

Contingency Planning

- in times of climate change -

Food Security, Biodiversity



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proQuantis



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the European Union**

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Pre-Statement

Contingency planning is a most complex planning activity

Cont. **Planning** **has to deal with** an **unclear future**

→ we know little about

Cont. **Plans** **have to work** in a **real future**

→ which is mostly **different than expected**

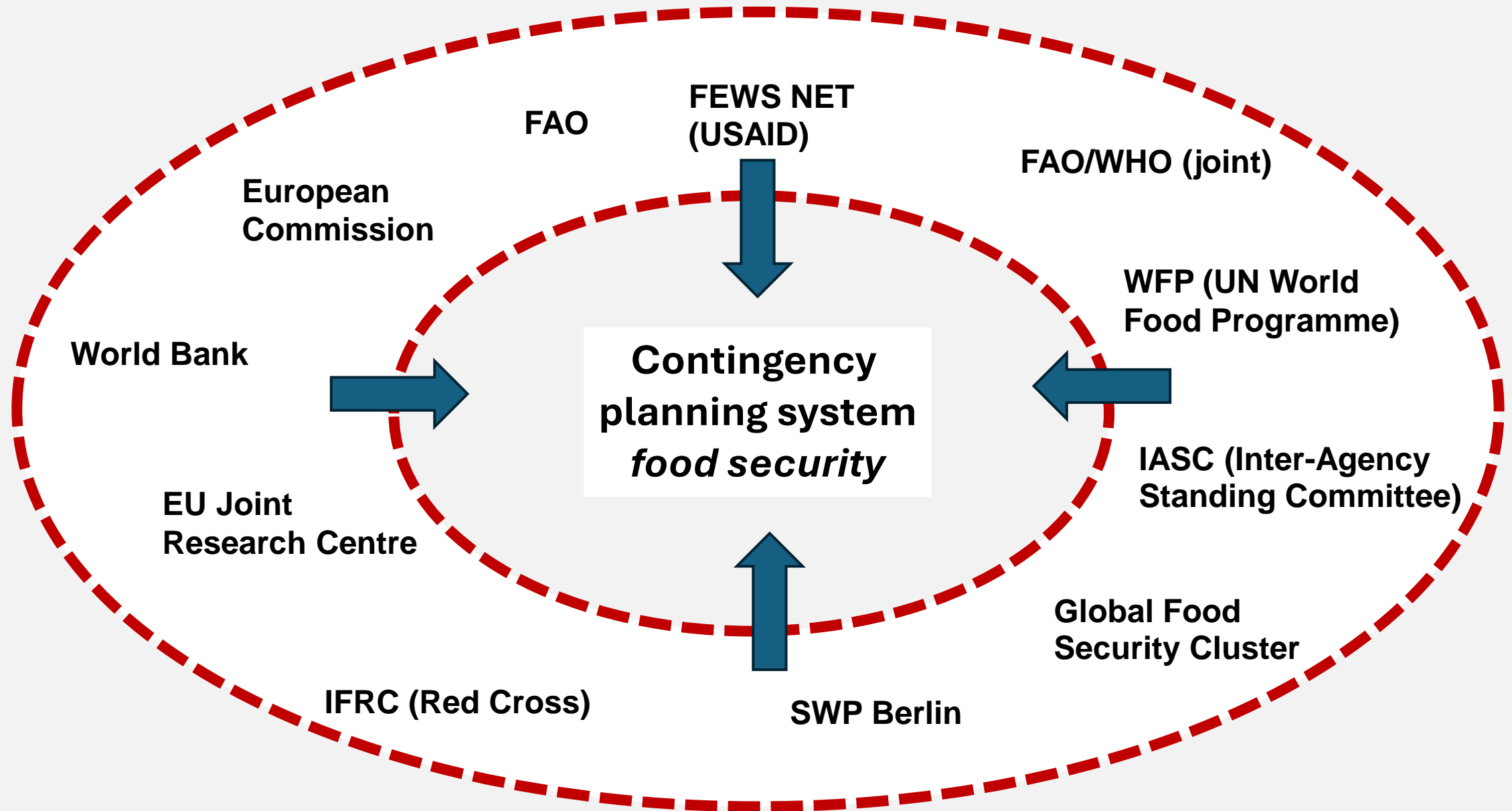
→ where contingency situation **does not allow hesitation**



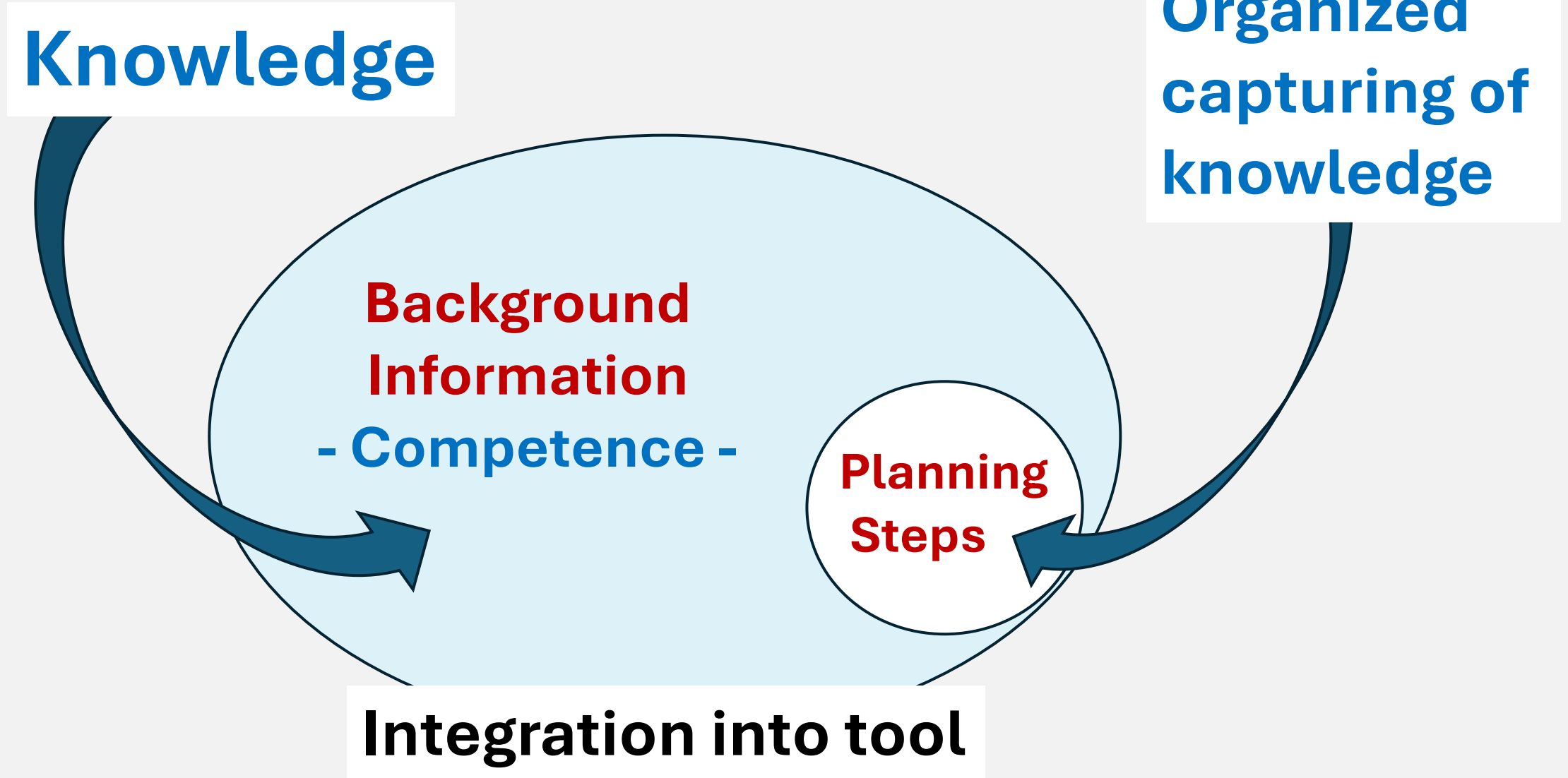
What we are going to discuss

- 1. Background of contingency planning**
2. Developing a support tool
3. Knowledge needs
4. Planning activities
5. Conclusion

Indicator of high complexity: **Global engagements**

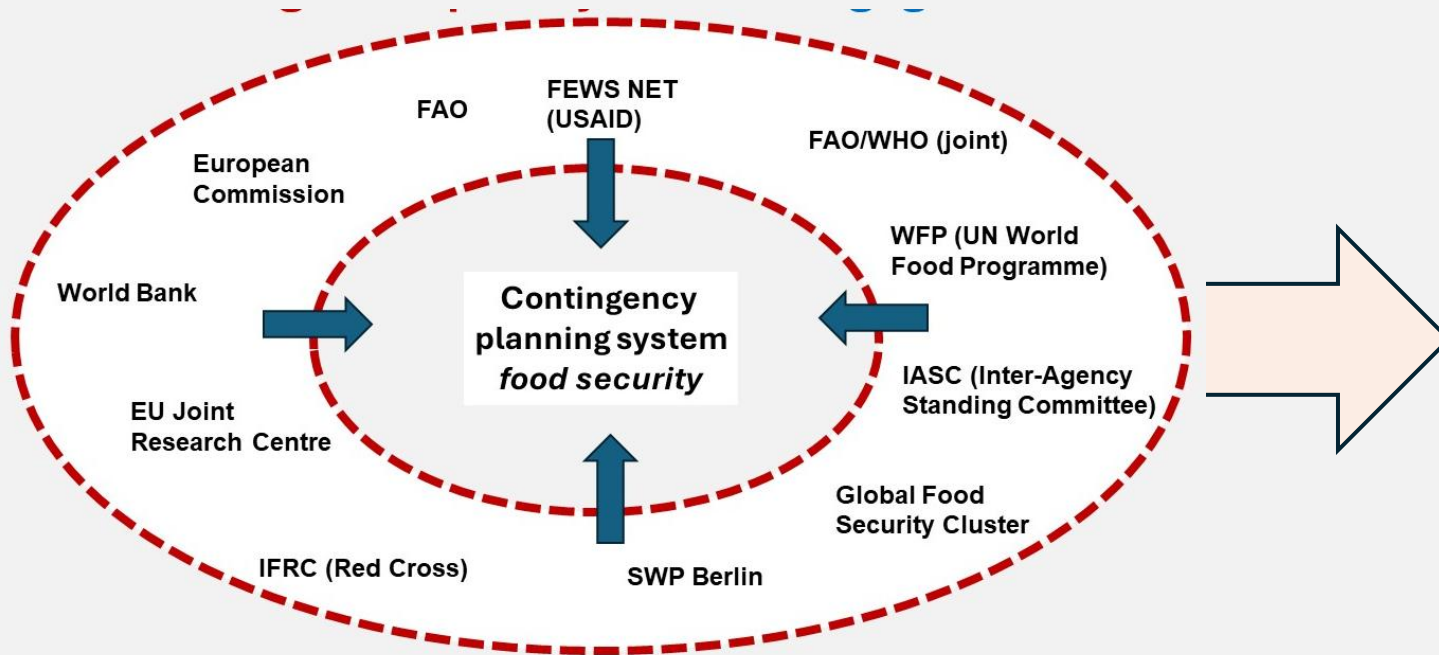


Message: Challenge in providing planning support



Moving from document analysis to planning tasks

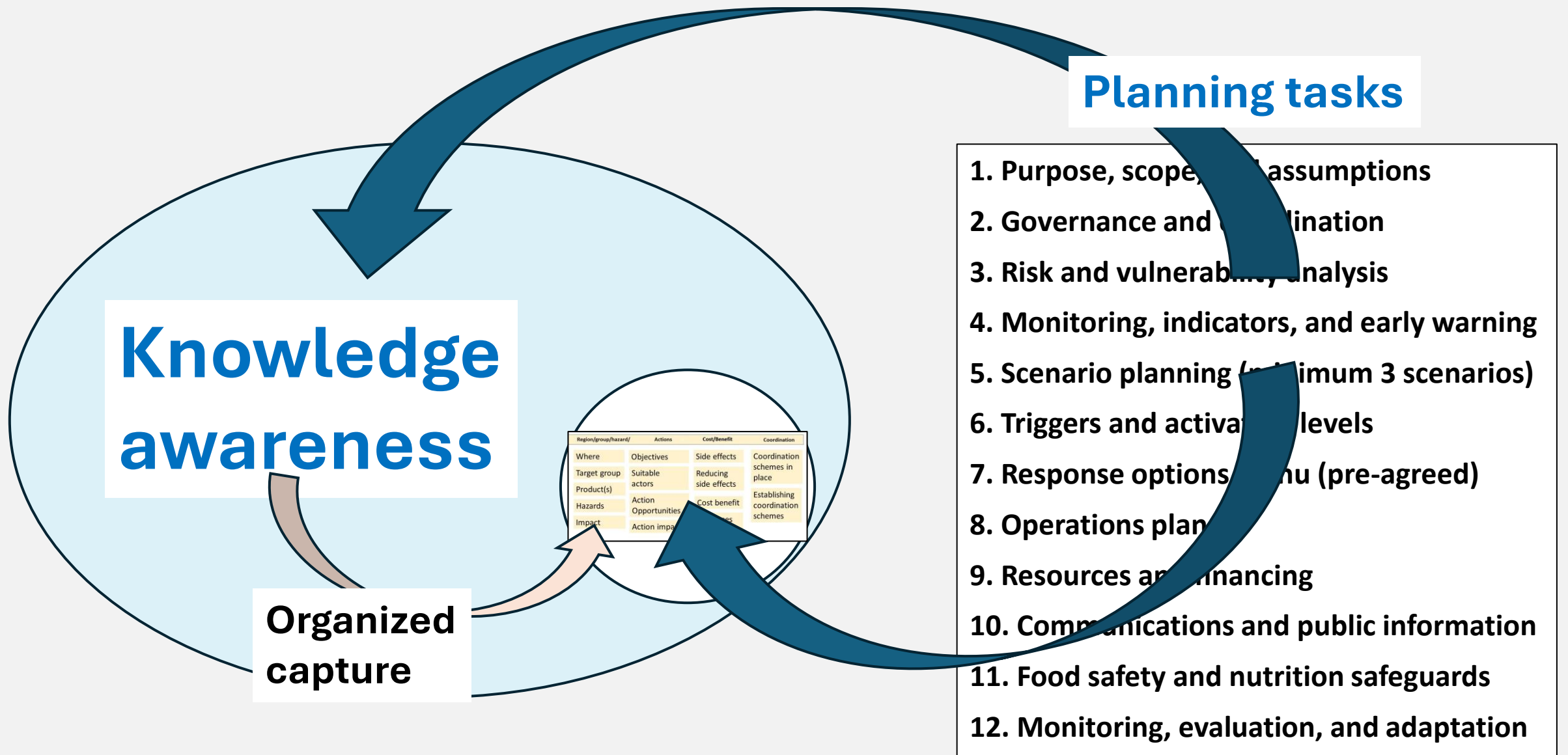
Analysis of selected relevant documents



Planning tasks

1. Purpose, scope, and assumptions
2. Governance and coordination
3. Risk and vulnerability analysis
4. Monitoring, indicators, and early warning
5. Scenario planning (minimum 3 scenarios)
6. Triggers and activation levels
7. Response options menu (pre-agreed)
8. Operations plan
9. Resources and financing
10. Communications and public information
11. Food safety and nutrition safeguards
12. Monitoring, evaluation, and adaptation

Moving from tasks to organization of support tool



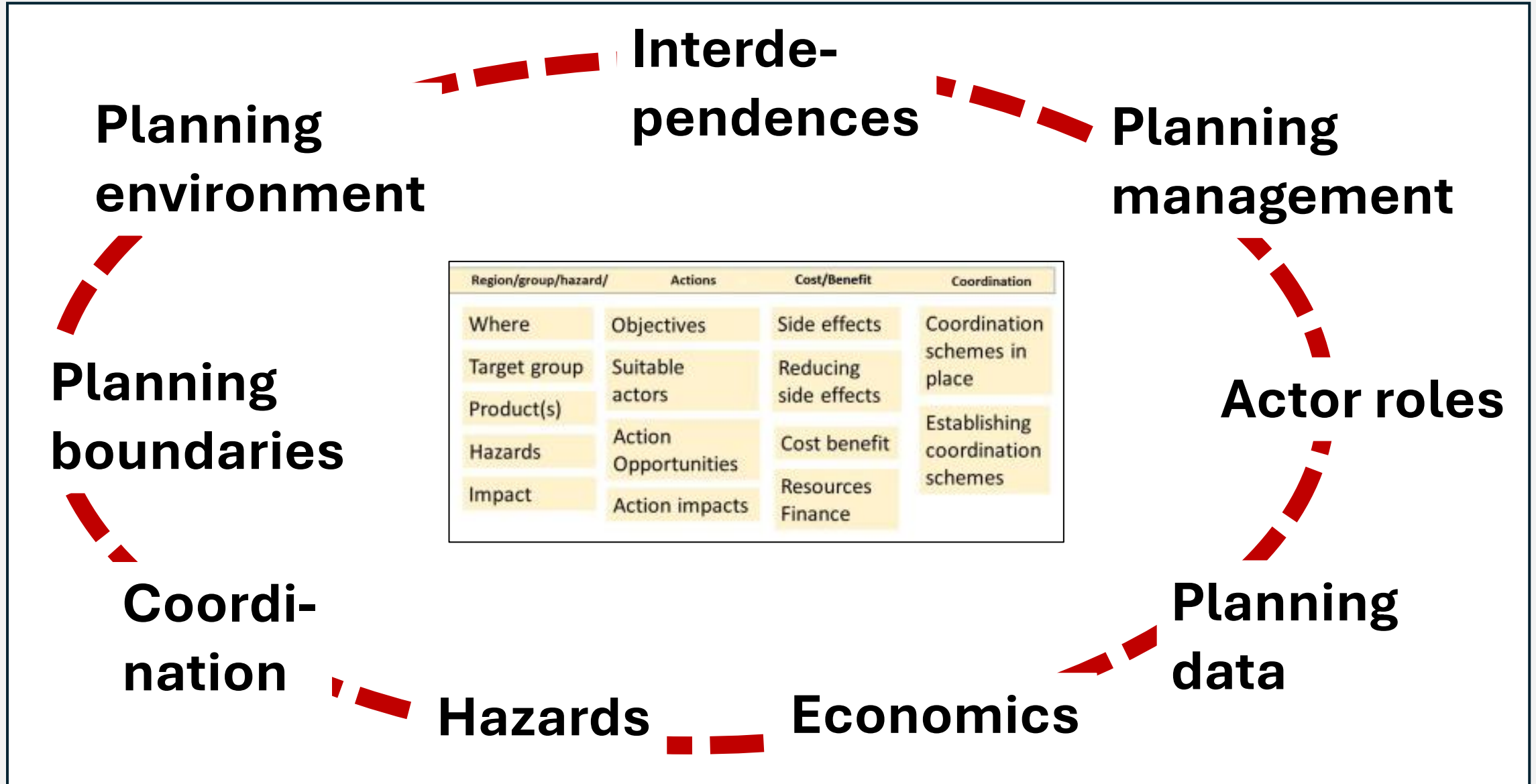
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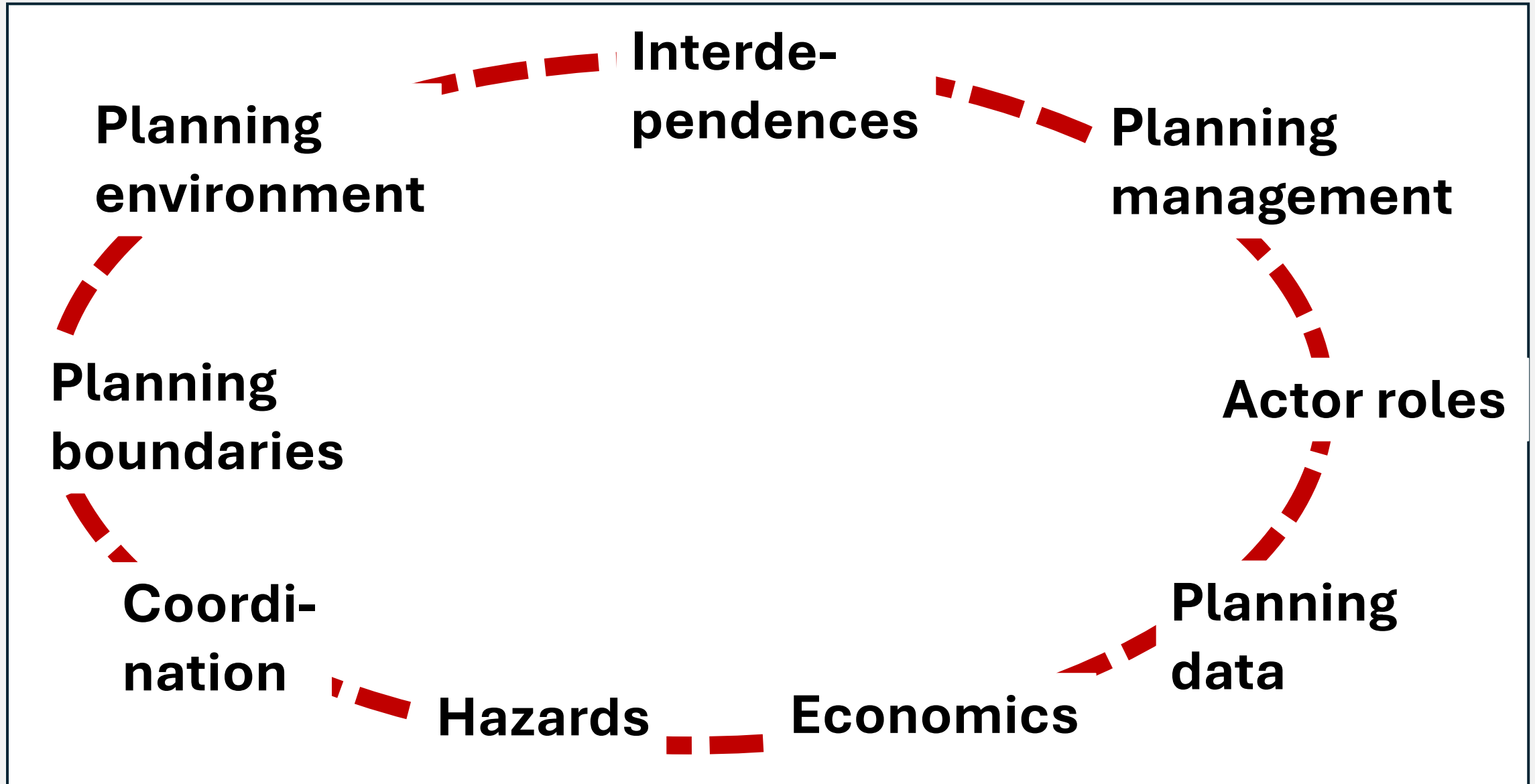
Knowledge awareness

Organized capture

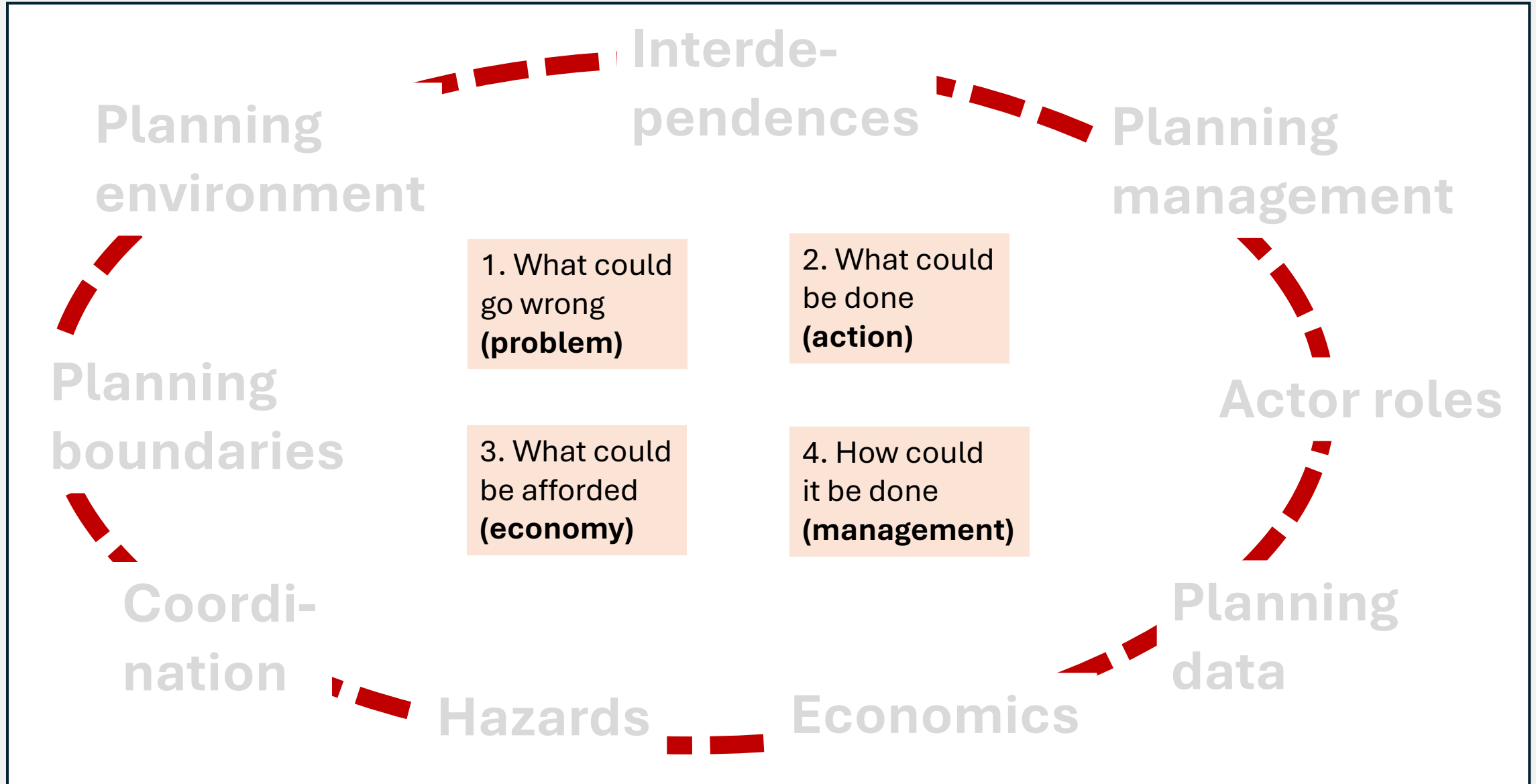
Specification of **knowledge base** and **capture guide**



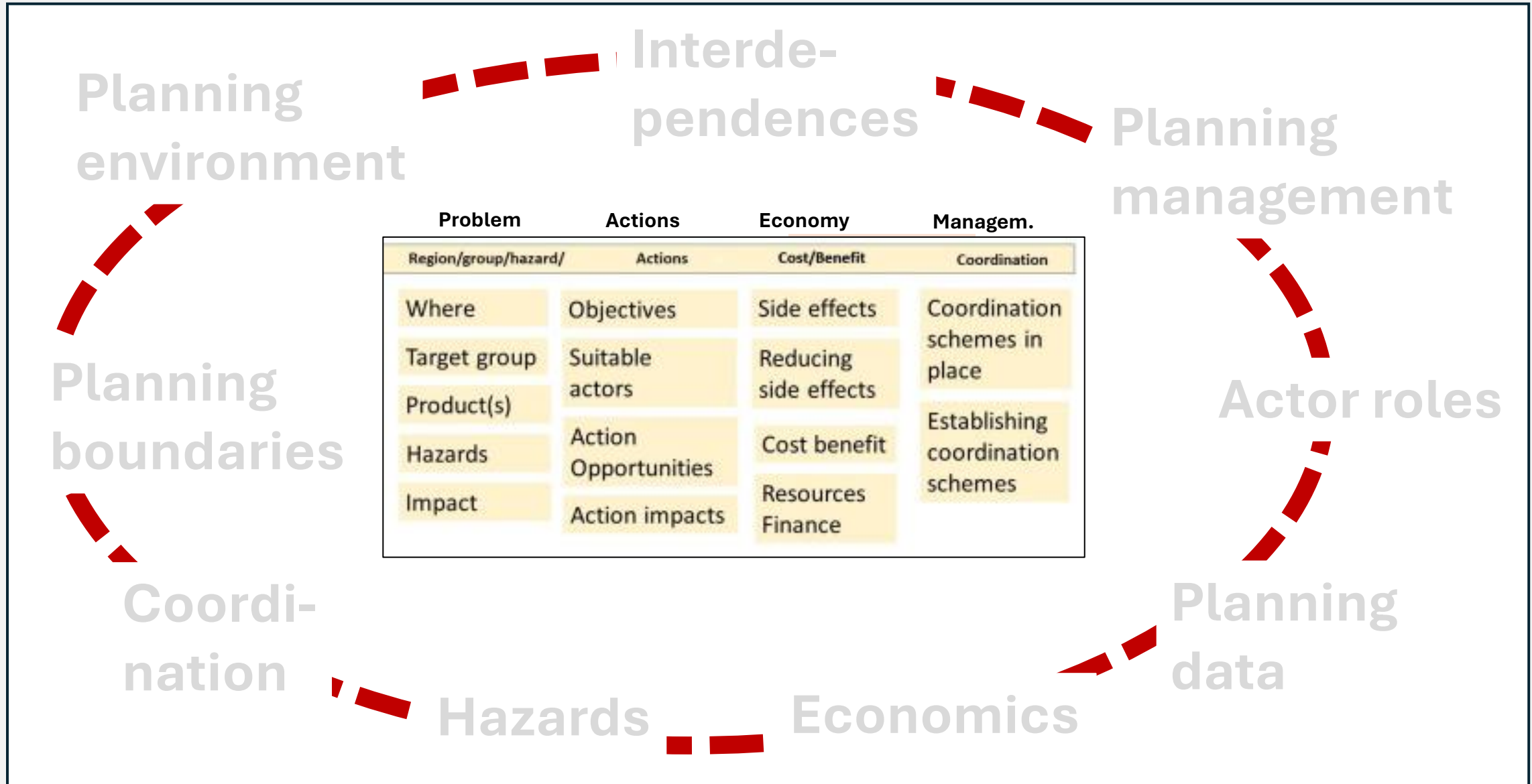
The complex part: **Planning knowledge**



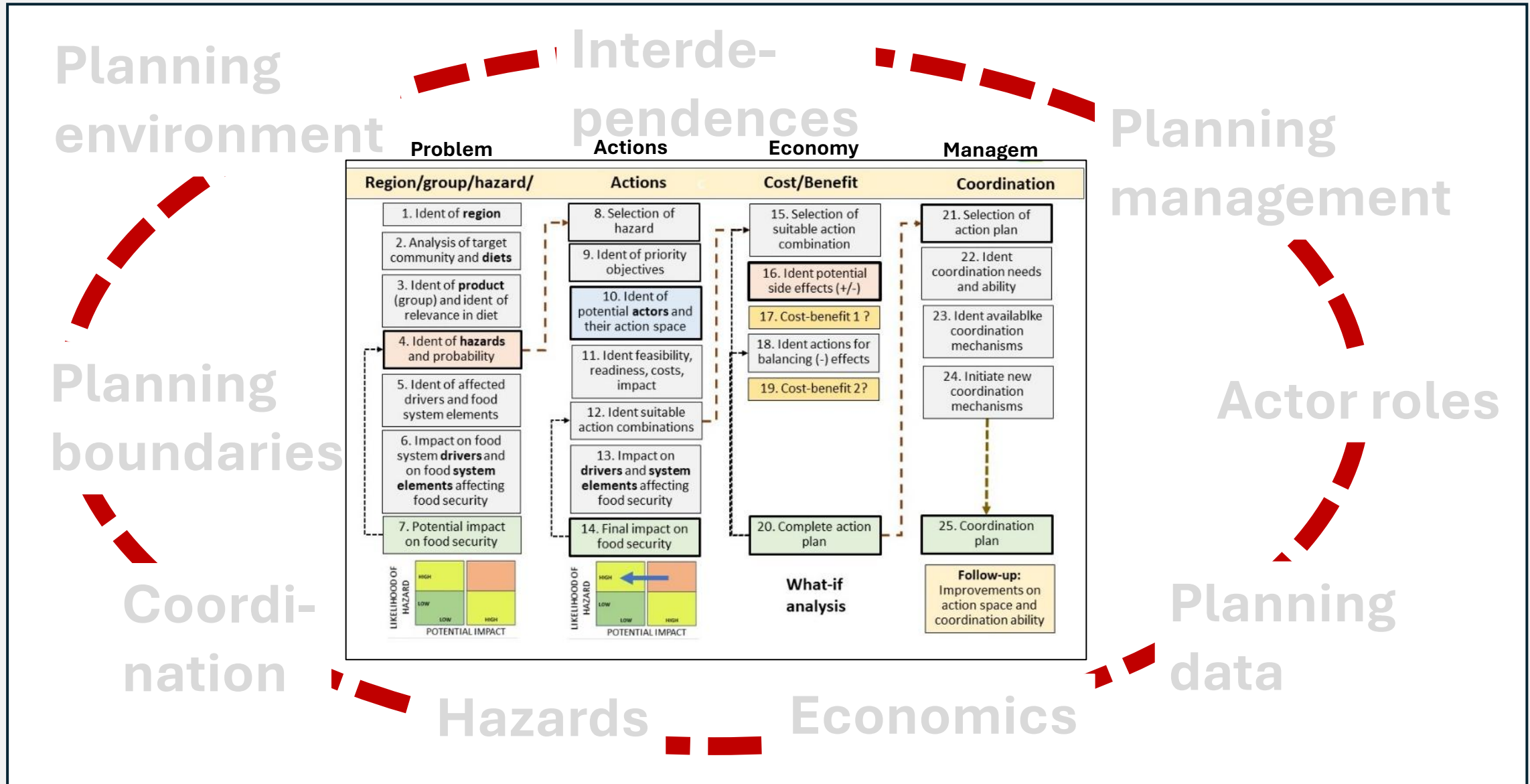
The simple part: **Planning steps**



The simple part: More elaborated **planning steps**



The simple part: Planning steps still further elaborated





What we are going to discuss

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- 2. Developing a support tool**
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The project challenge
Framework about
Contingency planning

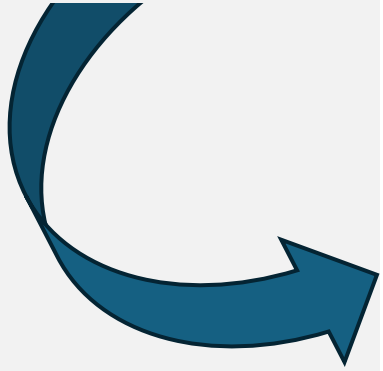


Cooperation with
ECO-Ready Living Labs



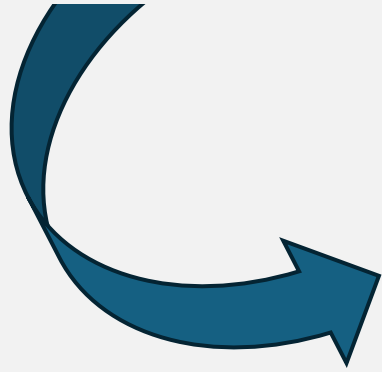
Challenge: Huge variety of contingency situations

Challenge: Huge **variety of contingency situations**



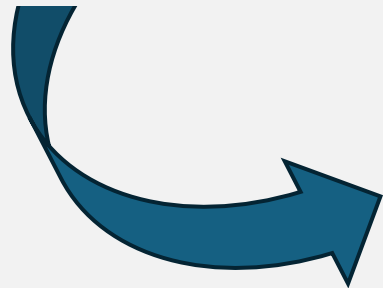
- > Diversity in **regions**
- > Many different **target groups**
- > Variety and changing **hazards,**
- > **Broad variety and specific actor groups**
- > Many different **action abilities**
- > Variety of **economic situations**
- > **Management infrastructure etc...**

Challenge: Huge **variety of contingency situations**



- > Diversity in **regions**
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- > Variety of **economic situations**
- > Management **infrastructure etc...**

Tool development has to fit challenge and more



- > Providing **planning support**
- > Making aware on **knowledge needs**
- > Delivering **flexibility**

Challenge: Huge variety of contingency situations

- > Diversity in regions
- > Many different
- > Variety and
- > Broad variety
- > Many different
- > Variety of economic situations
- > Management infrastructure etc...

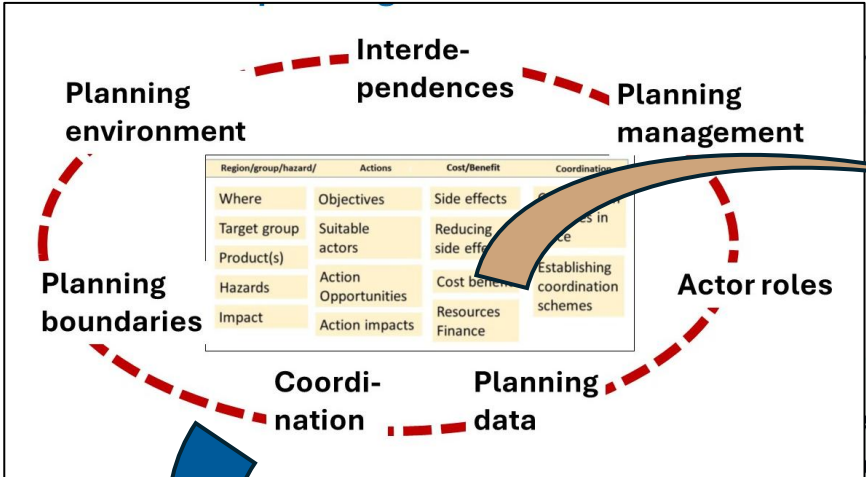
**Captured in
dashboard**

Tool development has to fit challenge and more

- > Providing planning support
- > Making aware on knowledge needs
- > Delivering flexibility

Draft Dashboard

Exec. support



Execution tasks

Actions

Executable Actions

- Start a New Project**
Create something new in seconds
- View Projects**
See and manage your work
- New Question List**
Add a new question instantly
- View Question Lists**
Explore existing questions

Knowledge needs

Contingency planning environment

Key documents and core components within the planning environment.

Hazard environment ✓	Interdependencies ✓	Coordination ✓
Planning boundaries ✗	Planning environment ✓	Forecasting ✓
Actor roles ✓	Process management ✗	Economics

Knowledge items

Rheinbach, Deutschland

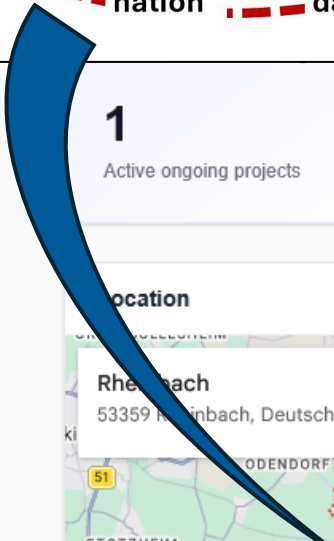
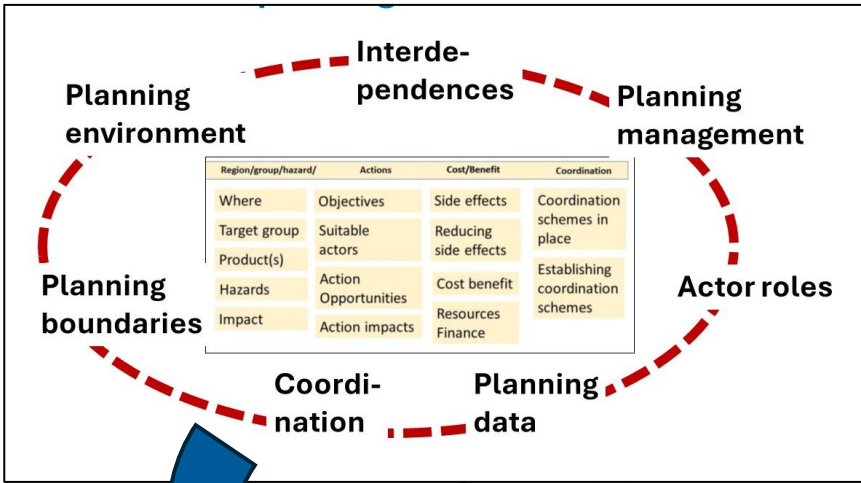
Rheinbach
53359 Rheinbach, Deutschland



What we are going to discuss

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Draft Dashboard



Knowledge needs

Actions Executable Actions

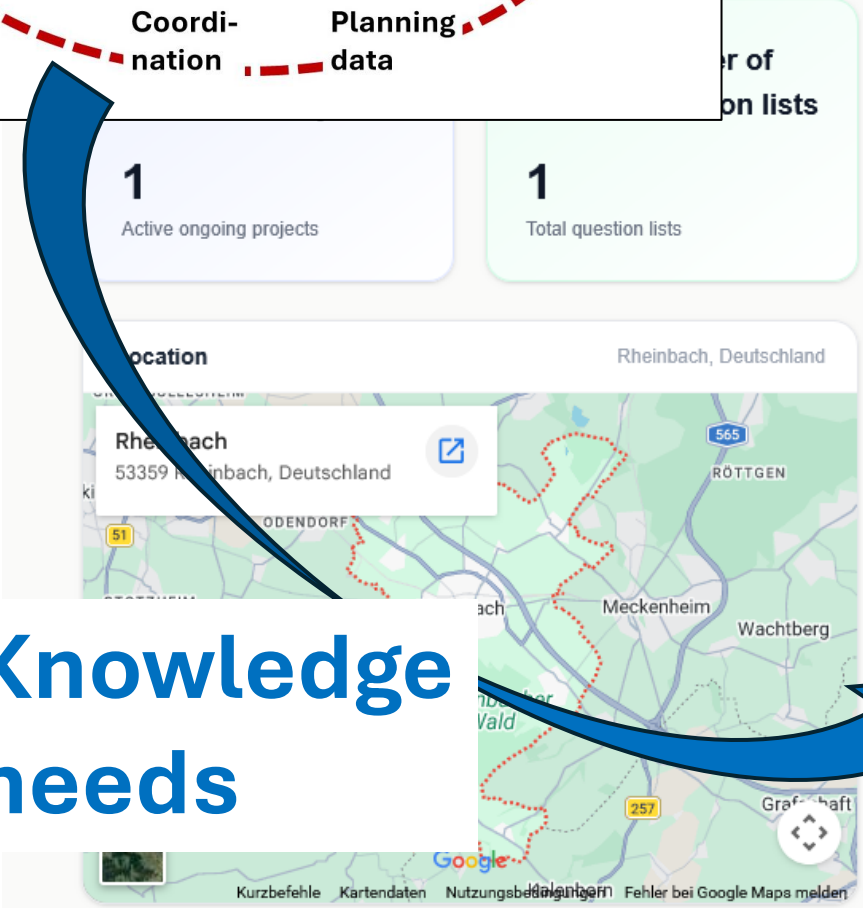
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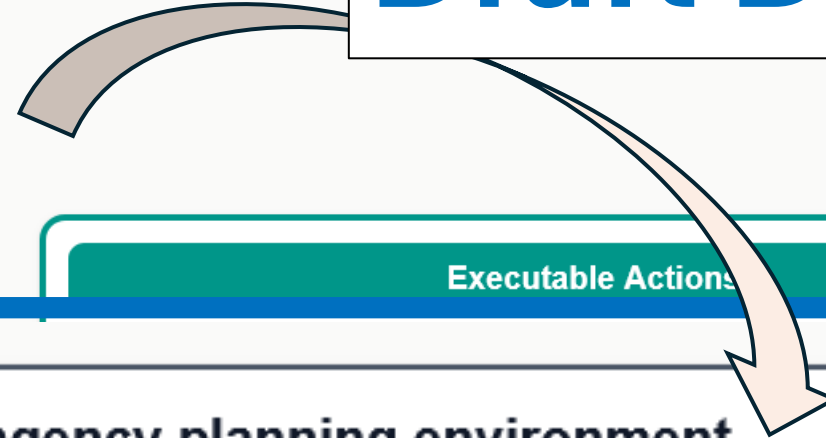
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Planning boundaries ✗	Planning environment ✓	Forecasting ✓
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Knowledge items



Draft Dashboard

Let's move through all of them



Contingency planning environment

Key documents and core components within the planning environment.

Hazard environment ✓	Interdependencies ✓	Coordination ✓
Planning boundaries ✗	Planning environment ✓	Forecasting ✓
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Knowledge items

Draft Dashboard

Dashboard

Welcome back! Here is an overview of your workspace.

Number of

Number of

Executable Actions

1

Active g

Location

Rheinl
53359 P
ki

51

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KI



Contingency planning environment

Key documents and core components within the planning environment.

Hazard environment



Interdependencies



Coordination



Planning boundaries



Planning environment



Forecasting



Actor roles



Process management



Economics

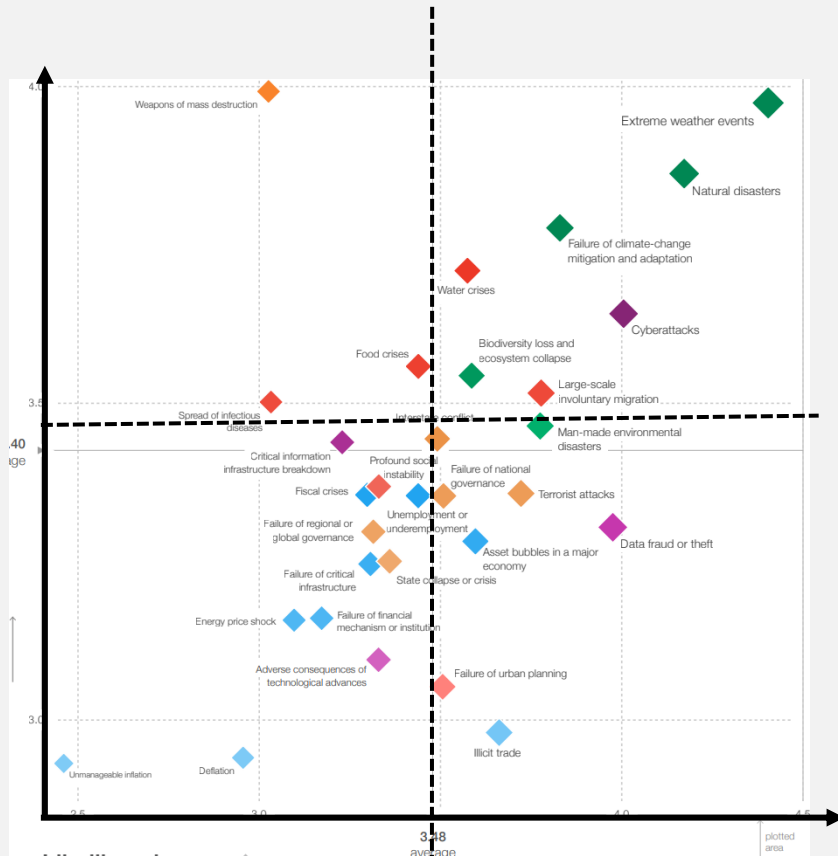
Hazards

Knowledge items

Support information: Hazards

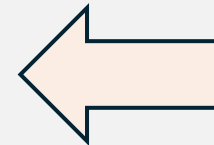
Risk graph

Impact

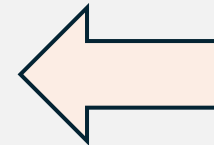


Likelihood

Risk = Combination



Hazards +

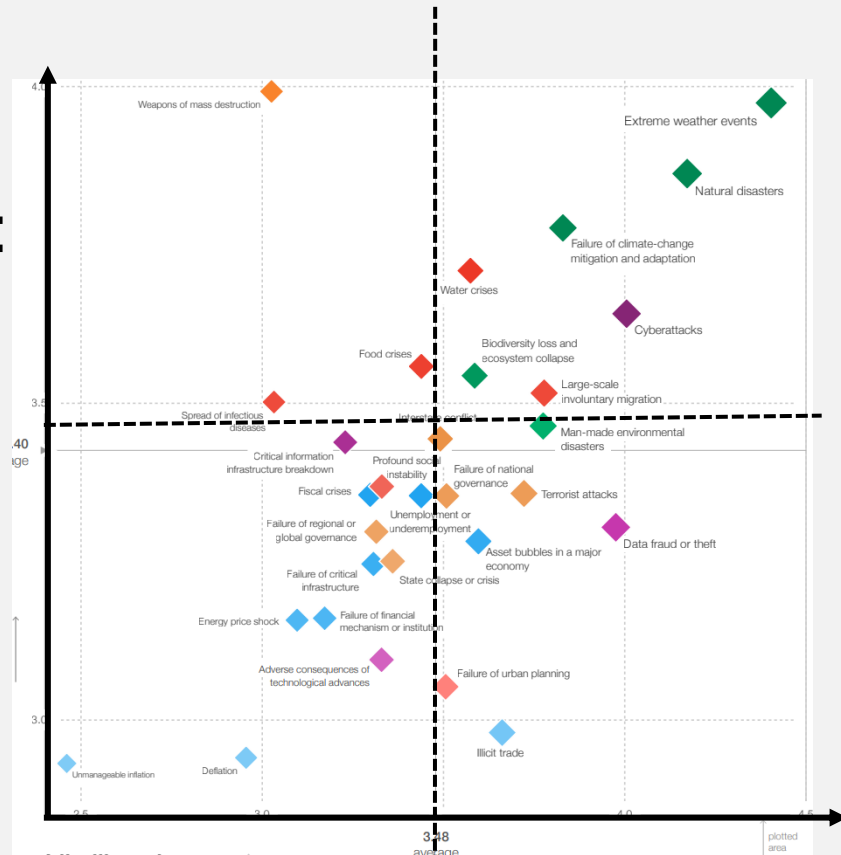


Environment

Support information: Hazards

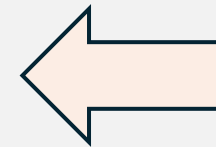
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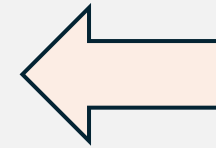


Likelihood

Risk = Combination



Hazards +



Environment

Example: → Hazard: plant pests

Scenario

-> outdoor farms: **severe effect**

-> indoor farms: **not relevant**

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Contingency planning environment

Key documents and core com

onment.

Coordination

Hazard environment



Interdependencies



Coordination



Planning boundaries



Planning environment



Forecasting



Actor roles



Process management



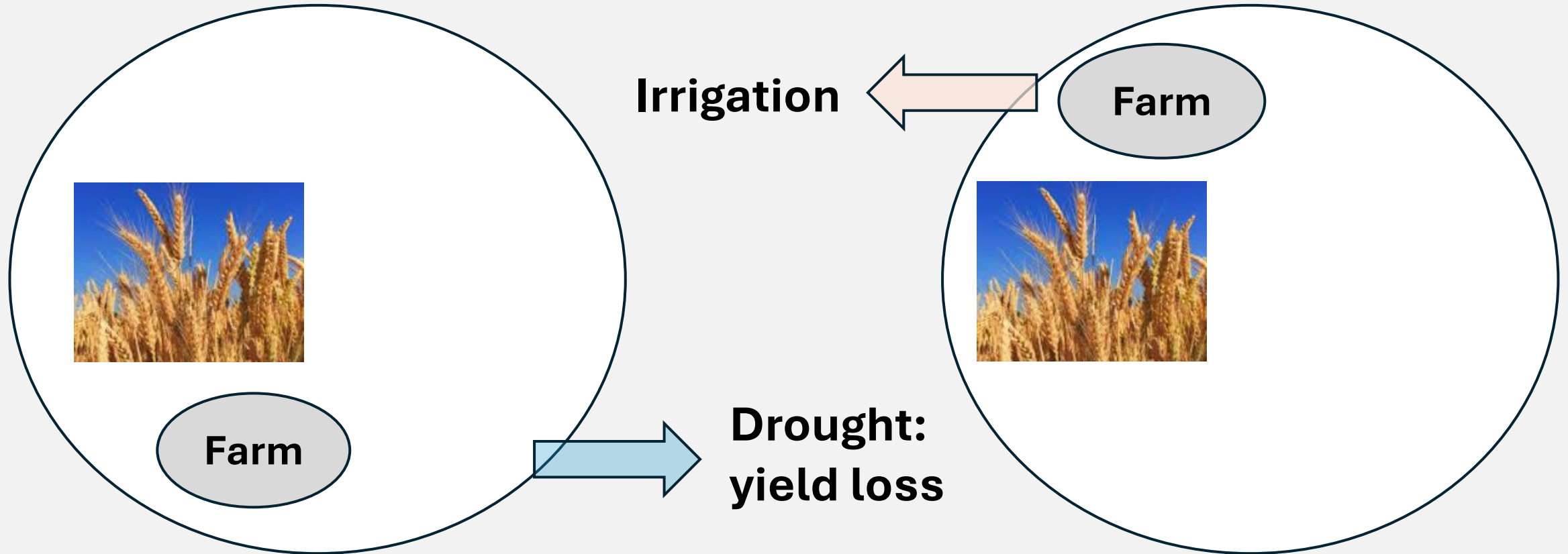
Economics

Knowledge items

Support information: **Coordination** - single actor

Affected

Action

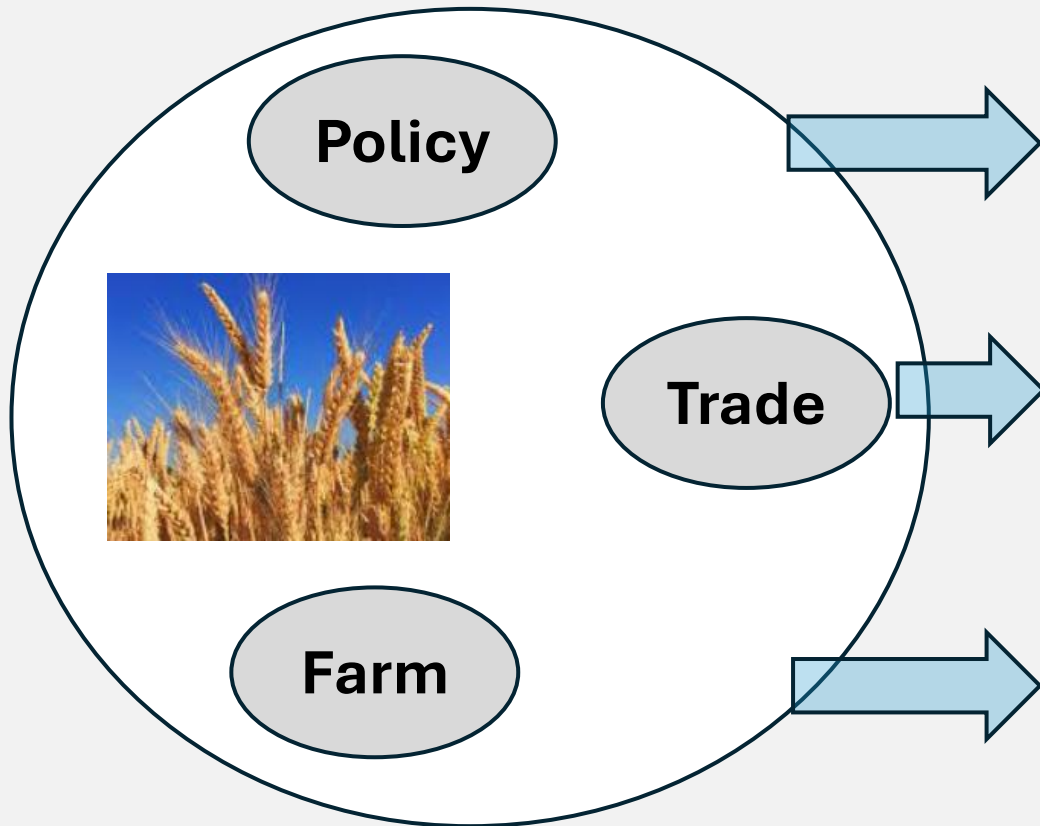


➔ No coord. challenge

But...

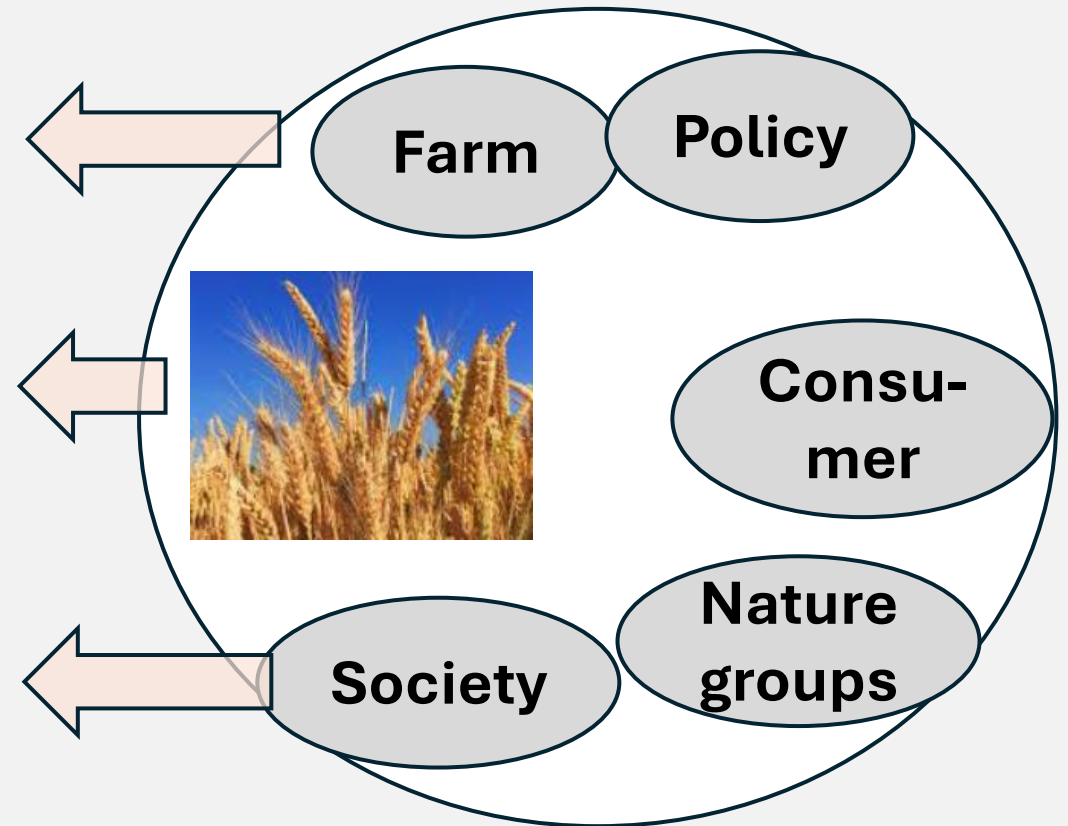
Support information: **Coordination** – multiple actors

Several actors/actions



Several interests

Contingency plan



Supportive ? Conflicting ?
➔ Coordination Challenge

Support information: **Coordination** – multiple actors

Policy provides farm support

Farms increase yields

		Policy	Trade	Farm			
Action	specific action	Who implements action					Costs
			X				
Ressources	specific resource	Who provides resources					Costs
			X				
Impact	Specific impact	Where shows effect					Benefits
						X	

Economic Tool: Balanced Scorecard

Support information: **Coordination** – multiple actors

Policy provides farm support

Farms increase yields

		Policy	Trade	Farm		
Action	specific action	Who implements action				Costs
		X		X		
Ressources	specific resource	Who provides resources				Costs
		X	Paying subsidies			
Impact	Specific impact	Where shows effect				Benefits
				∨	X	

Economic Tool: Balanced Scorecard

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Contingency planning environment

Key documents and core components within the planning environment.

Hazard environment



Interdependencies



Coordination



Planning boundaries



Planning environr



Actor roles



Process management



ECONOMICS

**Process
management**

**Knowledge
items**

Support information: **Management**

→ Regular reviews and updating ←
→ Regular training ←

Clarify: Who, when
Testing with actors
under realistic conditions

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Contingency planning environment

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Interdependencies



Coordination



Planning boundaries



Planning environment



Forecasting



Actor roles



Process management



Economics

Actor roles

Knowledge items

Support information: **Role clarification**

→ **Mandated planning institution role 1**

Develop contingency plan for others

→ Specify **Initiator**: initiate plan,

→ Specify **Actor**: ability to act, (what, when, how),

→ Specify **Coordinator**: competences (command, argue, pay)

→ **Mandated planning institution role 2**

Develop contingency plan for herself

→ **all roles**

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Dashboard

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Contingency planning environment

Key documents and core components within the planning environment.

Hazard environment ✓

Interdependencies ✓

Coordination ✓

Planning boundaries ✗

Planning environment ✓

Forecasting ✓

Actor roles ✓

Process management ✗

Economics

Boundaries

Knowledge items

Support information: **Planning boundaries**

What do you want to look at

Consideration of

→ Region, Hazard (severity: **trigger (contingency activities expensive)**)

Focus on

→ Target groups (direct, **indirect**)

Actors to be involved (competence, access (**not „should“**))

→ EU, National, NGO, etc.

Objectives to reach

→ Food availability vs affordability (**how, by whom**), etc.

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Dashboard

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Contingency planning environment

Key documents and core components within the planning environment.

Hazard environment



Interdependencies



Coordination



Planning boundaries



Planning environment



Forecasting



Actor roles



Process management



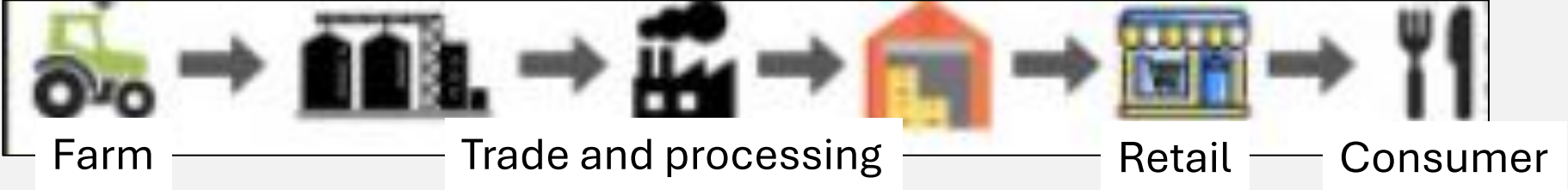
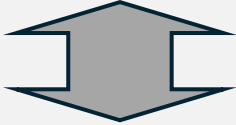
Economics

Interdependencies

Knowledge items

Support information: **Food system interdependencies**

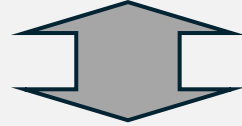
Policy <-> Finance <-> Infrastructure <-> Employment <-> Economy



Food

Support information: Food system interdependencies

Policy <-> Finance <-> Infrastructure <-> Employment <-> Economy



Understanding interdependencies

- Between system environment and core food system
 - Between sequences of effects and activities
 - Between engagement of multiple actors

Draft Dashboard

Dashboard

Welcome back! Here is an overview of your workspace.

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Contingency planning environment

Key documents and core components within the planning environment.

Hazard environment



Interdependencies



Coordination



Planning boundaries



PI **Economic**

transparency

Forecasting



Actor roles



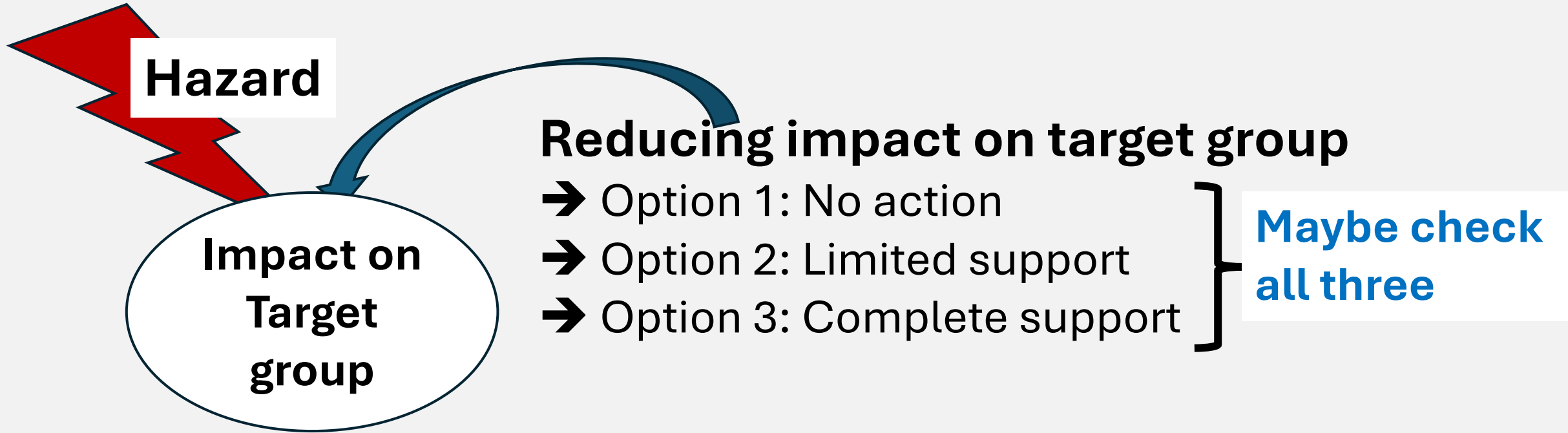
Process management



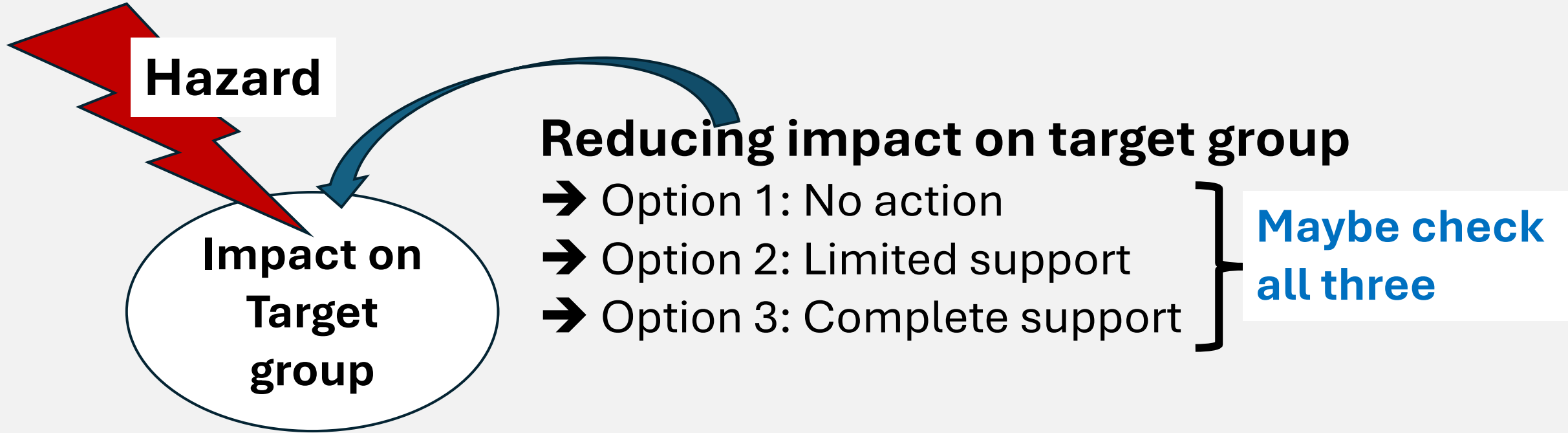
Economics

Knowledge items

Economic decision: **Action implementation**



Economic decision: Action implementation



Status?

Hazard Impact Level		
Minimal/no impact	1	Minimal
Affordability problems	2	Stress
Food consumption gaps	3	Crises
Large food consumption gaps	4	Emergency
Extreme lack of food	5	Famine

Impact

High

Economic decision: Action implementation



Reducing impact on target group

- Option 1: No action
- Option 2: Limited support
- Option 3: Complete support

Maybe check all three

What to reach?

Status?

Hazard Impact Level		
Minimal/no impact	1	Minimal
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Impact

Low

High



Economic decision: Action implementation

	Costs			Benefits		
Activity	Economic	Social	Environment	Economic	Social	Environment
Option 1						
> One time						
> Recurring						
Option 2						
> One time						
> Recurring						

Benefits > Costs

1. Use **Text** (low, average, high), or ,cost exceed benefits‘
2. Use Indicators **1 to 10**
3. Use **Money** terms

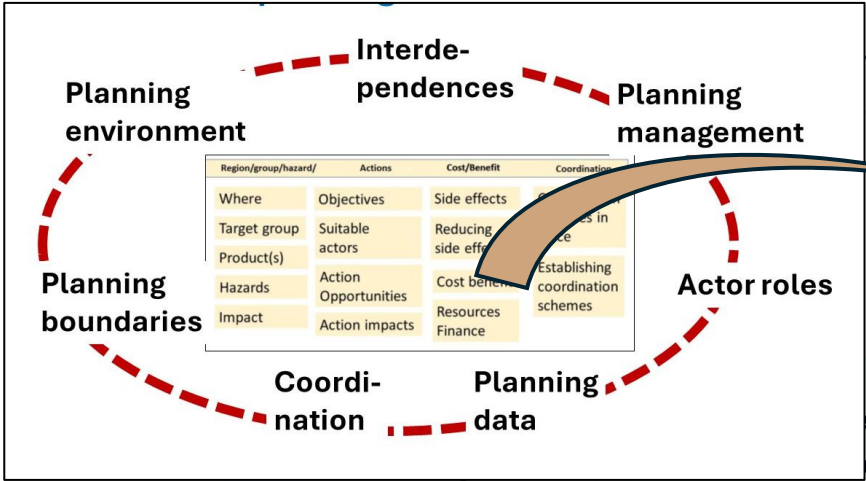


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Draft Dashboard

Exec. support



Region/group/hazard/	Actions	Cost/Benefit	Coordination
Where	Objectives	Side effects	Establishing coordination schemes
Target group	Suitable actors	Reducing side effects	
Product(s)	Action Opportunities	Cost benefits	
Hazards	Action impacts	Resources Finance	

Execution tasks

Actions

Executable Actions

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Planning boundaries ✗	Planning environment ✓	Forecasting ✓
Actor roles ✓	Process management ✗	Economics

1 Active ongoing projects

1 Total question lists

Location

Rheinbach, Deutschland

Rheinbach
53359 Rheinbach, Deutschland

STOTZHEIM
FLAMERSHEIM
KIRCHHEIM
Rheinbach
Meckenheim
Wachtberg
Röttgen
Grafenrath

Draft Dashboard

Dashboard

Welcome back! Here is an overview of your dashboard.



Number of
Projects

1

Active ongoing projects

Location

Rheinbach

53359 Rheinbach, Deutschland



Executable Actions



Start a New Project

Create something new in seconds



View Projects

See and manage your work



New Question List

Add a new question instantly



View Question Lists

Explore existing questions

Hazard environment

Interdependencies

Coordination

Planning boundaries

Planning environment

Forecasting

Actor roles

Process management

Economics

Draft Dashboard

Dashboard

Welcome back! Here is an overview of your current projects.



Number of
Projects

1

Active ongoing projects

Location

Rheinbach

53359 Rheinbach, Deutschland



Executable Actions

New project

Start a New Project
Create something new in seconds

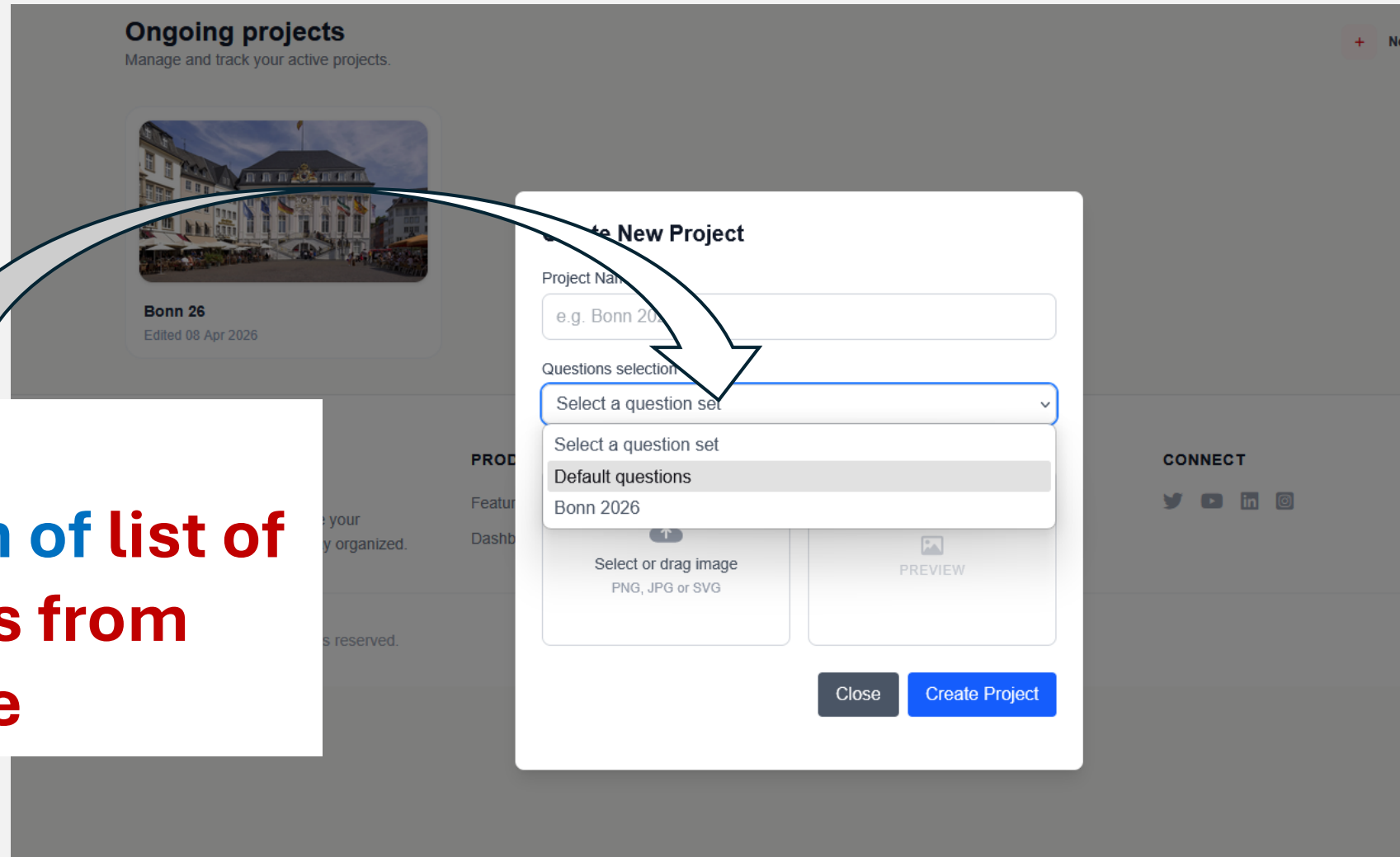
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Hazard environment	Interdependencies	Coordination
Planning boundaries	Planning environment	Forecasting
Actor roles	Process management	Economics

Starting new contingency project



- ➔ **Naming**
- ➔ **Selection of list of questions from catalogue**

Stepwise guidance through contingency planning issues

Problem

Actions

Economy

Management

Bonn 26



Region
target group
product
hazard



Objectives actors
actions



Side effects cost/
benefit resources



Coordination

REGION

TARGET GROUP

PRODUCT

HAZARD AND IMPACT

PLANNING DECISION

Question

Links

Enter information and answers here

4 major planning lines

Save

Stepwise guidance through contingency planning issues

Problem

Actions

Economy

Management

Bonn 26



Region
target group
product
hazard



Objectives actors
actions



Side effects cost/
benefit resources



Coordination

REGION

TARGET GROUP

PRODUCT

HAZARD AND IMPACT

PLANNING DECISION

Region/group/hazard/

Actions

Cost/Benefi

Coordination

Where

Target group

Product(s)

Hazards

Impact

Objectives

Suitable
actors

Action
Opportunities

Action impacts

Side effects

Reducing
side effects

Cost benefit

Resources
Finance

Coordination
schemes in
place

Establishing
coordination
schemes

Links ▾

Save

Stepwise guidance through contingency planning issues

Problem

Bonn 26



Region
target group
product
hazard

Actions



Objectives actors
actions

Economy



Side effects cost/
benefit resources

Management



Coordination

REGION

TARGET GROUP

Question groups

→ For drop down

HAZARD AND IMPACT

PLANNING DECISION

Question

Links

Enter information and answers here

Input of answers for plan

Save

Stepwise guidance through contingency planning issues

Bonn Problem

Actions

Economy

Management



Region
target group
product
hazard



Objectives actors
actions



Side effects cost/
benefit resources



Coordination

REGION

Which region is being considered?

Is the region embedded in a larger region with similar natural characteristics?

TARGET GROUP

Who is the target group?

What is the relevance of the target group for the region

Target group, diet, expenditure (% of diet), diet quantities

Drop down:
Questions

Question

Question

Which region is being considered?

Bonn

Answer for plan

Links ^

ecoready-dashboard

ChatGPT

Save

Stepwise guidance through contingency planning issues

Bonn Problem

Actions

Economy

Management



Region
target group
product
hazard



Objectives actors
actions



Side effects cost/
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Coordination

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Drop down:
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Question

Question

Which region is being considered?

Bonn

Answer for plan

Links ^

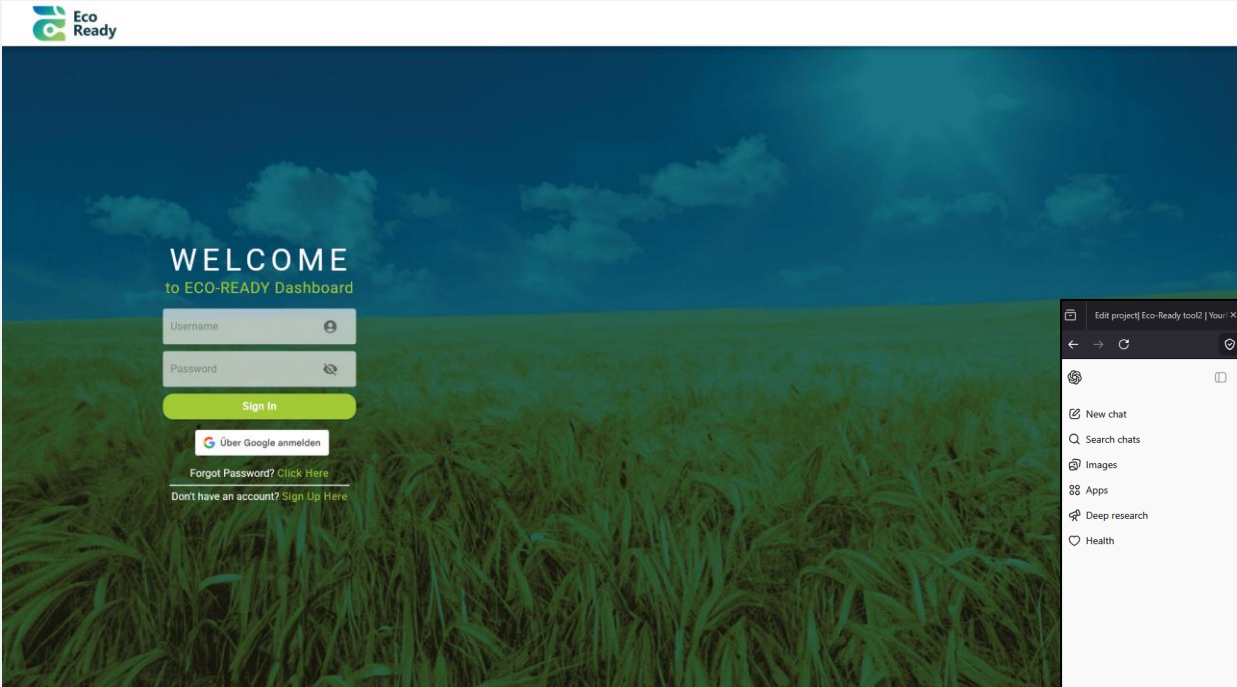
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ChatGPT

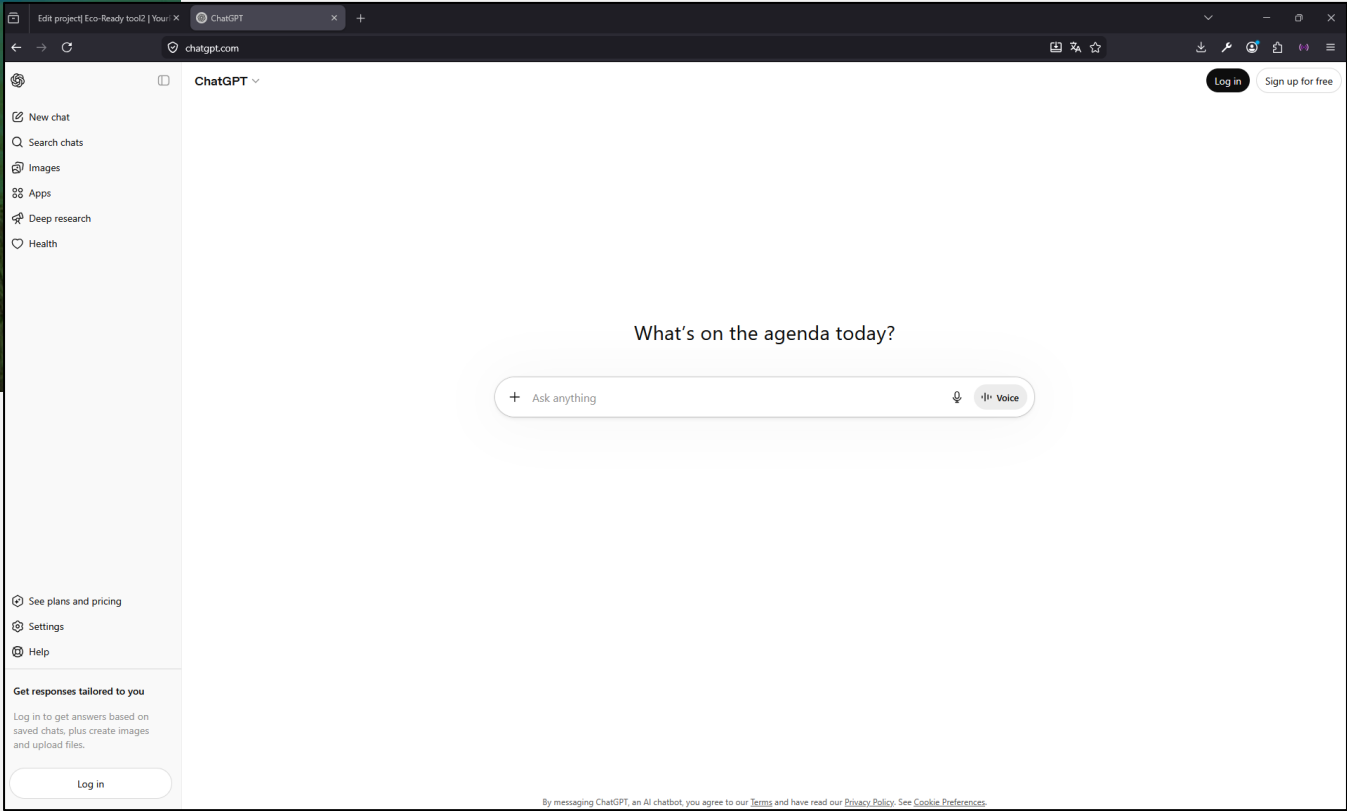
Links to observatory
and LLM

Linking up with Observatory and LLM (copy/paste)

Observatory



ChatGPT

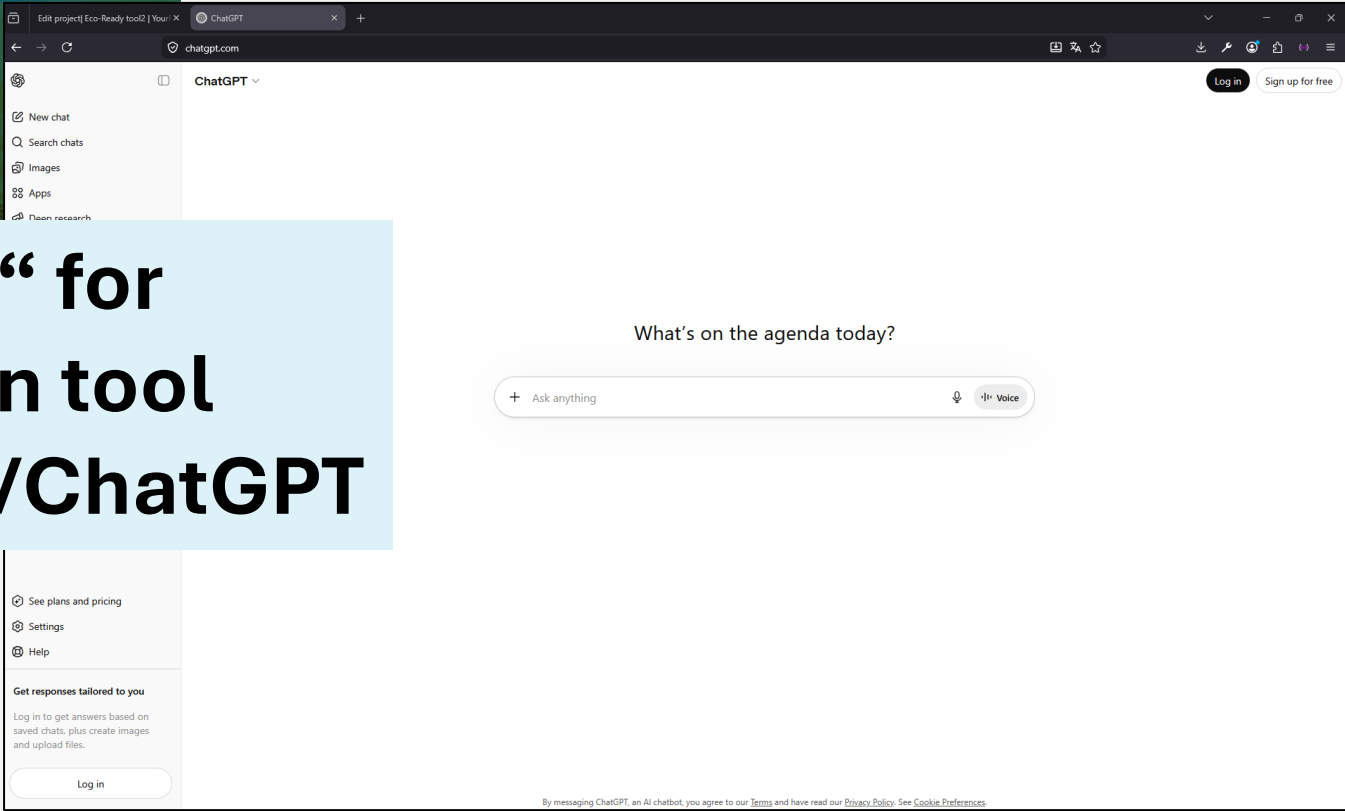
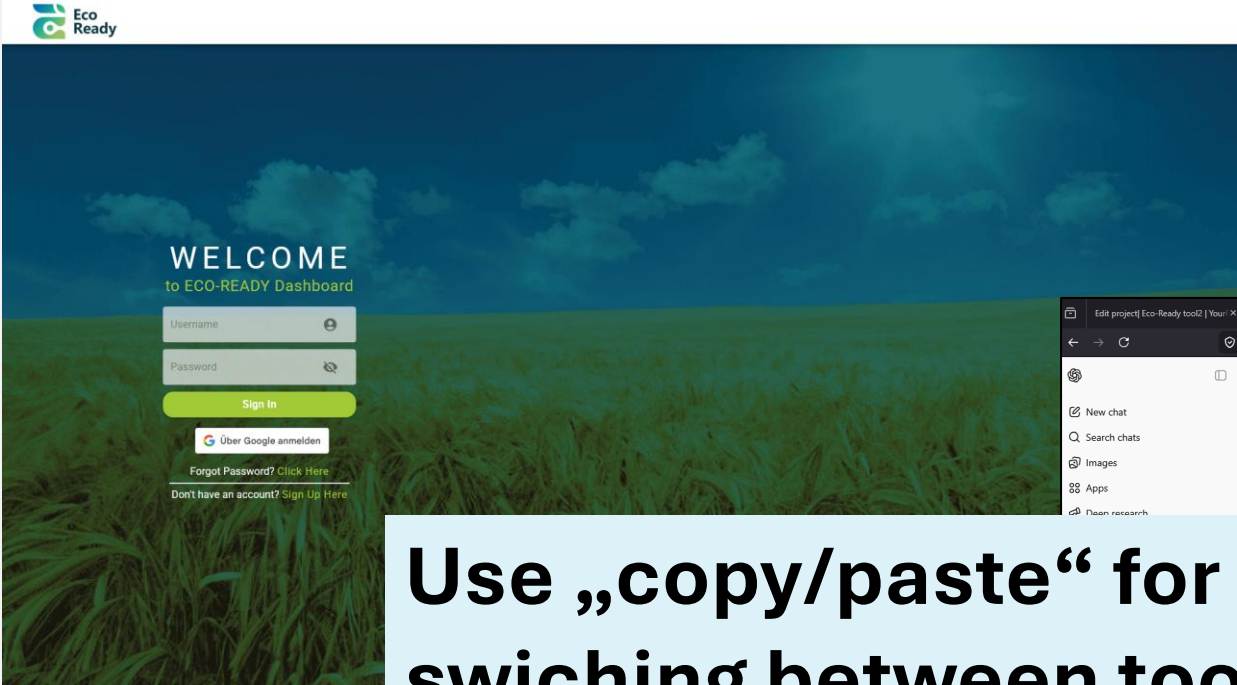


Linking up with Observatory and LLM (copy/paste)

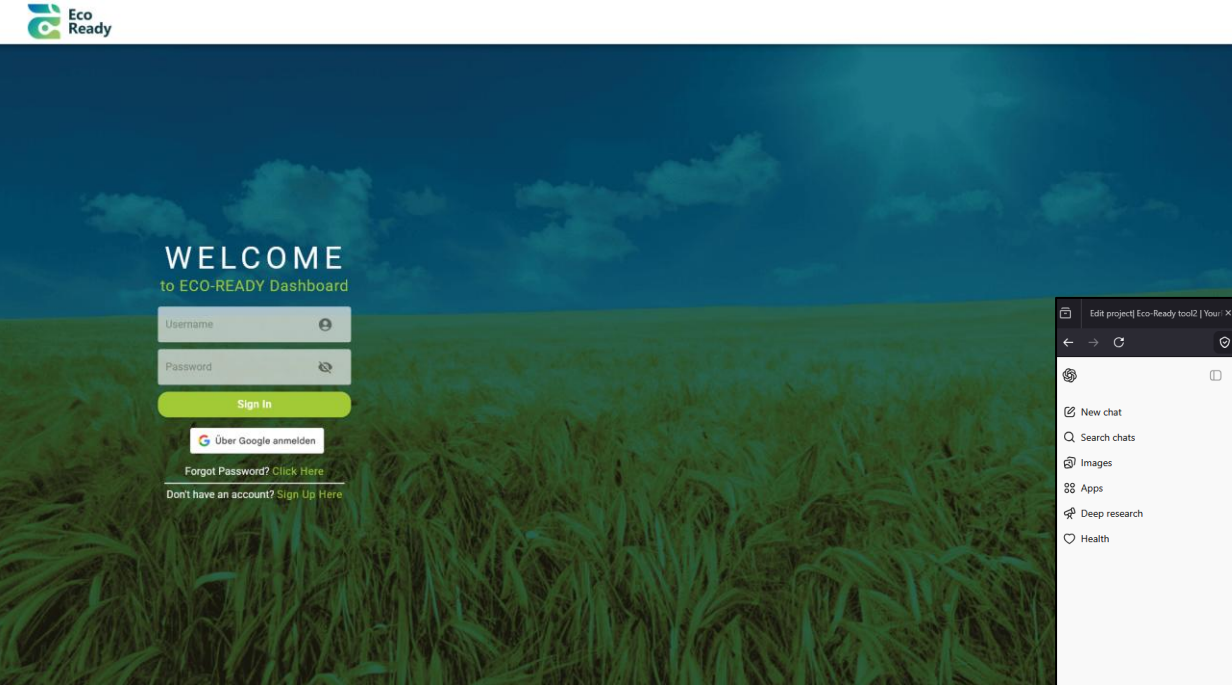
Observatory

Use „copy/paste“ for switching between tool and Observatory/ChatGPT

ChatGPT

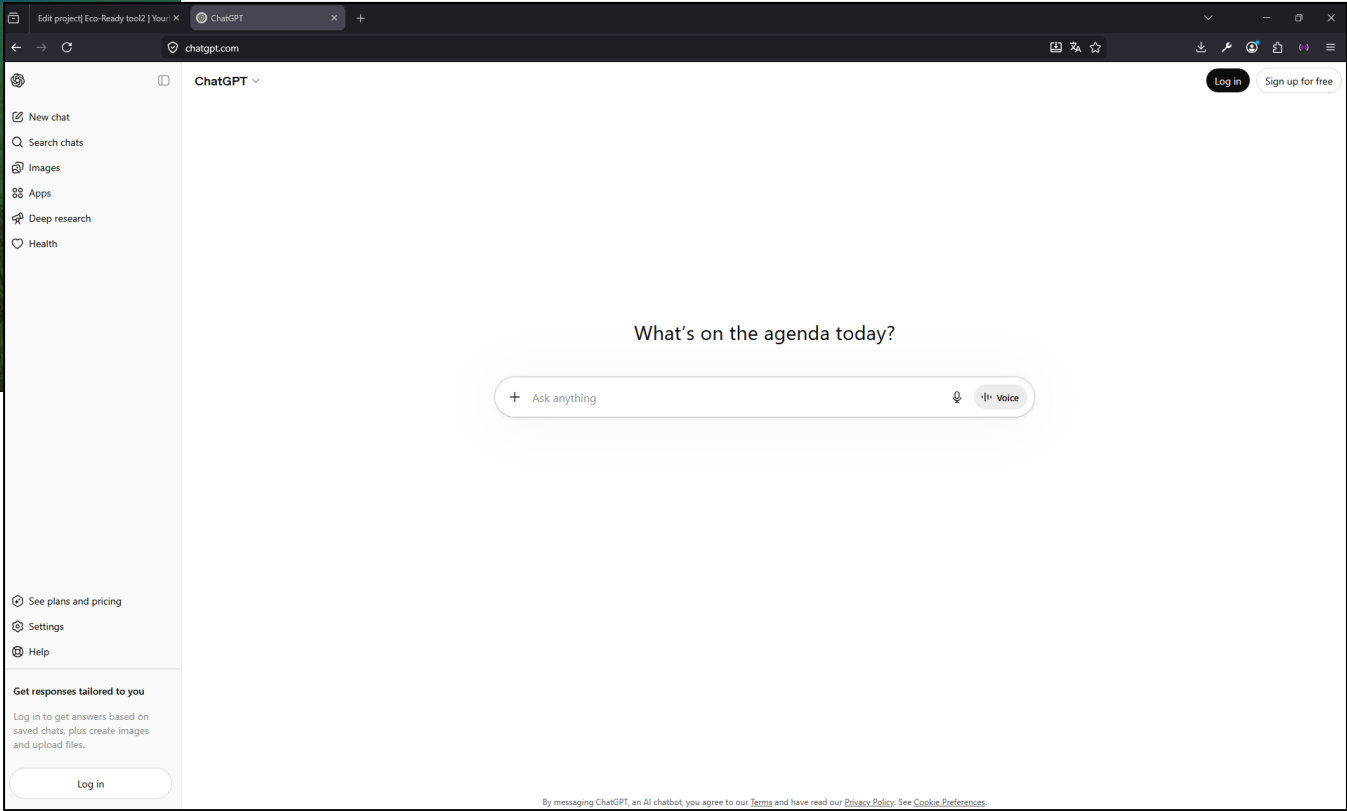


Linking up with Observatory and LLM (copy/paste)



Observatory

ChatGPT



Draft Dashboard

Dashboard

Welcome back! Here is an overview of your dashboard.



Number of
Projects

1

Active ongoing projects

Location

Rheinbach

53359 Rheinbach, Deutschland



Executable Actions

View projects



Start a New Project

Create something new in seconds



View Projects

See and manage your work



New Question List

Add a new question instantly



View Question Lists

Explore existing questions

Hazard environment

Interdependencies

Coordination

Planning boundaries

Planning environment

Forecasting

Actor roles

Process management

Economics

Exporting contingency planning projects

Archived Projects
Here you will find the initiated projects for export as well as:

Project

PDF RAW

/01 **Bonn 26** **08. Apr 2026**
ID: 1 CREATED

Printout of Contingency draft plan

The image shows a screenshot of a web application interface for managing projects. At the top, there is a search bar labeled 'Project name...'. Below it, the section is titled 'Archived Projects' with a subtitle 'Here you will find the initiated projects for export as well as:'. A list of projects is shown, with one project 'Bonn 26' (ID: 1) highlighted. To the right of the project list, there are two large buttons labeled 'PDF' and 'RAW'. Below the project list, there are three circular icons: a blue eye icon, a green download icon, and a purple square icon. A blue arrow points from a light blue callout box containing the text 'Printout of Contingency draft plan' to the green download icon.

Contingency plan as PDF file

(Standardized printout)

Sequence of
→ **questions** (items)
→ **answers**
(contingency
plan issues)

Project Q&A

Region (50% completed)

Q01: Which region is being considered?

Answer: Bonn

ID: 1 | Type: main | Last edited: 10.04.2026 10:19

Q02: Is the region embedded in a larger region with similar natural characteristics?

Answer: No answer yet

ID: 2 | Type: defaultq | Last edited: N/A

Target group (40% completed)

Q03: Who is the target group?

Answer: test

ID: 3 | Type: main | Last edited: 09.04.2026 11:34

Q04: What is the relevance of the target group for the region

Answer: Hallo

ID: 4 | Type: defaultq | Last edited: 10.04.2026 10:18

Q05: Target group, diet, expenditure (% of diet), diet quantities and expenditure for diet elements for total target group in country

Answer: No answer yet

ID: 5 | Type: defaultq | Last edited: N/A

Q06: Agric. products in diet, quantity and share of expenditure in diet

Answer: No answer yet

ID: 6 | Type: defaultq | Last edited: N/A

Contingency plan as PDF file (Standardized printout)

Contingency plan in RAW format (Standardized printout for transfer to WORD etc.)

The screenshot displays a web interface for a project named "Bonn 26". The interface includes a header with the project name, a date "08. Apr 2026", and a "CREATED" status. Below the header is a text editor window titled "project.txt" with a menu bar (Datei, Bearbeiten, Ansicht) and a toolbar. The text editor contains the following content:

```
Project Q&A

Category: Region
Q1: Which region is being considered?
A: Bonn
Last edited: 10.04.2026 10:19

Q2: Is the region embedded in a larger region with similar natural characteristics?
A: No answer yet
Last edited: N/A

Category: Target group
Q3: Who is the target group?
A: test
Last edited: 09.04.2026 11:34

Q4: What is the relevance of the target group for the region
A: Hallo
Last edited: 10.04.2026 10:18

Q5: Target group, diet, expenditure (% of diet), diet quantities and expenditure for diet elements for total target group in country
A: No answer yet
Last edited: N/A

Q6: Agric. products in diet, quantity and share of expenditure in diet
A: No answer yet
Last edited: N/A

Q7: Country total: product quantities and expenditures in target group
A: No answer yet
```

The status bar at the bottom of the text editor shows "Ze 1, Sp 1", "11.843 Zeichen", "Unformatierter Text", "100%", "Unix (LF)", and "UTF-8".

Draft Dashboard

Dashboard

Welcome back! Here is an overview of your ongoing projects.



Number of
Projects

1

Active ongoing projects

Location

Rheinbach

53359 Rheinbach, Deutschland



New question list



New Question List

Add a new question instantly

Executable Actions



View Projects

See and manage your work



View Question Lists

Explore existing questions

Hazard environment

Interdependencies

Coordination

Planning boundaries

Planning environment

Forecasting

Actor roles

Process management

Economics

Develop **new set of questions** for new question set

Question catalog: Bonn 2026

Region target group product hazard Objectives actors actions Side effects cost/benefit resources Coordination

OBJECTIVES

1. Objectives - What are the objectives?

1.1 Link impact judgement to objectives, identify change of levels

GROUPS

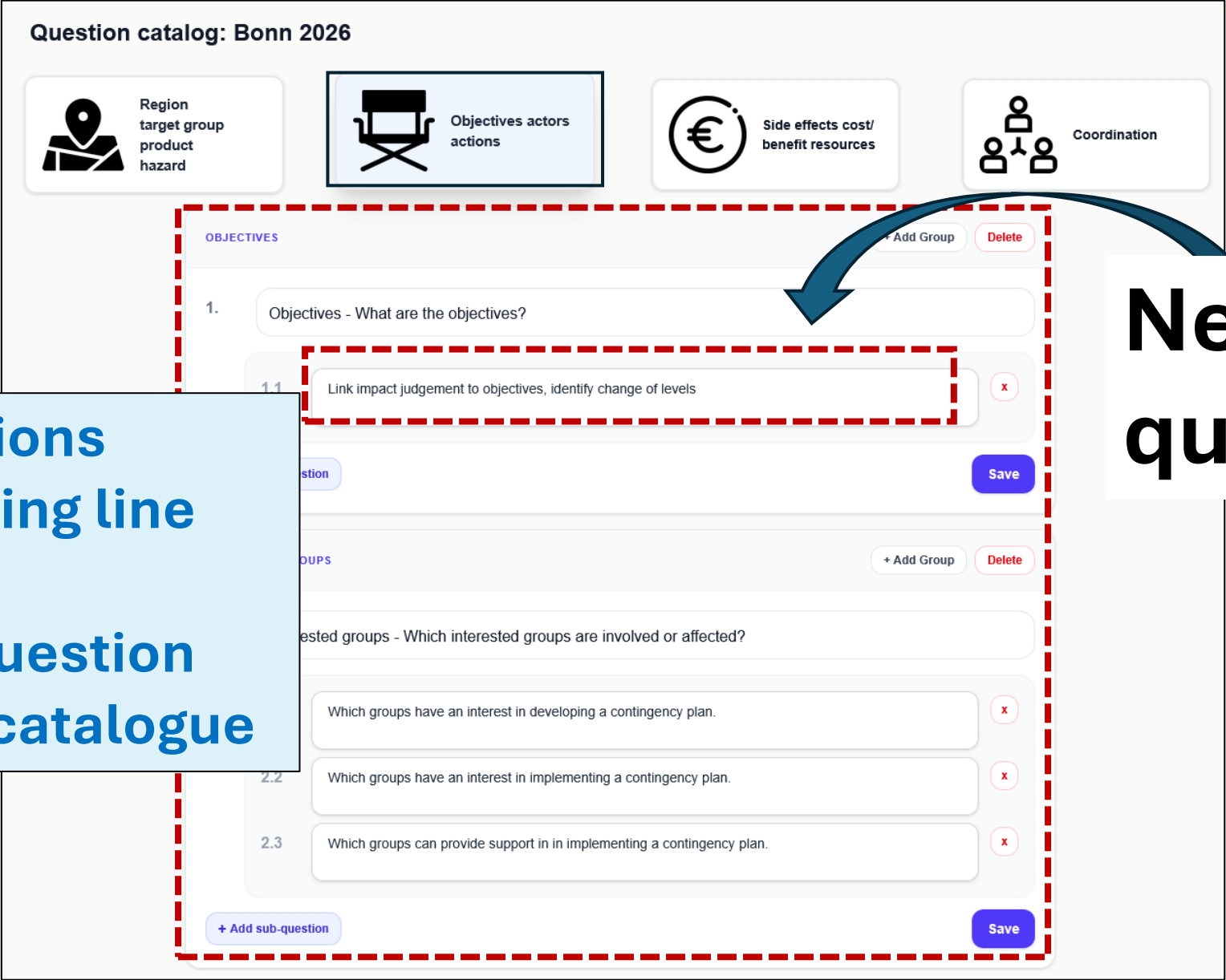
Interested groups - Which interested groups are involved or affected?

Which groups have an interest in developing a contingency plan.

2.2 Which groups have an interest in implementing a contingency plan.

2.3 Which groups can provide support in in implementing a contingency plan.

+ Add sub-question Save



Prepare questions for each planning line

Save as new question in new set for catalogue

New question

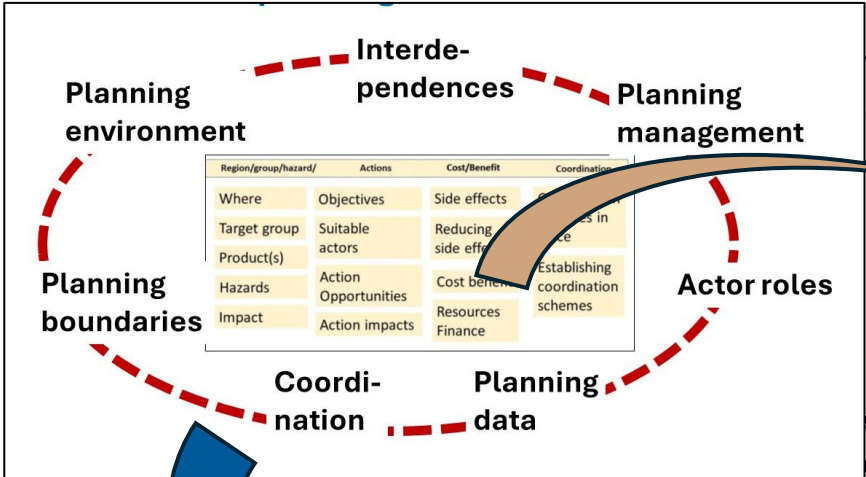


What we are going to discuss

1. Background of contingency planning
2. Developing a support tool
3. Knowledge needs
4. Planning activities
- 5. Conclusion**

Draft Dashboard

Exec. support



Execution tasks

Actions

Executable Actions

- Start a New Project**
Create something new in seconds
- View Projects**
See and manage your work
- New Question List**
Add a new question instantly
- View Question Lists**
Explore existing questions

Knowledge needs

Contingency planning environment

Key documents and core components within the planning environment.

Hazard environment ✓	Interdependencies ✓	Coordination ✓
Planning boundaries ✗	Planning environment ✓	Forecasting ✓
Actor roles ✓	Process management ✗	Economics

Knowledge items



Draft Dashboard

Exec.
support

Contingency planning characteristics

- > Unlimited number of users
- > Each user needs to read the knowledge base
- > Each user may save unlimited number of projects
- > Each user may save an unlimited number of question sets
- > Complete flexibility

Knowledge
needs

Hazard environment	✓	Interdependencies	✓	Coordination	✓
Planning boundaries	✗	Planning environment	✓	Forecasting	✓
Actor roles	✓	Process management	✗	Economics	

Knowledge
items

