) operation of irrigation infrastructure and water allocation, (iii) management of tertiary canals and associated infrastructure.
- <sup>n</sup> Improved assessments integrating agriculture and infrastructure development mean (i) SETIP is prepared for the irrigation scheme, and (ii) the assessment is conducted in line with the expanded requirements for integrated planning and development of agriculture and infrastructure.
- <sup>o</sup> 763 irrigation schemes have completed SETIPs prepared in line with the current guidelines.
- <sup>p</sup> Rehabilitated and upgraded infrastructure as per Ministry of Public Works and Housing guidelines. The target excludes category A (involuntary resettlement, environment and indigenous people) interventions. For irrigation schemes that are crossing 2 districts – with one of them not a participating district – the downstream area hydraulically connected to the rehabilitated infrastructure will be accounted as functioning.
- <sup>q</sup> An irrigation scheme has been modernized when: (i) the rapid assessment has been completed as per modernization guidelines; (ii) recommendations have been incorporated in the work plan; and (iii) priority recommendations (those within the project life cycle) have been implemented. Modernization preparations include selection of the irrigation scheme on the basis of: (i) completed SETIP; (ii) completed Water Resources Diagnostic; (iii) well-functioning WUA; and (iv) institutional preparedness.