

Adaptation and innovation: reframing adaptation implementation

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Using a single framing for the adaptation process is equivalent to a doctor diagnosing a cancer patient and using the same diagnostic framing, communication, methods and tools to treat the patient.

Introduction

The complexities of climate change adaptation require a continuous process with two distinctly different phases: a **problem phase** and a **solution phase**. Although these two separate phases overlap and inform each other, they have different needs in relation to knowledge, communication, methodology and tool use.

Each phase directs:

- what framing is used
- the type of tools used and how they are used
- the type of uncertainty encountered, and
- the way communication and knowledge development is undertaken.

The problem phase

The key task of the problem phase is **diagnostic** and is to identify what the problem is. This is done through identifying the risks associated with potential climate change impacts and prioritising them. The primary framing that directs the frameworks and tools used is **risk**.

Key questions associated with the problem phase are:

- What is the problem?
- Who is affected by this problem?
- How are they affected by this problem?
- What are the key priorities?

The solution phase

The key task of the solution phase is **treatment** of the problem. This is achieved through the development and implementation of adaptation actions. The key framing for this phase is **innovation**.

The implementation of adaptation actions is the active stage of the adaptation process, which requires the integration of new technologies and systems with pre-existing technologies and systems. Innovation frameworks can provide processes to manage uncertainty, introduce new technologies and behaviour change, and monitor unknown and evolving situations. Key to these frameworks is how new technologies are implemented, and the need to understand the different aspects associated with the implementation task.

Key questions for the solution phase

- What solution has the greatest value for the stakeholders? (cost-effectiveness, social benefits, preservation).
- Who will be undertaking the action?
- What resources are available and what is the capacity of the organisation undertaking the action?
- What are the risks associated with undertaking this action and how should they be managed?

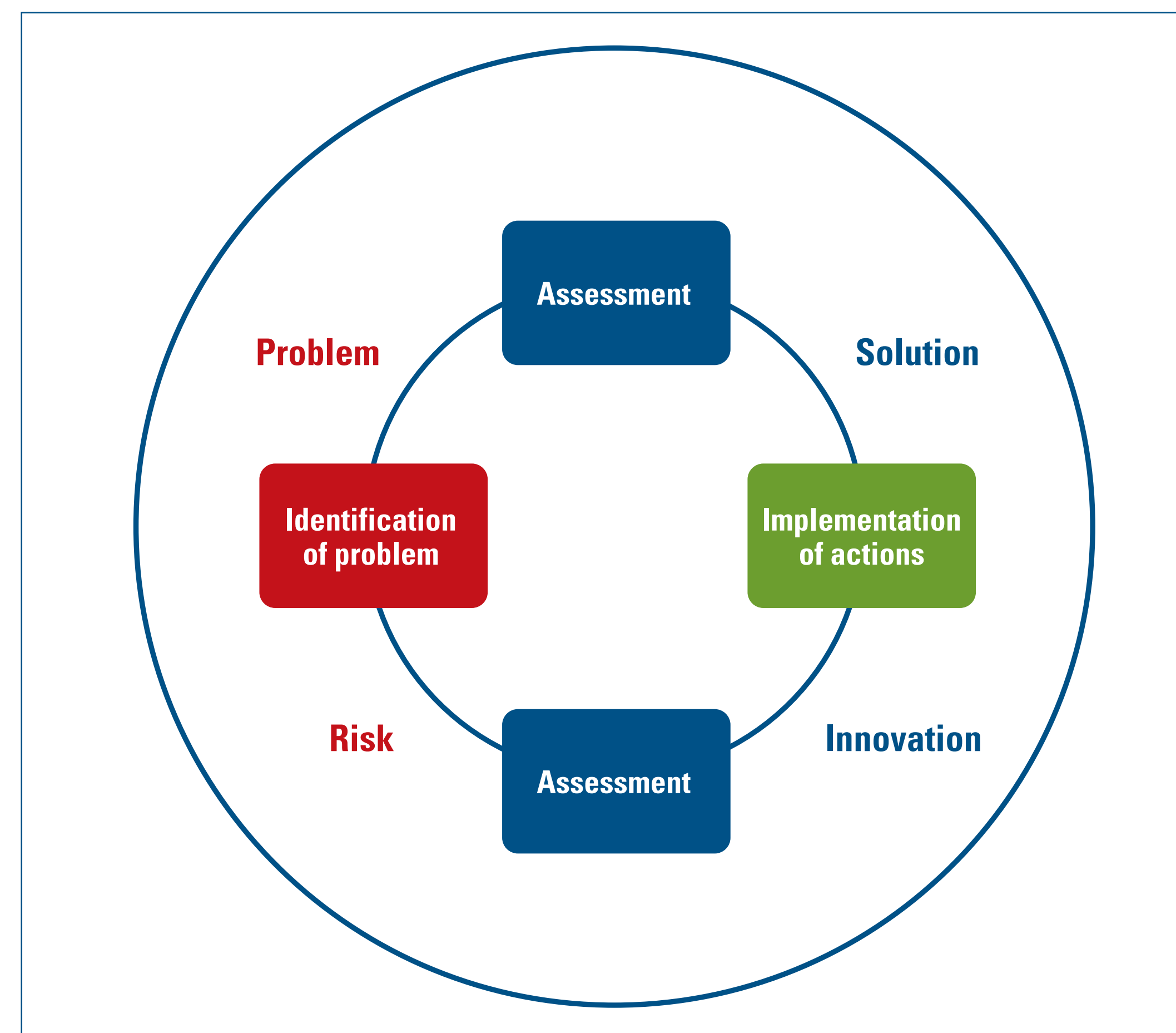


Figure 1

The assessment tasks

The assessment tasks are central to this process and occur at two points of the cycle. Assessment Task One task has two key purposes:

- to identify, analyse and prioritise the risk(s), and
- the development and selection of the adaptation actions.

Assessment Task Two has one key purpose; the assessment of the outcome of an action or project phase undertaken.

These assessment tasks also provide the transition points between the problem/solution phases. (See Figure 1.)

Key steps

Each key task has core steps that direct the actions undertaken. These steps may change in the order which they are done depending on the context.

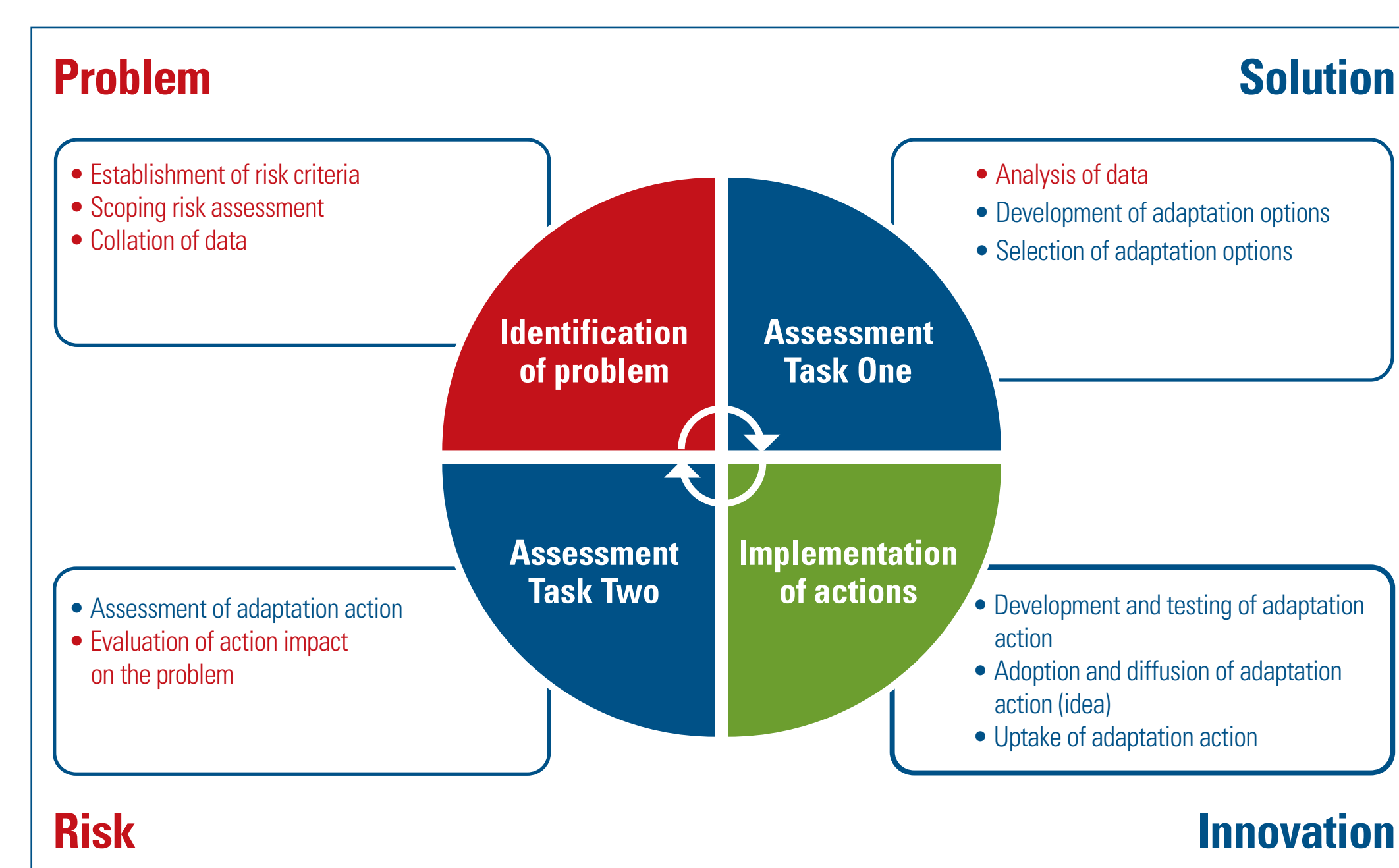


Figure 2

Managing uncertainty

There are two main types of uncertainty during the adaptation process. In the **problem phase** the primary uncertainty is related to scientific data and future uncertainty. This is often managed by examining a number of possible futures and associated impacts of climate change to develop a more comprehensive understanding of potential future risks.

In the **solution phase** the primary uncertainty is related to what the outcome of the adaptation action will be. Because the outcomes are unknown, iterative processes that update and action new information as it emerges during the process are key management tools.

Communication and knowledge

With multiple stakeholders involved from both expert and local knowledge sources, this process needs frameworks that allow for:

- shared understanding
- collaborative decision-making, and
- collaborative action to be developed and implemented.

Because of the nature of adaptation actions where the outcomes of the implementation may not be fully known for some time, communication and knowledge transfer frameworks need to be set up for long term time frames. Knowledge generated during the adaptation process needs to be informed by, as well as inform, the key stakeholders. (See Figure 3.)

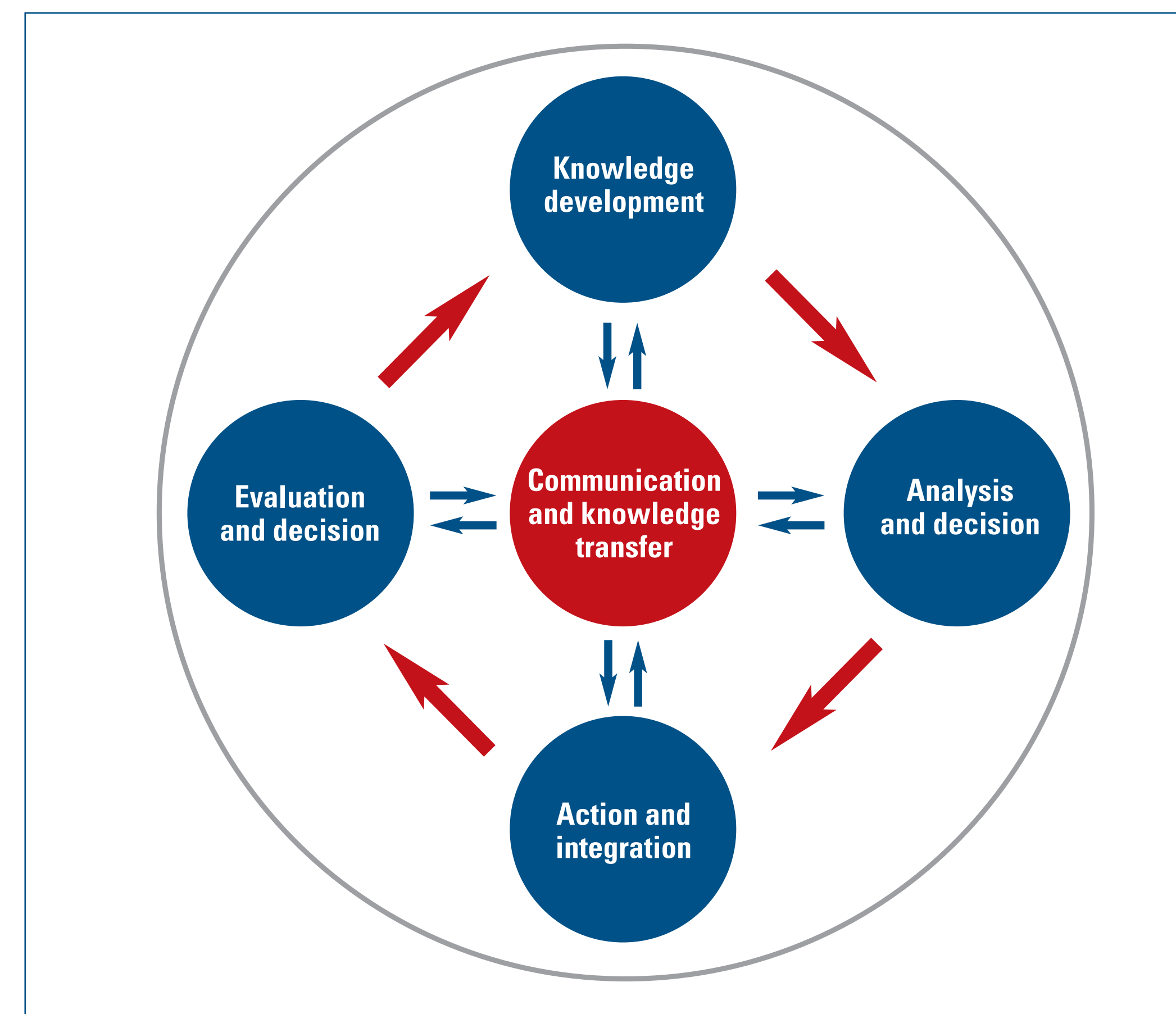


Figure 3

Communication in adaptation is task-related. In the **problem phase** the key purpose of communication is to collect information from multiple sources and to develop a collective understanding of what the problem and key priority is.

The **solution phase** has different tasks. As this phase involves the development, implementation and integration of new technologies into current systems, it is important to create safe spaces where honest dialogue can be undertaken so problems and new developments can be identified as they arise. Continually evolving dialogue needs to be part of an iterative process that informs action throughout the solution phase.

The type of language used will also change as the implementation progresses. For example:

- development of action (creative, collaborative)
- adoption of action idea (persuasive)
- testing of action (collaborative, technical)
- uptake of action (active)

The key focus for communication used during this phase is based around what the solution is and how it is progressing towards, or away from, the aim of addressing the identified problem.

The use of scenarios

During the adaptation process, scenarios are often used during the **problem phase** as a means of gaining greater understanding of what possible futures may look like and what the associated climate change impacts may be. They can also be used during this phase to map risk synergies across a number of different scenarios to see which risks are predominant and to develop shared understandings of what the problem is.

In the **solution phase**, scenarios are often used to create shared understanding in relation to the possible pathways forward. This is important for implementation as it allows for a collaborative vision to be developed by groups of people through the integration of diverse ideas into a solution.

Methods and tools

Many of the tools that can assist with adaptation implementation are 'in plain sight' and the challenge is to identify them and decide which combination of tools is most suited to the task at hand. (See Handout.)

The structure of adaptation implementation

Innovation requires a systems approach as the ability to action a solution effectively is determined by a number of factors such as strategic needs, capacity and resources, process and systems and the selected framework. These factors are interrelated and inform how and what action is undertaken (see handout).

The changing nature of our climate requires us to be innovative, because treatment of the problem requires the blending of what we have and know with new technologies and ways of thinking. Innovation offers a window of understanding to practitioners and policy-makers as to how these actions can be guided and implemented.

Adaptation is not simply about managing climate risks, it is about creating ways of seeing and interacting with a changing world that will transform and shape who we are and how we live.

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Reference: Rogers, E. M. (2003). *Diffusion of innovations*, 5th edn. Free Press, New York.