

ASEAN IWRM PERFORMANCE REPORTS & MONITORING INDICATORS

Malaysia 2024 Report (Irrigation Management)

Outcome Indicators

IWRM Issue 2 - Irrigation Management (14 indicators)			
Indicator Types	Indicators	Progress	Description
Outcome Indicators	1. Percentage of irrigated area to total potential irrigable area	83%	Note 1
	2. Percentage of irrigated area damaged by flood	3%	
	3. Percentage of irrigated area damaged by drought	3%	
	4. Percentage of irrigation efficiency	23.25%	Note 2
	5. Agricultural production (T/ha) versus water utilization	4.288 T/ha	Note 3
	6. Percentage of irrigated area with water quantity measuring devices	90%	Note 4

Note 1

Potential irrigable area: 283,730ha

Irrigated Granary Areas : 205,468ha

Irrigated Non Granary Areas : 50% of Non Granary Areas (61,092ha): 30,546 ha

Note 2

Irrigation Efficiencies in Irrigation Schemes (NWRS 2011: Table 9.3)

- Granary Areas : 57%
- Non Granary Areas : 47%

Irrigation efficiency Study 2023 :

FAO= Conveyance Efficiency X Deliverable Efficiency X Field Efficiency

(3 IADA that have higher density infrastructure)

IADA KETARA : 23.02%

IADA Barat Laut Selangor : 24.59%

IADA Seberang Perak : 22.14%

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Note 3

- Average yield for paddy (wet paddy & hill paddy) = 4.288 T/Ha
- Average yield for wet paddy = 4.949 T/Ha
- Average yield in granary area = 3.772 T/Ha
- Average yield outside granary area = 2.923 T/Ha
- Water productivity (WP) is defined as the total weight of the crop produced by a unit volume of water supplied = 0.3 – 0.6 kg/m³

Note 4

Most intake structures have measuring water quantity devices in placed.

Turnout in open canal is commonly an undershot slide gate. In Irrigation schemes, Constant Head Orifice Off-takes (CHO) are widely used to control flow rate to the branch canal and for measurement of discharge.

New granary areas have been developed in the year 2014. Percentage drop due to increase of granary area.

Enabling Environment Indicators

Indicator Types	Indicators	Progress	Description
EE Indicators	1. Any "Policy" on irrigation management (including policy on land conversion/conservation of irrigation area)	Yes	Note 1
	2. Any "Legislation/Regulations" on irrigation management (including policy on land conversion/ conservation of irrigation area)	Yes	Note 1
	3. Any "Annual national budget" allocation for irrigation management	Yes	Note 2

Note 1

- Irrigation Areas Act 1953 – This is an Act relating to the establishment and regulation of irrigation areas in Malaysia.
- Granary Policy - introduced in the mid-1980s a strategic solution to ensure sustainable local rice production in a rapid economic growth environment that provides lucrative opportunities outside the agriculture sector.
- National Food Security Framework (KSMN) and National Food Security Policy Action Plan 2021-2025 has been established to strengthen national food security under the Ministry of Agriculture and Food Security.

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Note 2

- All granary and non-granary areas were given annual allocation for operation, maintenance, and development expenditure by the federal government.
- Under the constitution, irrigation falls under concurrent list thus operation and maintenance of irrigation schemes under non-granary areas will be borne by both states and federal government.

Institutional Set-up Indicators

Indicator Types	Indicators	Progress	Description
IS Indicators	1. Any "Irrigation agency" responsible for irrigation management	Yes	Note 1
	2. Any Farmers' Association	Yes	Note 2

Note 1

- Granary Areas managed by Integrated Agricultural Development Area (IADA) supported by Irrigation and Agricultural Drainage Division of Ministry of Agriculture and Food Security.
- Irrigation management for Non-Granary Area managed by State Drainage and Irrigation Department

Note 2

- National Level – Farmers Organisation Authority

Farmers Organisation Objective

The objective of the FO establishment is to improve the social and economy standard, increase their knowledge and skills, increase revenue and income and to improve the way of life of its members and to create a progressive, independent, prosperous, and integrated farming community.

Farmers Organisation Role

Among the roles of FO is to improve the productivity of farmers through the provision of services, enhance the rapid growth of the agricultural sector through restructuring of agriculture. In addition, FO role is also to enhance business and investment growth in agriculture, improving the socio-economic status and the quality of life for the farmers and to balance the agro-industrial development in the rural areas.

- Establishment of Water User Group (WUG) at tertiary level. WUG is defined as a group of farmers that are grouped based on a unit of irrigated areas that can function independently. These groups have the same importance in terms of water sources, irrigation schedule and other agricultural inputs. WUGs were established to determine the agricultural needs of farmers and coordinated effectively.

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Management Tools Indicators

Indicator Types	Indicators	Progress	Description
MT Indicators	1. Any operations and maintenance program for irrigation systems	Yes	Note 1
	2. Any participatory irrigation management system	Yes	Note 2
	3. Any irrigation water allocation mechanism	No (6)	Note 3

Note 1

- Currently, at the federal level, irrigation systems are generally administered by the Division of Irrigation and Agricultural Drainage, Ministry of Agriculture and Food Security while the State Drainage and Irrigation Department (DID) is responsible for the implementation, operation and maintenance of the irrigation and drainage infrastructures.

Note 2

- Participation of farmers during design stage of upgrading tertiary canal. Farmers at the tail end of irrigation systems who may currently receive poor quality water are invited to incorporate their needs. Innovative approaches or good practices that stress responsible and negotiated agreements between farmers should be reviewed and adapted to local circumstances.
- Establishment of Water User Group (WUG) at tertiary level. WUG is defined as a group of farmers that are grouped based on a unit of irrigated areas that can function independently. These groups have the same importance in terms of water sources, irrigation schedule and other agricultural inputs. WUGs were established to determine the agricultural needs of farmers and coordinated effectively.

Note 3

- Water resources management such as allocation of water rights is resolved through inter-agency coordination and consultation. However, at the federal level, a National Water Resources Council (NWRC) has been set up to pursue more effective water management, including the implementation of interstate water transfers.
- The national water policy shall be formulated by the federal government and adopted by the state governments. The policy encompasses integrated management of land and water resources based on river basins, and the protection of watersheds and aquifers. The policy guides interstate water transfers, allocation of water to users, and development activities in watersheds, including the vicinity of dam reservoirs. Contemporary laws are enacted to facilitate the implementation of the national water policy and shall be adopted by the state governments.