

Monitoring and Evaluation of Management Effectiveness

Module 5: Integrated Management: Planning, Management, and Governance
Duration: 1 Hour

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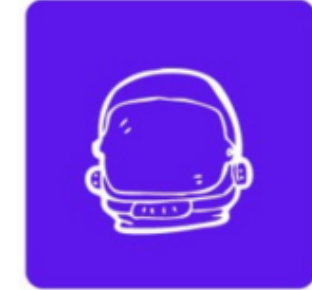
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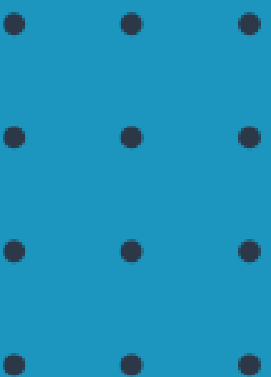


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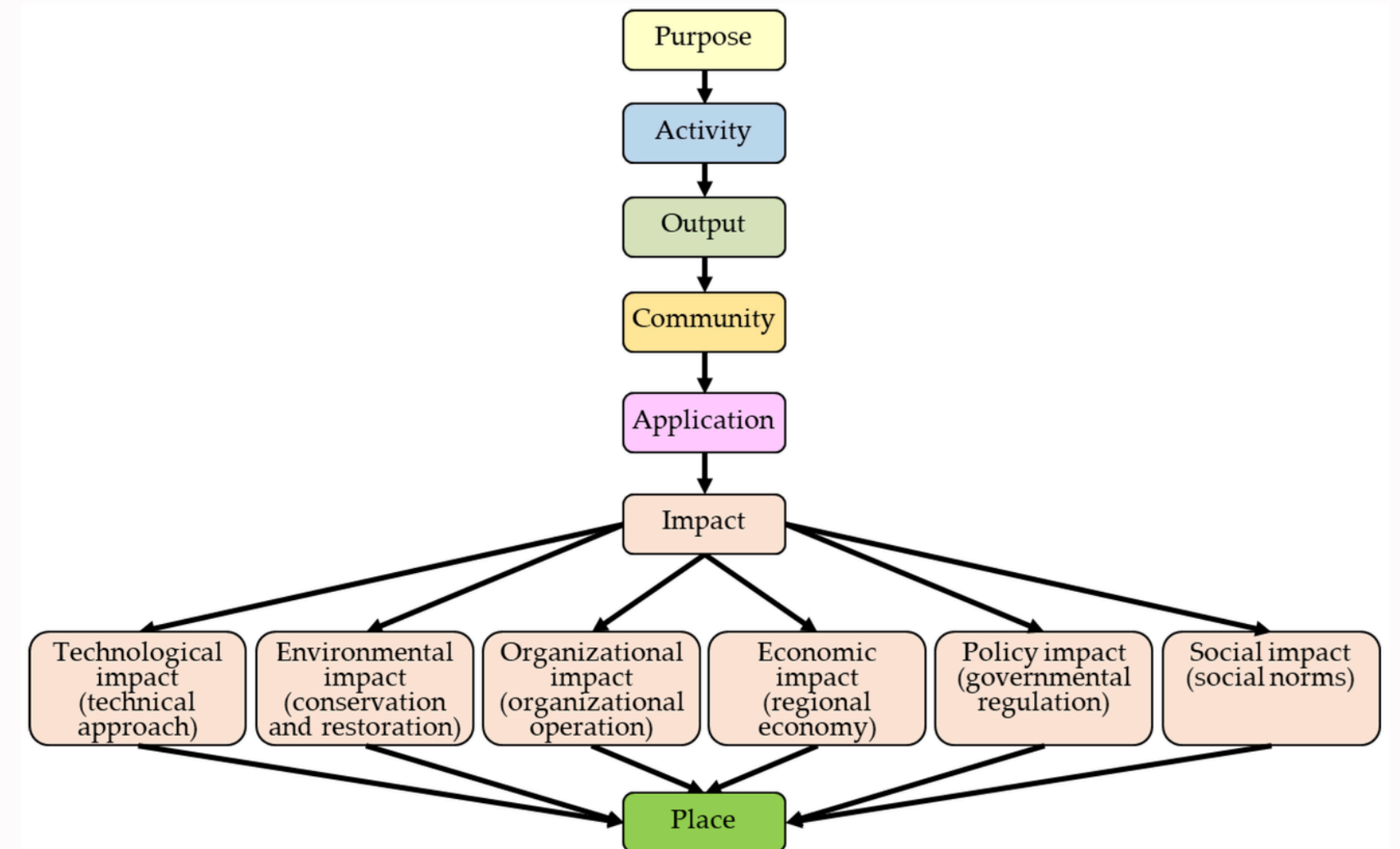
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Learning Objectives

By the end of this unit, you will be able to:

- Understand the role of **Monitoring & Evaluation (M&E)** in marine and coastal management.
- Learn the **key steps and indicators** for evaluating management effectiveness.
- Explore how M&E supports **adaptive management and decision-making**.



A common framework of program monitoring and evaluation.
(Thornton et al., 2022)



Why Monitor and Evaluate?

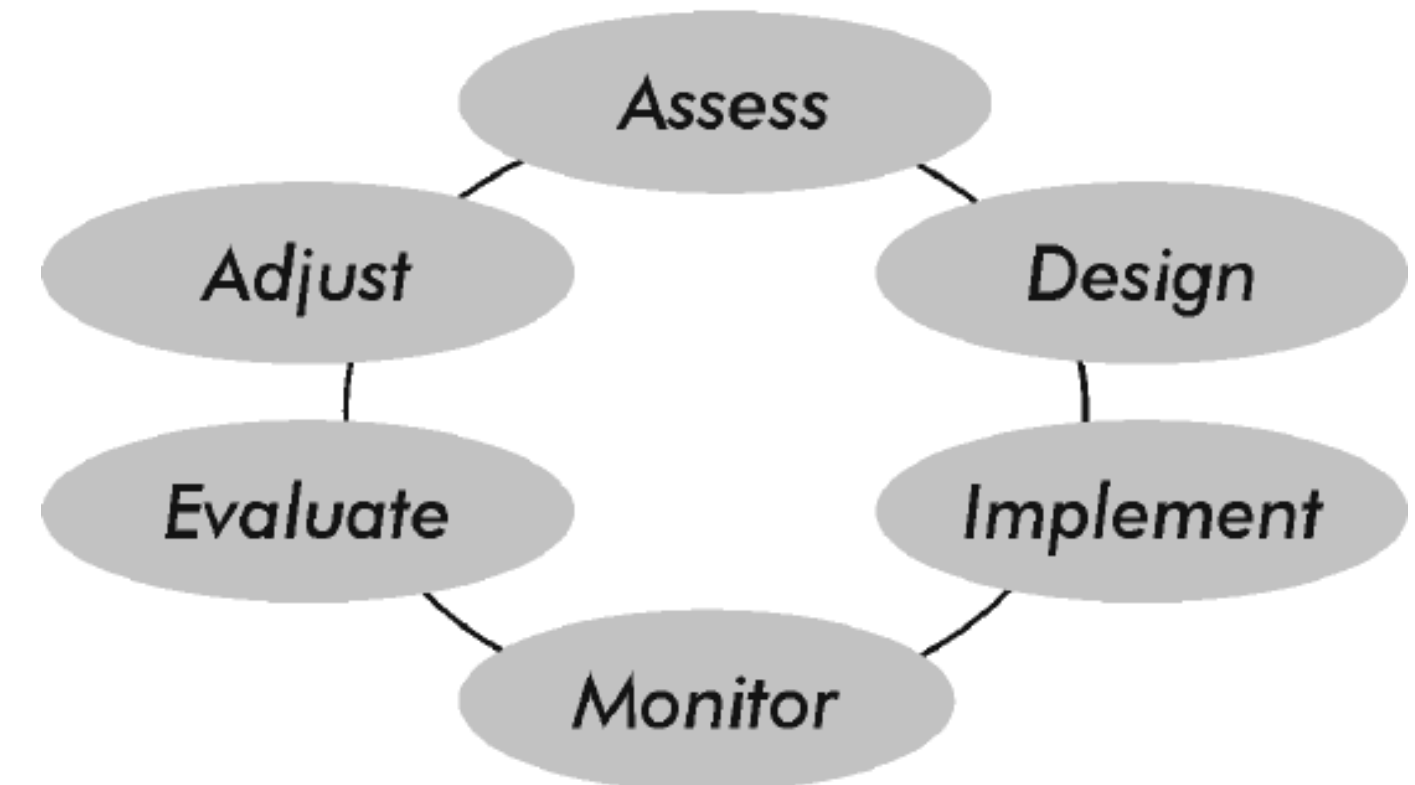
(NOAA, 2016)

- M&E tracks progress toward achieving **management objectives**.
- Provides evidence for **policy adjustments** and **resource allocation**.
- Strengthens transparency, accountability, and stakeholder confidence.

- Ensures that **management plans and policies are working as intended**.

Helps identify:

- **Successes** worth expanding.
- **Failures** that need corrective action.
- Promotes **transparency and accountability** in marine governance.
- Supports **adaptive management**, allowing adjustments based on new information.
- Builds **trust with stakeholders** by showing progress and results.



The Adaptive Management Cycle.
Source: Murray, Carol & Marmorek, David. (2003).



Key Concepts in Monitoring & Evaluation

- **Indicators** measure changes over time:
 - Biological indicators (e.g. fish biomass, coral cover).
 - Socio-economic indicators (e.g. livelihoods, income).
 - Governance indicators (e.g. enforcement, stakeholder participation).
- **Baselines and targets** are essential for comparison.
- Follows an **adaptive management cycle**:
 - Plan → Do → Check → Act.
- Evaluation should be:
 - **Objective**
 - **Repeatable**
 - **Transparent**

Evaluation is the systematic process of **assessing progress toward management objectives** using measurable indicators. It ensures that results are accurate, actionable, and trusted by stakeholders.

Key Principles:

- Objective:
 - Based on scientifically sound methods and standardized protocols.
 - Avoids bias by using independent assessments or third-party evaluations.
 - Example: Using standardized reef health index scores across monitoring sites.
- Repeatable:
 - Designed so assessments can be conducted consistently over time.
 - Ensures comparability across monitoring cycles, regions, and management areas.
 - Example: Annual surveys using the same methodology for fish counts or coral cover.
- Transparent:
 - Results and methodologies are openly shared with stakeholders and the public.
 - Builds trust and supports decision-making by making data accessible.
 - Example: Publishing marine park reports and making raw data available.

M&E Tools and Approaches

Scorecards and Logframes (Hockings et al., 2006):

- Simple visual tools for tracking progress.
- Scorecards show management effectiveness on a traffic-light system (red–yellow–green).

Management Effectiveness Tracking Tools (METT):

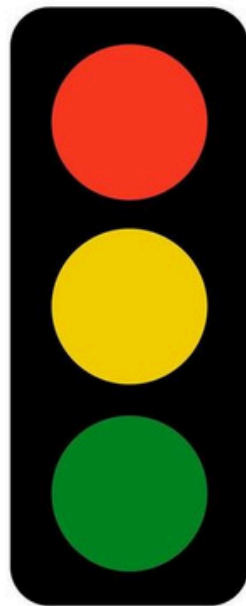
- Used globally to assess protected area performance (WWF & World Bank, 2007).

Participatory evaluation:

- Engages communities and stakeholders in assessing progress.
- Example: Community scoring exercises for Marine Protected Area (MPA) management (Pomeroy et al., 2004).

Technology in M&E:

- Satellites and drones for habitat monitoring.
- Community-based monitoring using apps and mobile devices.
- Example: Reef Check Malaysia's citizen monitoring program (Day et al., 2012)



Example – Malaysian Marine Parks M&E

Case: Department of Marine Park Malaysia (DMPM) – under the Ministry of Natural Resources, Environment, and Climate Change.

Overview of the Program

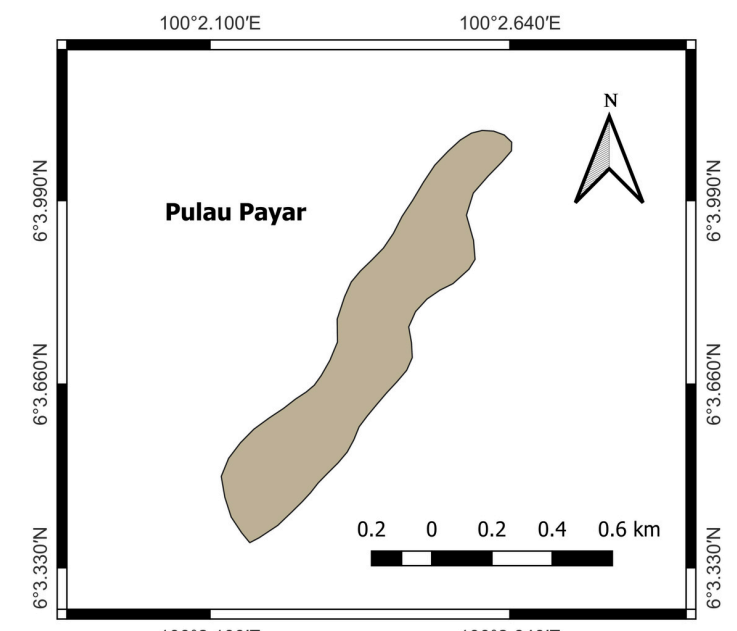
- Established a **long-term reef health monitoring program** across 42 islands gazetted as Marine Parks.
- Focuses on tracking coral reef status, fish populations, and environmental changes.
- Supports ecosystem-based management and sustainable tourism planning.

What They Monitor

- **Coral bleaching events:** Assessed during heat stress periods to track resilience.
- **Fish population dynamics:** Monitoring indicator species for ecosystem health.
- **MPA effectiveness:** Evaluating no-take zones, enforcement, and habitat recovery.
- **Water quality parameters:** Nutrient levels, sedimentation rates, and pollutants.

Case Example: Pulau Payar Marine Park

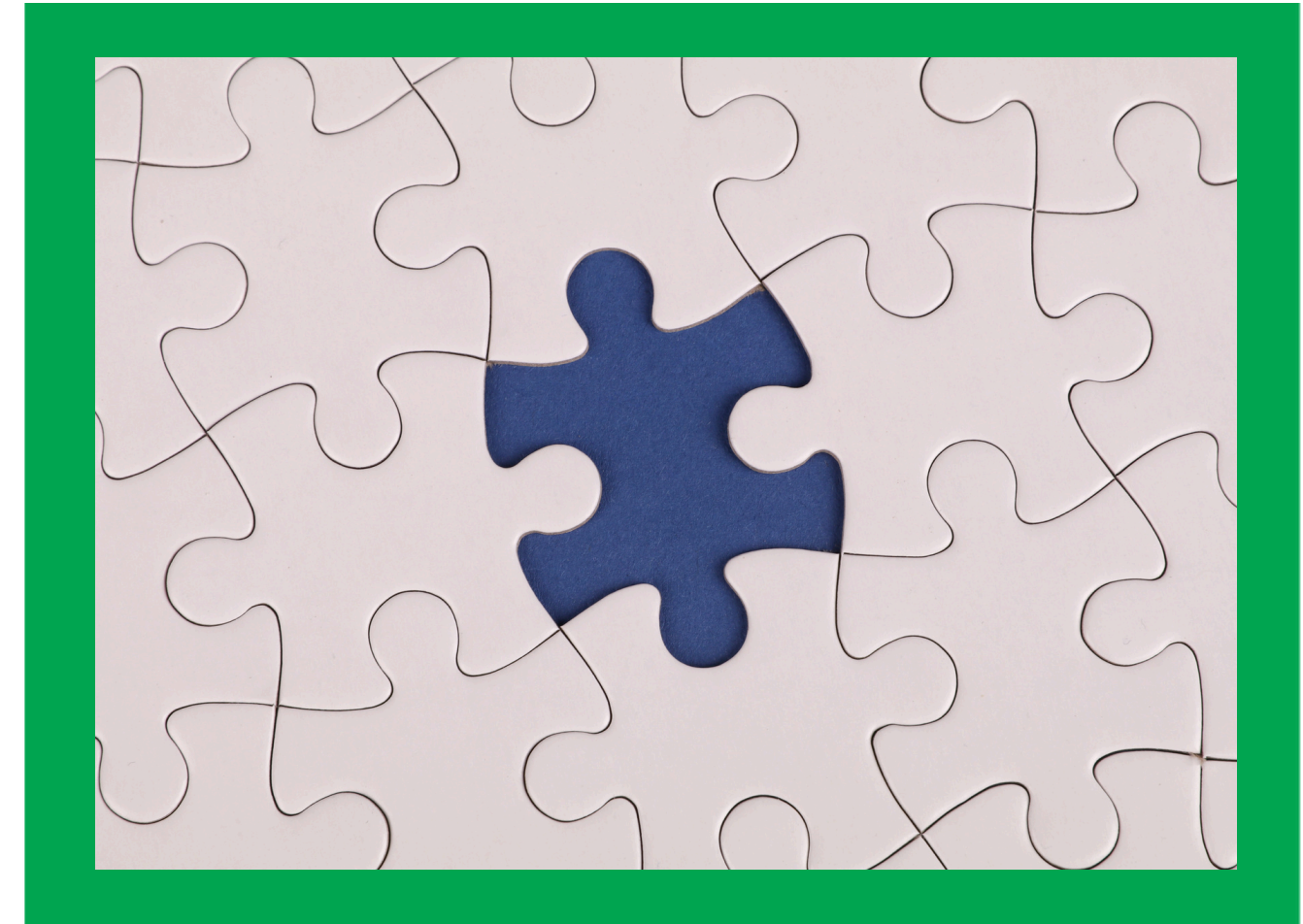
- One of Malaysia's most visited marine parks.
- Data-driven tourism guidelines introduced to reduce coral stress.
- Observed recovery trends in hard coral cover due to stricter enforcement and zoning updates.



(Source: DMPM Annual Report, 2020)

Challenges in M&E

- Lack of funding and human resources.
- Data gaps and inconsistent data collection.
- Difficulty setting measurable indicators.
- Resistance from stakeholders if results are negative.
- Need for long-term commitment to gather meaningful trends.



Activity: Draft an M&E Plan

- Draft a basic M&E plan for a marine reserve.
- Include goals, indicators, data sources, frequency.
- Share as a slide or worksheet in the platform.



Summary

- **Monitoring and evaluation are crucial for effective marine management.**
- **Indicators and baselines guide progress measurement.**
- **Tools like METT and participatory approaches strengthen assessments.**
- **Adaptive management relies on learning and adjusting plans.**
- **Transparent M&E builds stakeholder trust and accountability.**




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THANK YOU

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