

Developing capacity in the Ecosystem Approach to Aquaculture Management (EAAM)

Step 1

Scoping and definition of the ecosystem boundary



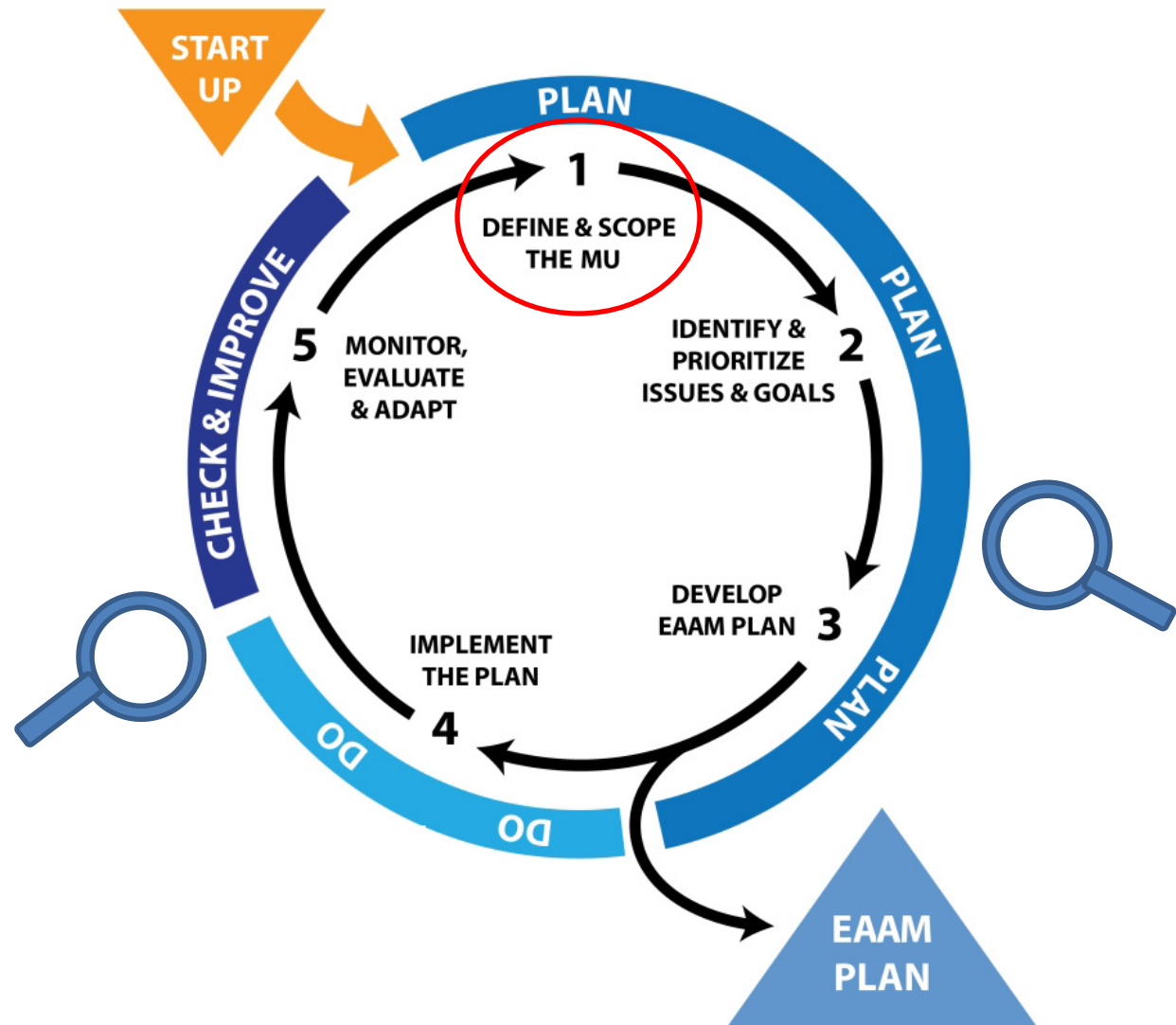
Module objectives



After this session you will be able to:

- Define the aquaculture area
- Develop and agree on shared visions
- Scope the EAA area/zone

Step 1 – Define and scope the Management Unit



Step 1 – Define and scope the Management Unit

1.1 Define the Management Unit (MU)

1.2 Agree shared vision



1.3 Scope the MU



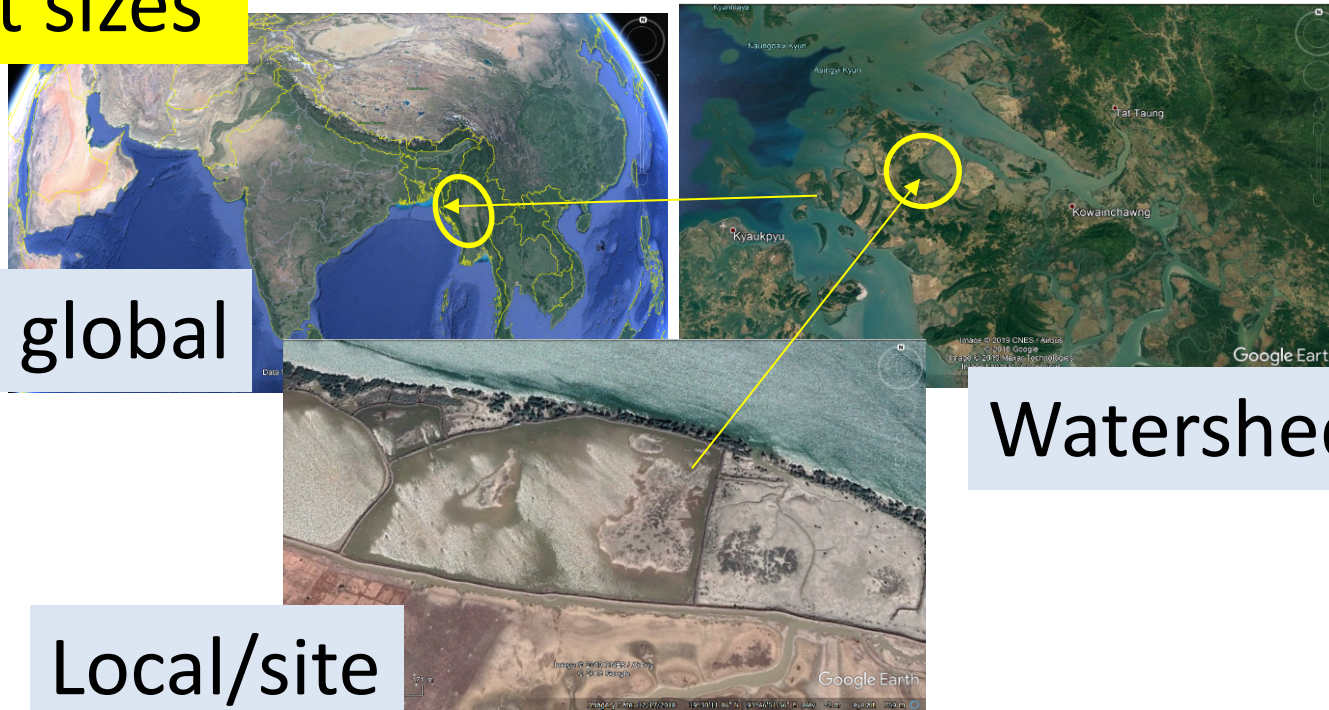
Building the EAAM plan



1.1 Define the area

- The **spatial planning** required for aquaculture is the **area (MU) that you plan to manage**
- It has to take into account the **socio-economic, environmental** and **governance** factors.

Different sizes



global

Watershed/zone

Local/site



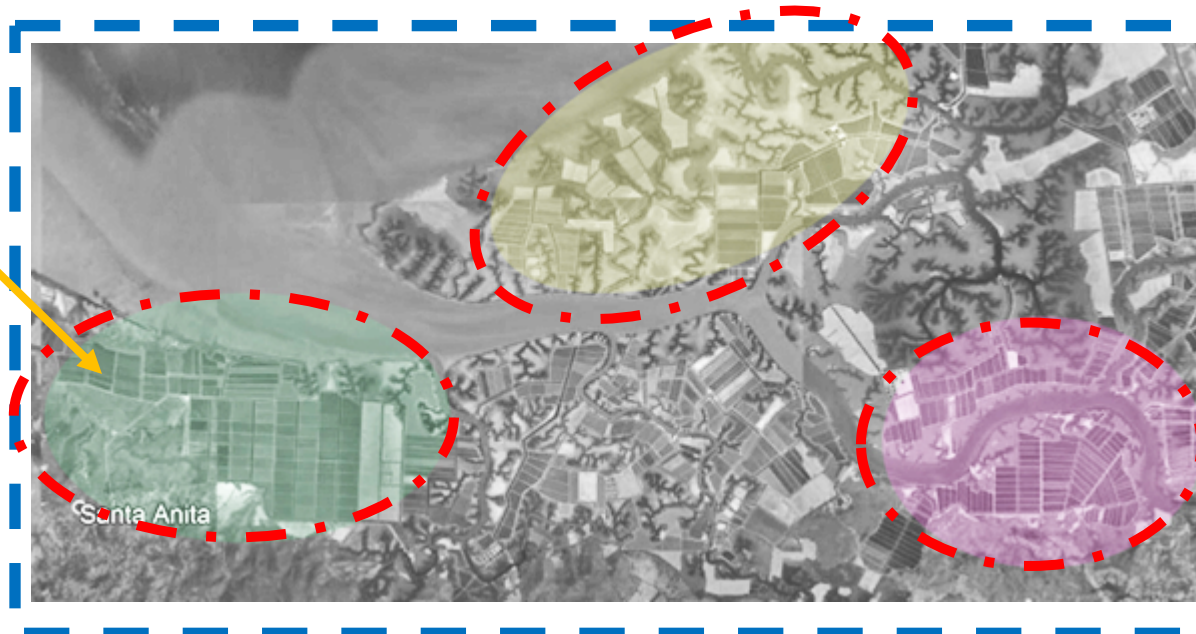
1.1 Define the area

The process of spatial planning is usually made of 3 levels:

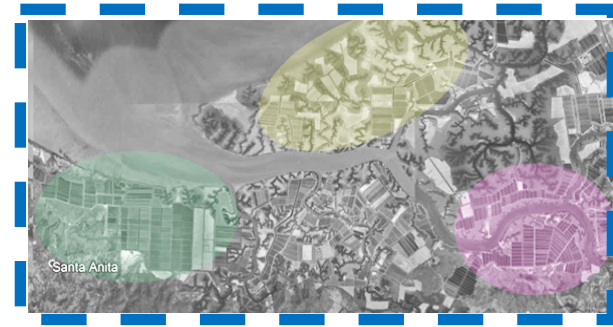
(i) aquaculture zoning

(ii) site selection

(iii) aquaculture management areas or AMAs



(i) Aquaculture zoning



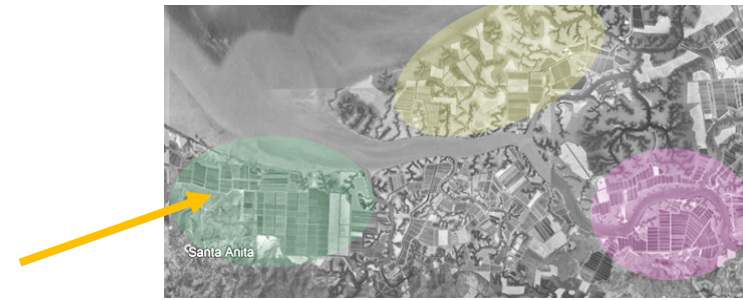
Is a hydrological area suitable for farming that includes:

- a whole catchment area (from source to estuary)
- a water body (lake, lagoon, reservoir)
- A coastal area

The zoning

- ease the integration of aquaculture in a specific locality,
- ease the coordination between agencies
- All relevant stakeholders should participate to plan, coordinate and manage possible conflicts.

(ii) Individual site



Site selection for farming should consider:

- the physical and environmental characteristics of the area
- the farmed species
- the technology
- The culture system
- the interaction with other farms
- the surrounding environments

(iii) Aquaculture Management Area (AMA)

AMAs are clusters of farms that join common management practices and share a common waterbody or water sources, common management goals and issues:



- resource conflicts
- management of risk
- wastewater discharge
- health management (...)

AMAs also can take advantage from scale economies for input procurement, extension, markets access and postharvest services

Selection criteria

Scoping is needed to understand:

- the broader issues in **the multi-stakeholder context** in which aquaculture might develop.
- Identification of **opportunities** and assessment of **main risks** with special consideration to **fish disease** and **environmental issues**
- **Carrying capacity** estimation to determine **maximum production allowed** in a given area.
- Allocation of **user/area access** and/or **management rights**.



Activity 16 Map your MU

Create a map of your FMU area, including:

- Ecological boundaries
- Social boundaries (e.g. communities, fishing ports, etc.)
- Habitat areas
- Political jurisdictional boundaries (including national/province/district jurisdictions)



1.2 Agree on the MU vision

- It is important that stakeholders agree to a vision for the MU.
- A vision is the image of what the future looks like if management is successful.
- This should reflect any known national or provincial policies and legislation



Visioning

- Visions are about **imaging the future** and bringing new possibilities alive
- Developing a vision allows the group to **develop a common image of an ideal future** (20-30 years ahead) where **everything is perfectly working, with no conflicts.**
- A shared picture of the future allows the group to **take part of the destination.**
- It is then necessary to **step back into reality** to question on **how to get there**, on what **conditions are necessary** to get as closer as possible to that ideal world
- Visions **help to motivate and empower** the people towards a shared goal



Vision, goals and objectives

Vision

Aspiration for the future

long-term aspiration (20-30 years)
of what you would like the MU to be
(as a dream)

Goals

Goals for different set of issues

Shorter-term view (5-10
years) of what you want to
achieve on a set of issues

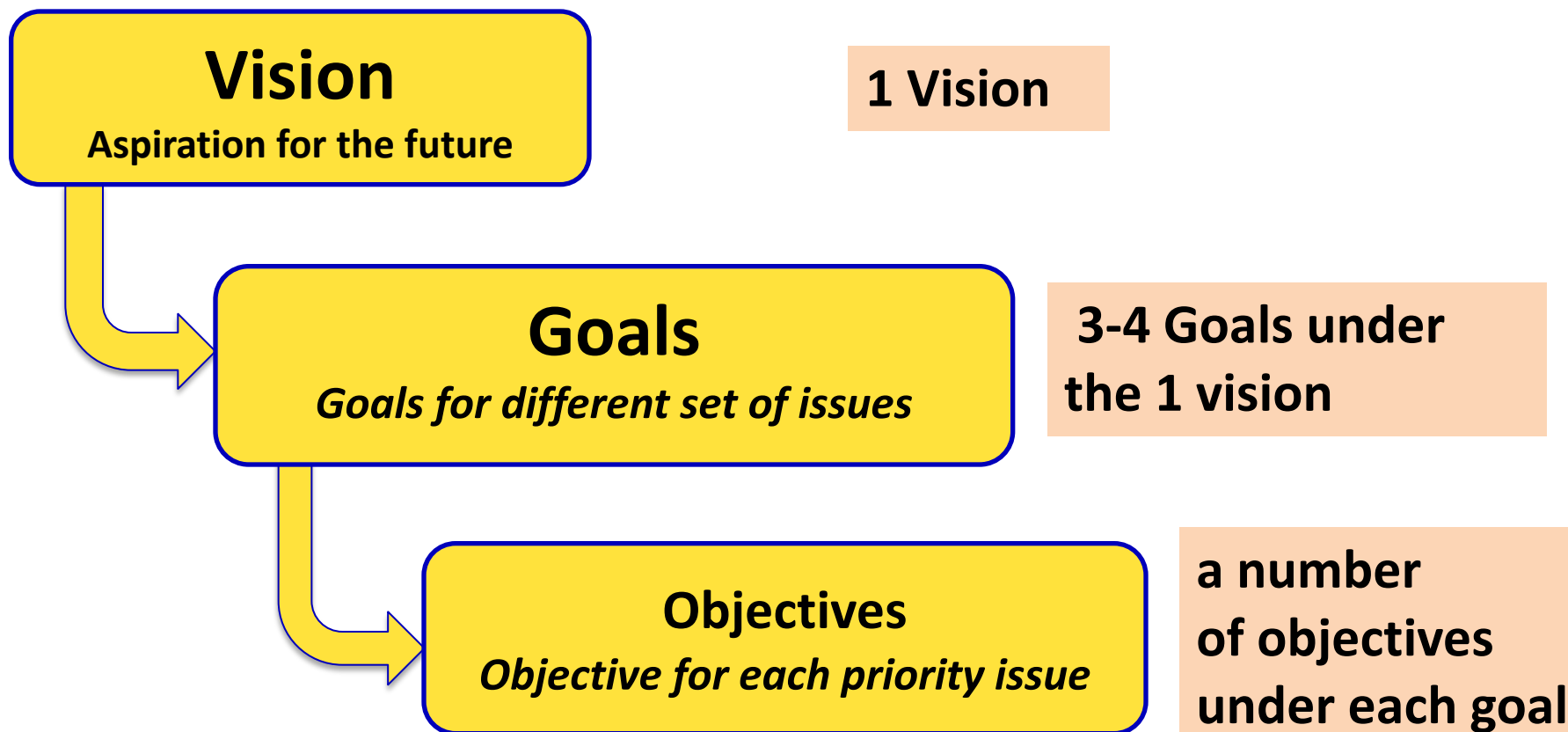
Objectives

Objective for each priority issue

What you are trying to
achieve on a specific
issue



Vision, goals and objectives



Activity 17 Agree on MU vision

1. What should MU look like in 20-30 years (outcome of management)?
2. Write down words (single words or phrases) or design that represents the ideal...then work together on the table to work those ideas into a statement....

Should include all 3 components of EAAM:



1.3 Scope the Area

MU needs to be scoped and profiled so to bring together all the relevant background information. The profiling will serve as:

- A **basis for all EAAM planning** and management activities;
- A **baseline for future monitoring and evaluation** of performance.



1.3 Scope the Area

The EAAM team **works with stakeholders** to profile the aquaculture MU and answer key questions:

- what is the **current condition of resources, patterns** and **problems** of resource use?;
- what are the **patterns of power** in resource **access** and **use**, i.e. between and within **gender, ethnic groups** and social hierarchies?
- What is the **legal framework** that **support/constrains** the aquaculture development in the area?



Types of data

Qualitative data

Analyze “how and why”

Data that can be observed, described, and recorded, but not measured in numeric terms.

Sources:

- Answers to open-ended questions
- Quotations from interviews/ focus groups
- Observations of activities or behaviors
- Document excerpts, quotations, or passages

Eg: Types of household income

Quantitative data

“How much, how many, how often, what percentage”

Data that can be counted or expressed numerically, and thus manipulated and analyzed statistically, usually collected from samples

Sources:

- Existing statistics
- Research
- Answers to closed-ended questions in biological and socioeconomic surveys

Eg: Household income per month

Information is needed for all 3 components

Ecological

Human

Governance

EXAMPLES

- physical carrying capacity,
- ecological carrying capacity,
- water resources for target species
- aquaculture impact on water and benthic habitat,
- impact to/from other sectors
 - fisheries
 - Agriculture
 - tourism

Information is needed for all 3 components

Ecological

Human

Governance

EXAMPLES

- social carrying capacity,
- production carrying capacity,
- who and how people use the resource and how they benefit
- livelihood generation
- level of knowledge
- level of technology
- value chain analysis
- gender analysis
- potential user conflicts,
- access to infrastructures (e.g., roads, energy)
- Access to markets for both inputs and outputs



Information is needed for all 3 components

Ecological

Human

Governance

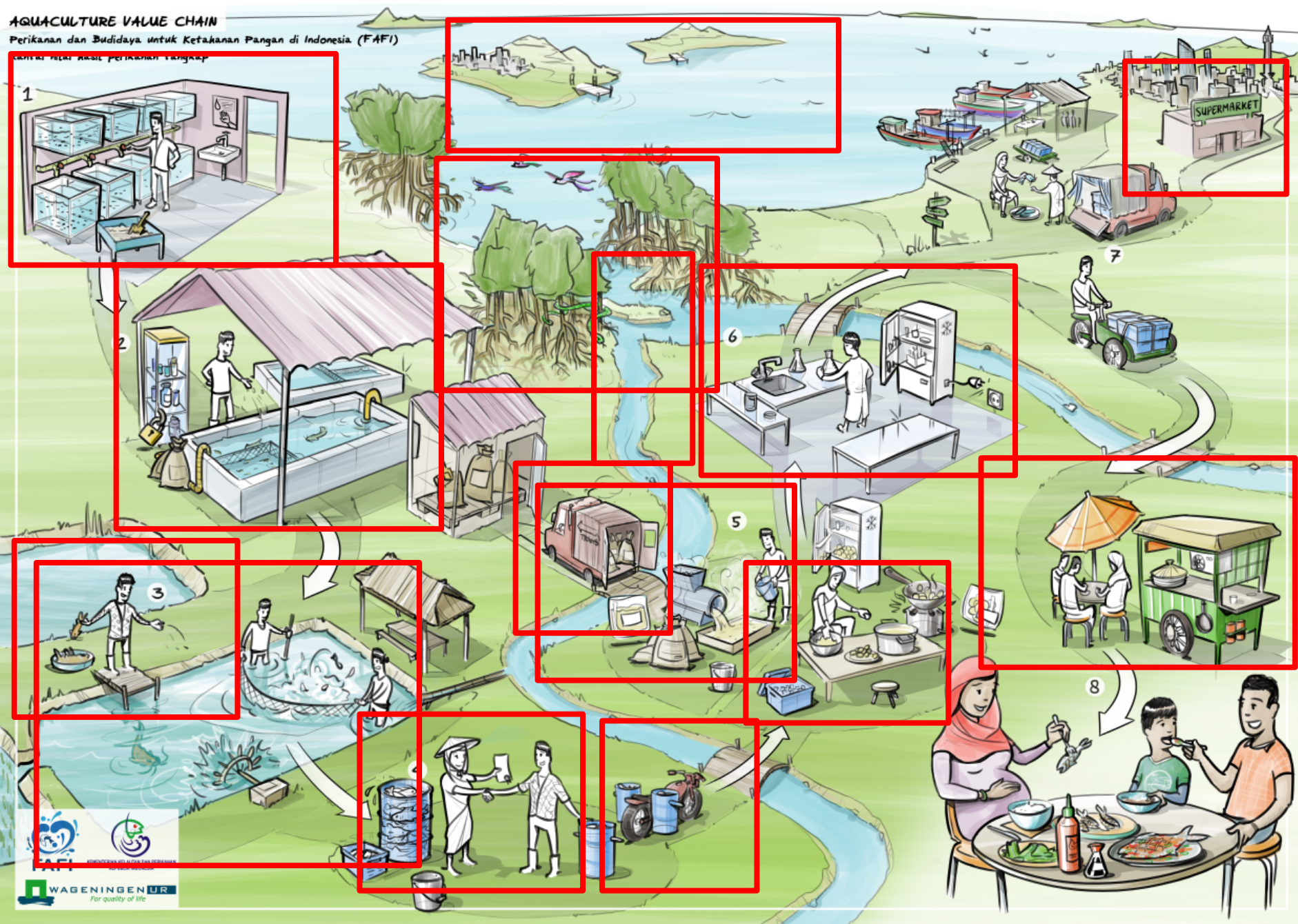
EXAMPLES

- what the current governance arrangements are
- Aquaculture policies,
- laws and regulations at different levels,
- local environmental plans,
- policies and regulations on agriculture
- policies and regulations on water use

AQUACULTURE VALUE CHAIN

Perikanan dan Budidaya untuk Ketahanan Pangan di Indonesia (FAFI)

centra naar aanpak perikanan tangkap



Risk analysis

It would be also important to carry out a risk analysis, also in view of climate change adaptation:

Inland aquaculture

- pollution, diseases, genetic contamination, floods, droughts, severe winters/summers, earthquakes and tsunamis, tidal surges, storms, etc.

Coastal aquaculture

- pollution, storms, waves, tsunamis, tidal surges, harmful algal blooms, disease, genetic contamination, hypoxia, etc.



After scoping

- Share and check the findings with stakeholders
- Stakeholders can provide valuable information that you have missed
- *Remember this is not final and should be reviewed and added to periodically as more information is generated*



Sharing with stakeholders

Share information on the MU with stakeholders, based on the start up work: matrix and Venn diagram



Seek agreement on the MU and the major stakeholders

Share findings on aquaculture background



Discuss the background information, asking stakeholders to identify mistakes and gaps

Share vision



Discuss the broad vision and adjust if necessary



We have now finished Step 1.

We can start writing an EAFM plan

EAAM plan for MU XXXX

1. VISION

- The broad goal of management.

2. BACKGROUND

- The aquaculture management area
- History of aquaculture and management
- Current status of the aquaculture
- Current management (co-management) arrangements
- Socio-economic benefits, including postharvest
- Special environmental considerations
- Institutional aspects



Key messages

In Step 1:

- The aquaculture area for the MU to be managed have been agreed;
- A common vision for the MU has been developed with stakeholders;
- Background information on the MU has been collated and shared.



Activity 18 identify information for scoping

Identify:

- What types of information you would collect for scoping
 - Tip: Look at the different headings of the EAAM plan background section
- What sources of information would you use?
- Does the information exist?
 - If no data are available, what methods might you use to collect it
- Who will collect it?

Record your outputs on a flipchart



Essential EAAM

To download all materials please visit:

