Capacity Development and Innovation Plan for
- Knowledge Management -

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ICARDA
Science for resilient livelihoods in dry areas

CIHEAM
BARI

The Capacity Development and Innovation Plan

Ministry of Agriculture and Natural Resources

University of Khartoum

Sudanese Knowledge Society

Agriculture Research Corporation

Part I

Basic introduction to KM, definition, processes, technologies, role of people, leadership, culture.

Part II

Co-designing the innovation plan through a four-parts assessment for each institution, that will highlight the institutional Knowledge Management needs and the feasible solutions to be proposed at capacity building level.

1. **What is "knowledge"?**

The SECI Model on Nonaka and Takeuchi (1995)

2. **Definitions of "Knowledge Management"**

3. **The Framework of KM**

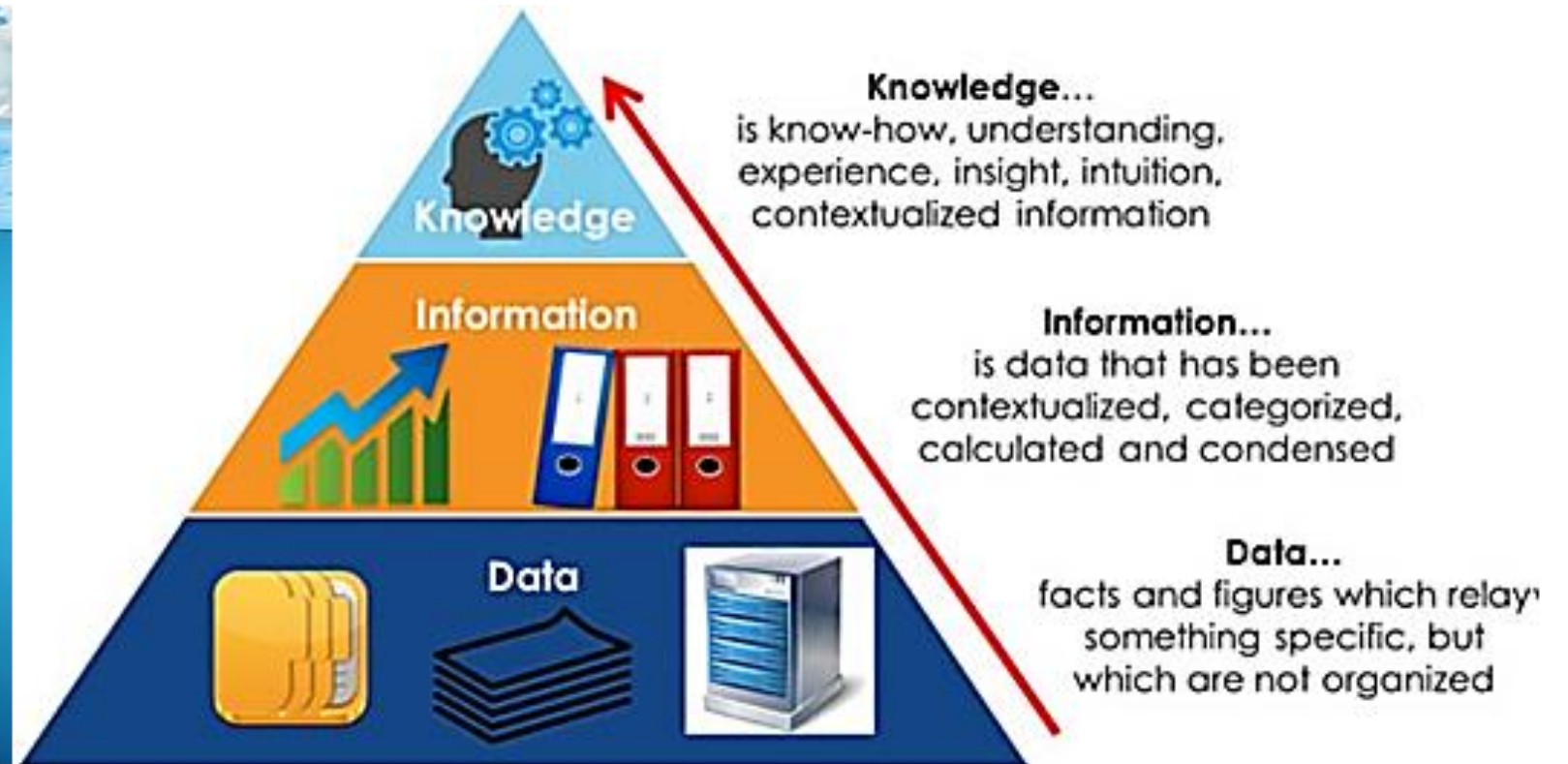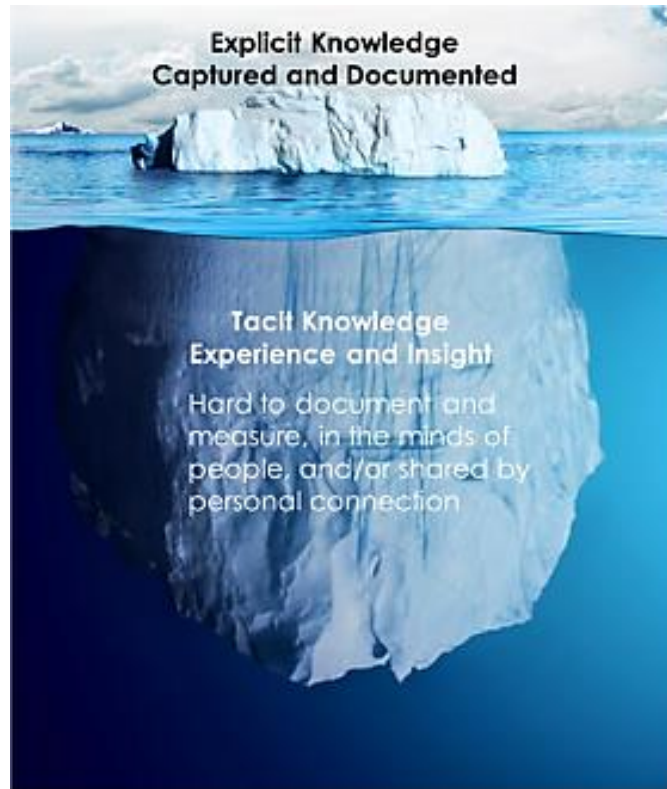4. **Why Adopting KM?**

5. **The KM Cycle:**

I. Discovery and Detection

II. Acquisition and Creation

III. Storage and Curation
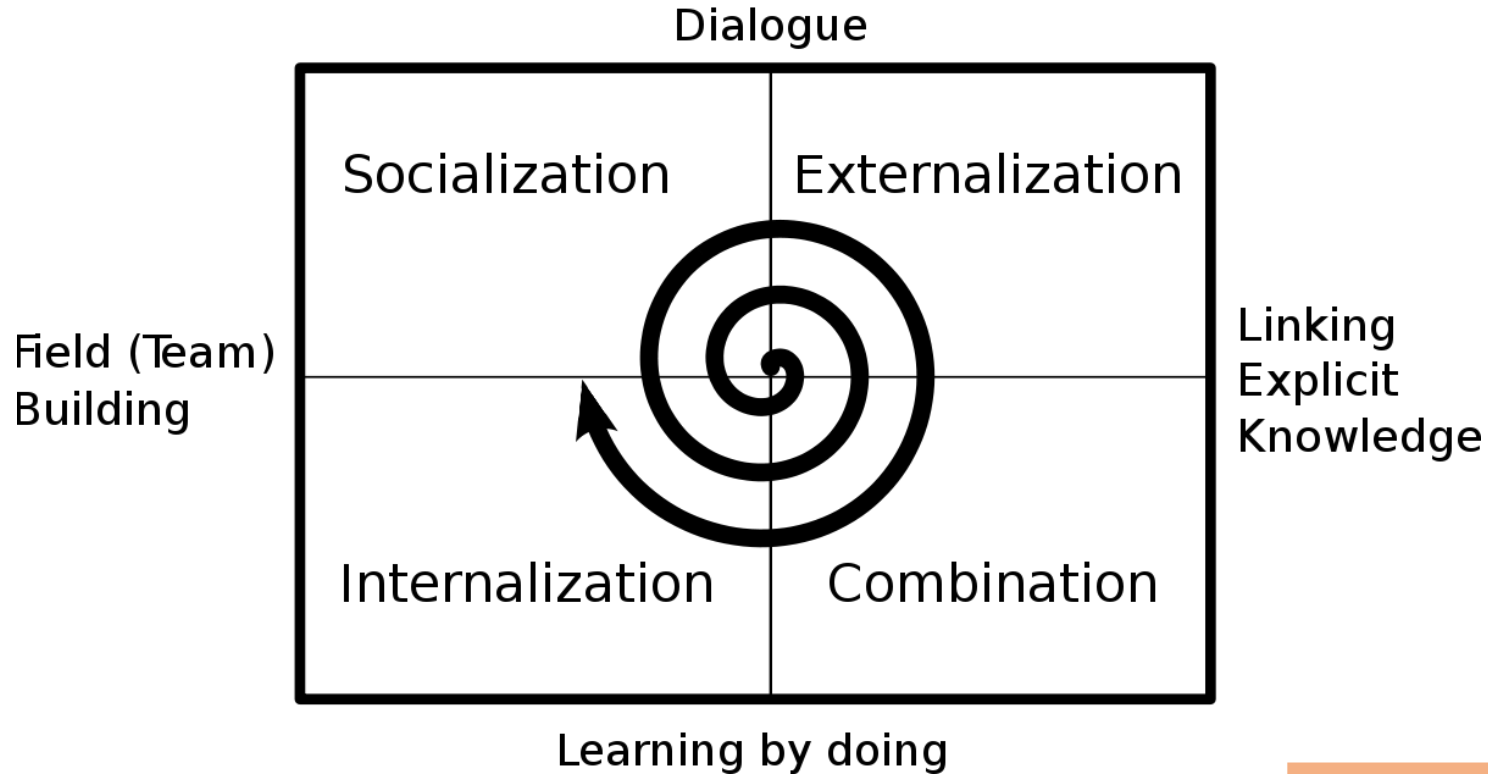
IV. Sharing and Transfer

1. What is Knowledge?

Explicit Knowledge
Captured and Documented

Tacit Knowledge
Experience and Insight

Hard to document and measure, in the minds of people, and/or shared by personal connection

Knowledge

Information

Data

Knowledge...
is know-how, understanding, experience, insight, intuition, contextualized information

Information...
is data that has been contextualized, categorized, calculated and condensed

Data...
facts and figures which relay something specific, but which are not organized

The knowledge that we consider knowledge proves itself in action. What we now mean by knowledge is information in action, information focused on results.

Peter F. Drucker

Facts, information, and skills acquired through experience or education; ... understanding of a subject.

Oxford English Dictionary

# The SECI Model on Nonaka and Takeuchi (1995)

Externalization: the conversion of tacit knowledge (i.e. lesson learned) into explicit form (i.e. report).

Combination: codified knowledge sources (i.e. documents) are combined to create new knowledge (i.e. another document).

Socialization: sharing experiences through observation, imitation and practice.

Internalization: process of experiencing knowledge through an explicit source (i.e. reading a book).
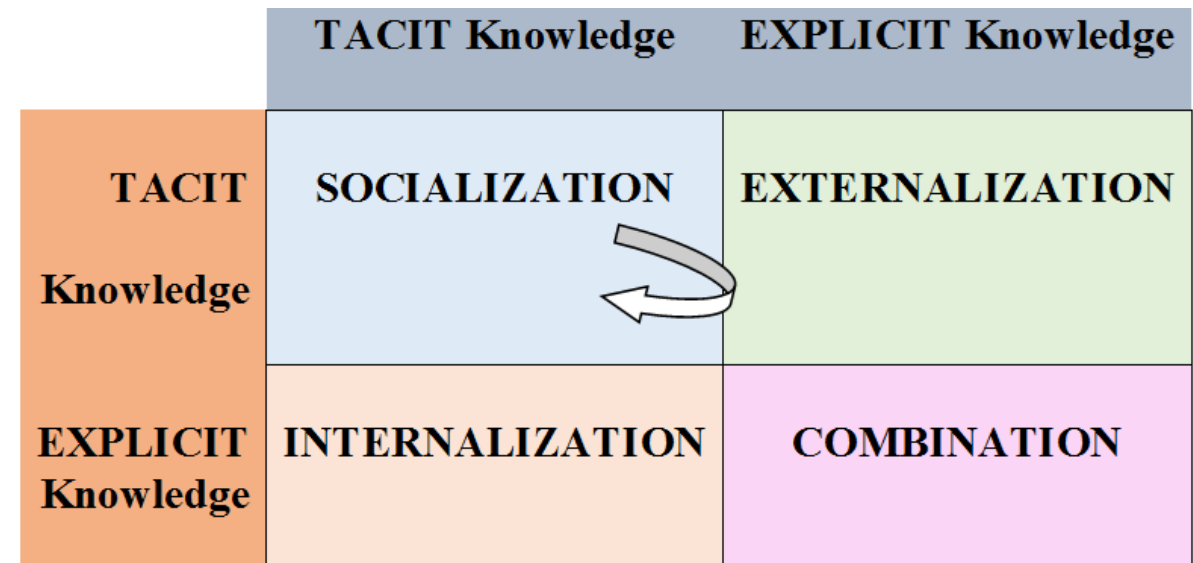
2. Definitions of "Knowledge Management"

What is Knowledge Management (KM)

"Knowledge Management is the discipline of enabling individuals, teams and entire organizations to collectively and systematically create, share and apply knowledge, to better achieve their objectives."

Ron Young, CEO/CKO Knowledge Associates International

"Knowledge Management is therefore a conscious **strategy** of getting the right knowledge to the right people at the right time and **helping people share** and put **information into action** in ways that strive to improve organizational performance"

O'Dell & Grayson, 1998

"Knowledge management (KM) is the process of capturing, developing, sharing, and **effectively using** organizational knowledge"

"Knowledge management", 2014, as by Girard & Girard, 2015

3. The Framework of KM

Culture & Strategy

Foster continuous **learning**, improvement, and innovation in the organization.

Management & Leadership

Managers, officers, audit, steering committees... capable of **taking decisions**.

People & Skills

CKO, scientists, consultants, trainers, librarians... capable of **informing decisions**.

Technologies & Assets

Solutions that **support** and facilitate discovery, creation, storage and sharing

The **framework** for managing knowledge varies from institution to institution, based on the number of **processes** it runs to carry out its mandate.
It is important to identify these aspects to delineate the **context** in which the institution operates with knowledge and the main **protagonists**.

4. Why Adopting KM?
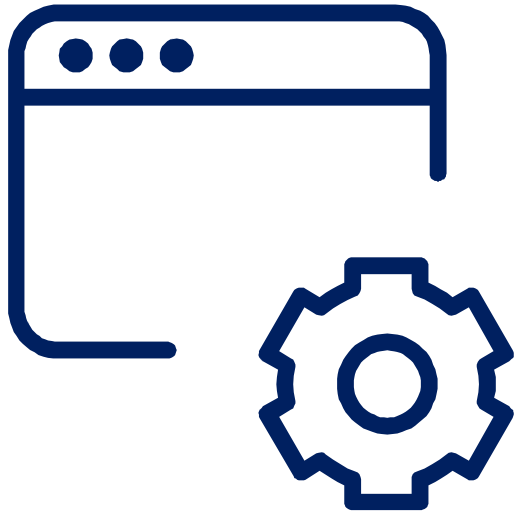
- Facilitates innovation and organizational **learning**.

- Leverages **expertise** across the organization.

- Increases network **connectivity**.

- Allows employees to obtain relevant **insights**.

- Valorizes the research **results**.

- Supports the **intellectual capital** and assets in the workforce, such as the expertise and know-how possessed by **key individuals** or stored in **repositories.**

5. The KM Cycle
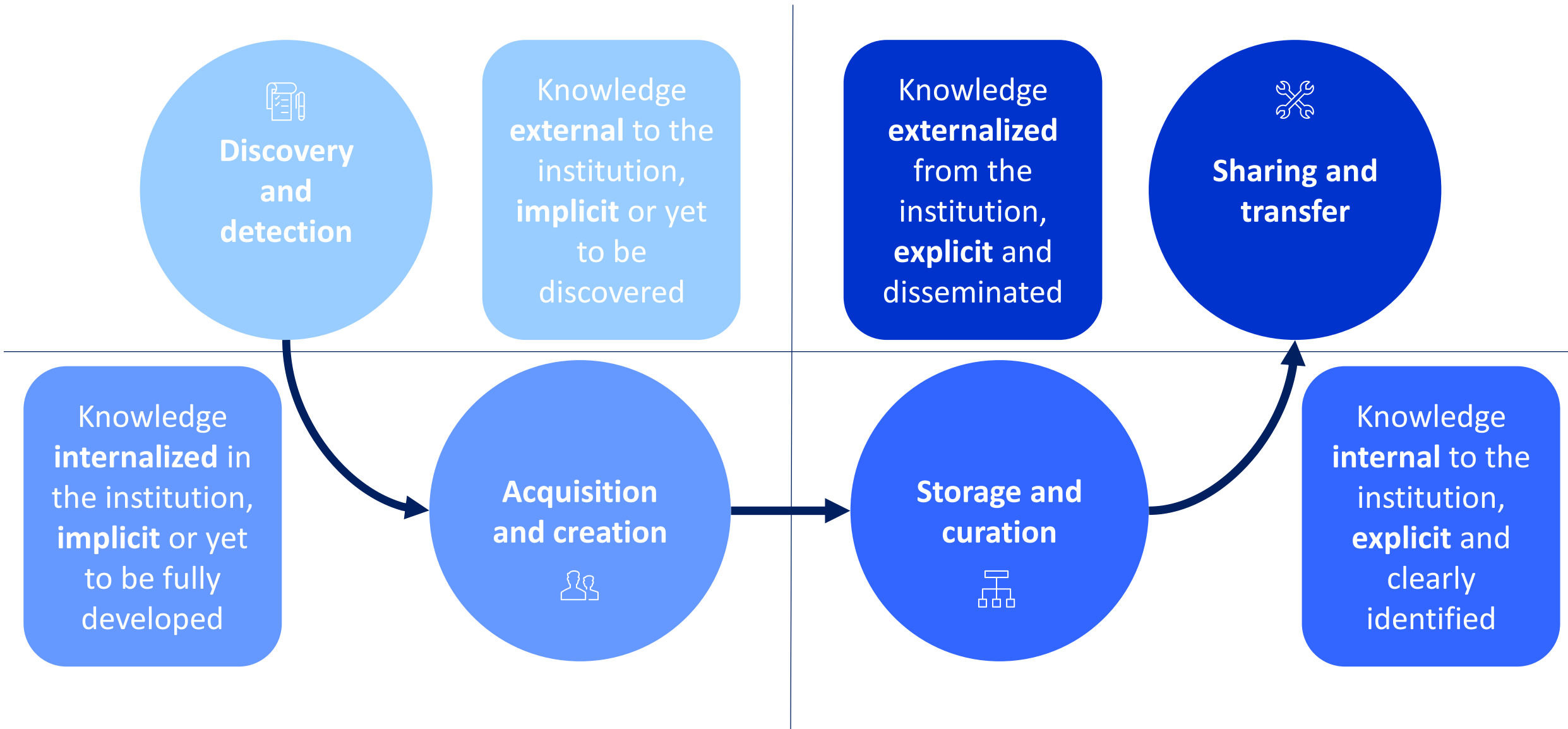
I. Knowledge Discovery and Detection

1

Scan your own institution to identify existing knowledge sources, discovering hidden knowledge in data and information. Probe websites and libraries, attend to meetings.

2

Internal knowledge may be resident within peoples' heads; embedded in behaviors, procedures, software and equipment; recorded in various documents; or stored in databases and online repositories.

3

Common sources of **external knowledge** include publications, universities, government agencies, professional associations, personal relations, consultants, knowledge brokers, and Communities of Practice (CoP).

Tacit knowledge is personal, context-specific, and therefore hard to formalize and communicate.

Ikujiro Nonaka, 1995

Supporting Tools
(Discovery and Detection)

Non-IT

- Knowledge Cafés / SMART Caffes

- Communities of Practice (CoP)

- Mentor/ Mentee

IT

- Knowledge Mapping

- Network Analysis

- Co-Working Platforms

II. Knowledge Acquisition and Creation

1 Knowledge creation takes place through the transformation of tacit knowledge to explicit and backward (Nonaka and Takeuchi 1995), **writing** a paper, for example.

2 Existing knowledge can be combined and converted into new products, for the same of new purposes, such as **combining** existing rules and best practices to produce a set of guidelines.

3 The ability to create new knowledge is often at the heart of the organization's **competitive advantage** and has the potential to achieve its mandate.

The act of making knowledge created by individuals available, amplifying it in social contexts, and selectively connecting it to the existing knowledge.

Nonaka & von Krogh, 2009

Supporting Tools
(Acquisition and Creation)

Non-IT

- Brainstorming
- Learning Review
- After Action Review
- Co-Working Spaces

IT

- Communication Software
- Resource Packs
- Knowledge Platforms

III. Knowledge Storage and Curation

1 Knowledge storing involves finding ways to **convert** documents, models, human insights and other artefacts into forms that make retrieval and transfer easy without losing the "true meaning" of the knowledge.

2 With the use of information technology, organizations have developed vast **repositories** of knowledge about science, projects, processes, technologies and more.

3 Taxonomy enables the structure to organize information, documents, and libraries in a consistent way. It can be considered as a **classification** system, a "Table of Contents", for an organization's knowledge capital.

Knowledge organization involves activities that "classify, map, index, and categorize knowledge for navigation, storage, and retrieval".

Botha et al., 2008

SEBINA, the System Adopted by CIHEAM-Bari for Knowledge Storage

MELSpace, the Open Access Repository of ICARDA and its MEL Partners

IV. Knowledge Sharing and Transfer

1 Organizations can realize the full value of their knowledge **assets** only when they can be effectively transferred between individuals.

2 Sharing is essential for the peer reviewing process to take place and publishing impactful knowledge. A valuable goal is to externalize **best practices**, which are a result of proper and well established knowledge management.

3 Transfer knowledge is also the core of **Capacity Development**, a key area for each organization willing to transfer its knowledge and establish a legacy.

Knowledge sharing has been recognized as the most important factor in the success of KM.

Nazim et al., 2016

Claroline, the Open Source E-learning Platform Adopted by CIHEAM-Bari

elearning.icarda.org, the E-learning Platform Developed by ICARDA

Thank You

Co-designing the Innovation Plan

Getting started is sometimes the biggest obstacle.

KM experts advise to ''think big, start small… but start.''

The following assessment informing the innovation plan, based on the living-lag approach, sets a start for the project partners.

The **questionnaire** is divided into three components:

1. Report of the current status of knowledge management in the institution (processes, tools/technologies/roles and skills.

2. Identification of needs related to the main Knowledge Management processes: discovery, adoption, storing and sharing.

3. Development of solutions appropriate for the most critical domains.

The excercise allows maximum freedom to all participants, which are invited to move freely across the tables and cooperate at their leisure.