

# Local Knowledge for Sustainability

How to develop local Epistemic  
Communities to address systemic  
problems

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# Useful Knowledge

- Useful knowledge is knowledge about any regularity or pattern of nature that, potentially, can be applied to generate economic value and benefit human beings.
  - Propositional knowledge catalogs natural and social phenomena, it refers to ‘know what’ about nature and society. It explains what things are and how they work.
  - Prescriptive knowledge is the collection of techniques and instructions for manipulating nature and social institutions for human purposes. It refers to ‘know how.’
- Reliance and tightness (consensus) are the criteria for evaluating useful knowledge.



# The 7 Steps of the History of the Knowledge Commons

1. Before language: individuals, tacit knowledge, only prescriptive knowledge was part of the knowledge commons
2. Oral language: small groups, explicit knowledge, propositional knowledge becomes part of the knowledge commons
3. Written language: storage of knowledge outside people's mind, access exclusive to national elites
4. Alexandria Library: first attempt for creating a universal culture
5. Printing: massive diffusion of knowledge into the middle classes
6. Scientific method: systematic production, start of exponential accumulation of knowledge
7. Internet/digital technologies: the achievement of a universal culture global storage and sharing of knowledge



# Differences between Knowledge and Natural Resources

1. Intangible: not visible for our eyes.
2. Non-rivalrous: many people can use the same knowledge at the same time.
3. Non-erodible: can be copied many times (multiplied) without being damaged, and cost of copying is dropping close to zero.
4. Human made: natural and social patterns have to be grasped by human mind to become knowledge.
5. Tacit and explicit: when used, knowledge has implicit (tacit), and explicit (codified) dimensions.
6. Contained by multiple receptacles: (a) Working inside minds, (b) Embedded in machines, (c) Stored in artefacts, and (d) Distributed in processes.
7. Unlimited: There is no foreseeable ceiling or limit for the growth of knowledge.



# Local Knowledge and General Knowledge

Local knowledge is knowledge that is shared by the members of a particular particular community or organization and is referred to a particular place and time.

General knowledge refers to general patterns, and whose validity is beyond a particular place and time, such as scientific knowledge, patents, empirical tables of data, and national statistics.



# Local Knowledge is a local creation

- It is a synthesis created for enabling local social life.
- Local Knowledge is a eclectic mix of traditional or indigenous knowledge and modern knowledge.
- Local knowledge is a kind of commons of a group of people: community or organization.
- It is the knowledge that comes up from their shared experience, mind sets, culture and values.



# Importance of Local Knowledge

- It is a kind of cognitive commons of the community.
- It is contextualized. It responds to the particular conditions of a local space, time and culture.
- It has been tested by experience; there is an experiential background behind local knowledge.
- It brings the cultural legacy of a traditional community into current times.
- Sense making is enabled by local knowledge. It is the reference to external knowledge absorption.
- Local knowledge provides the narrative for communication.





# Limits of Local Knowledge

1. It is locally accepted, but not globally accepted.
2. Its narrative may be meaningful only for local actors.
3. Frequently, outside a particular community, it becomes controversial.
4. Although it is shared by a group of people, nobody has a synthesis of local knowledge.
5. It is fragmented inside the minds of many people.
6. It is necessary, but not enough, to address systemic problems





# Useful Knowledge Categories

|                     |               | Context of knowledge   |   |
|---------------------|---------------|--|---|
|                     |               | General Knowledge  | Local Knowledge   |
| Nature of knowledge | Propositional | Descriptive knowledge that was built upon and submitted to scientific scrutiny and generally accepted beliefs  | Sum of knowledge of individuals of a community: understanding of local economics, health principles, Cosmo vision, etc.   |
|                     | Prescriptive  | Globally available technologies and methodologies, and nationally shared practical skills: spoken language, reading skills, and cellphone familiarity. | Elements of general prescriptive knowledge mastered by members of a particular community such as artistic skills, language, and mechanisms of social interaction. |



# General and Local Knowledge

- General knowledge: knowledge that refers to general patterns, and whose validity is beyond a particular place, such as scientific knowledge, patents, and national statistics.
- Local knowledge is knowledge mastered by members of a particular community, such as health principles, Cosmo vision, social hierarchy, understanding of local economics, artistic skills, language, and mechanisms of social interaction.



# Indigenous textile artistry Chiapas, Mexico





# Local Knowledge and Local Agency

- Because Local Knowledge is experiential, local agency is based on local knowledge.
- Local Knowledge is the common ground for sense making and for reflection on practice.
- If a community is deprived of their Local Knowledge, there is no shared discourse, no shared narratives.
- To promote local agency and citizenship requires providing a pathway for the evolution of local knowledge.



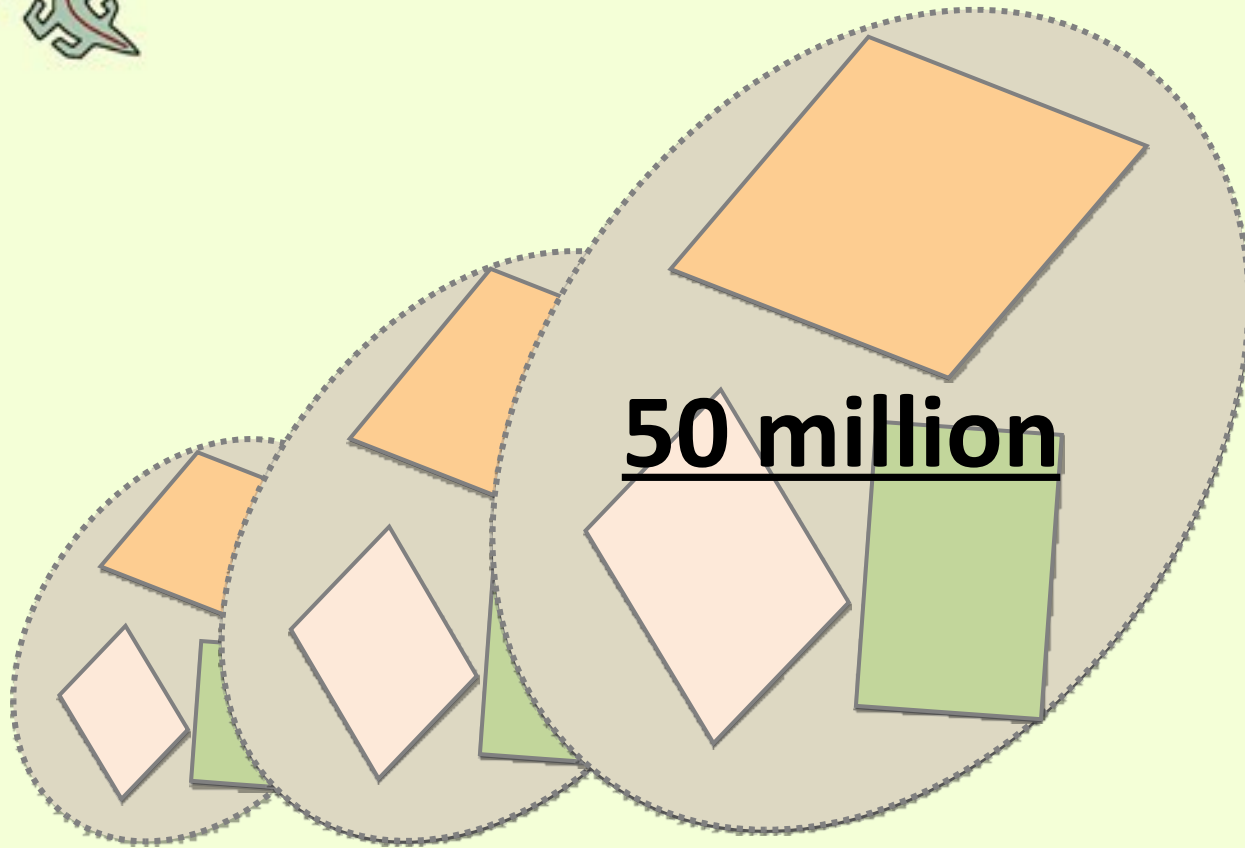


# Knowledge and Innovation Evolve Together

- For 12,000 years, after the Neolithic Revolution, economic and technological history of countries was an up and down curve without clear tendencies.
- The epistemic (knowledge) base of innovation was narrow, conspiring against its success.
- After 1750, this stagnation was broken by the systematic accumulation of scientific knowledge and the dynamism of technical innovation



# The Wealth of Knowledge is growing 3% to 5% yearly

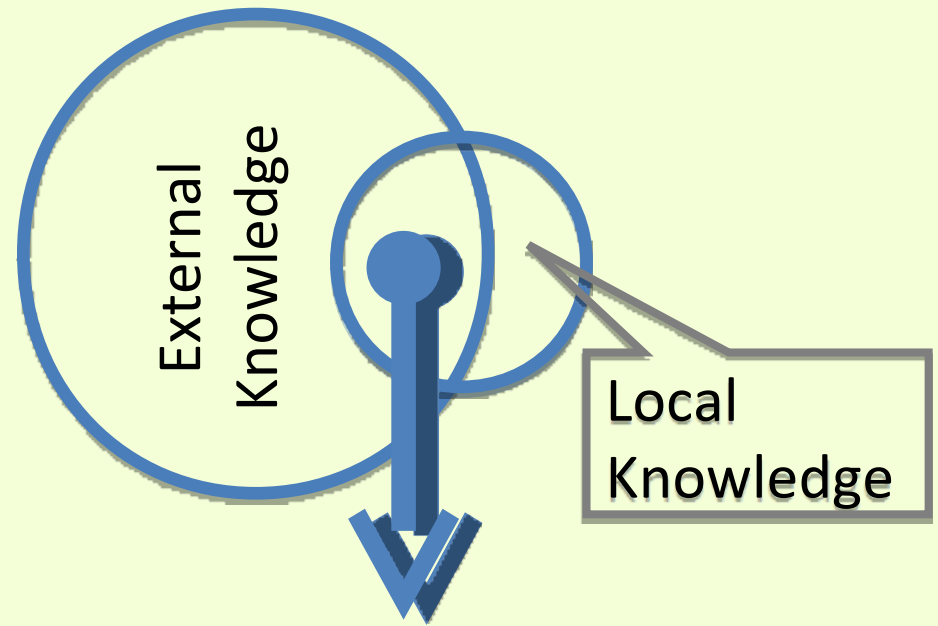


The barriers and costs to access knowledge are falling, but complexity and sophistication are growing

**1.5 million new academic articles are written yearly**



Systemic  
Problems require  
combining Local  
Knowledge and  
External  
Knowledge



Sustainable solutions  
become viable if  
supported by Local  
Knowledge





# To Leverage Local Knowledge

## 1. Local Knowledge mobilization and development

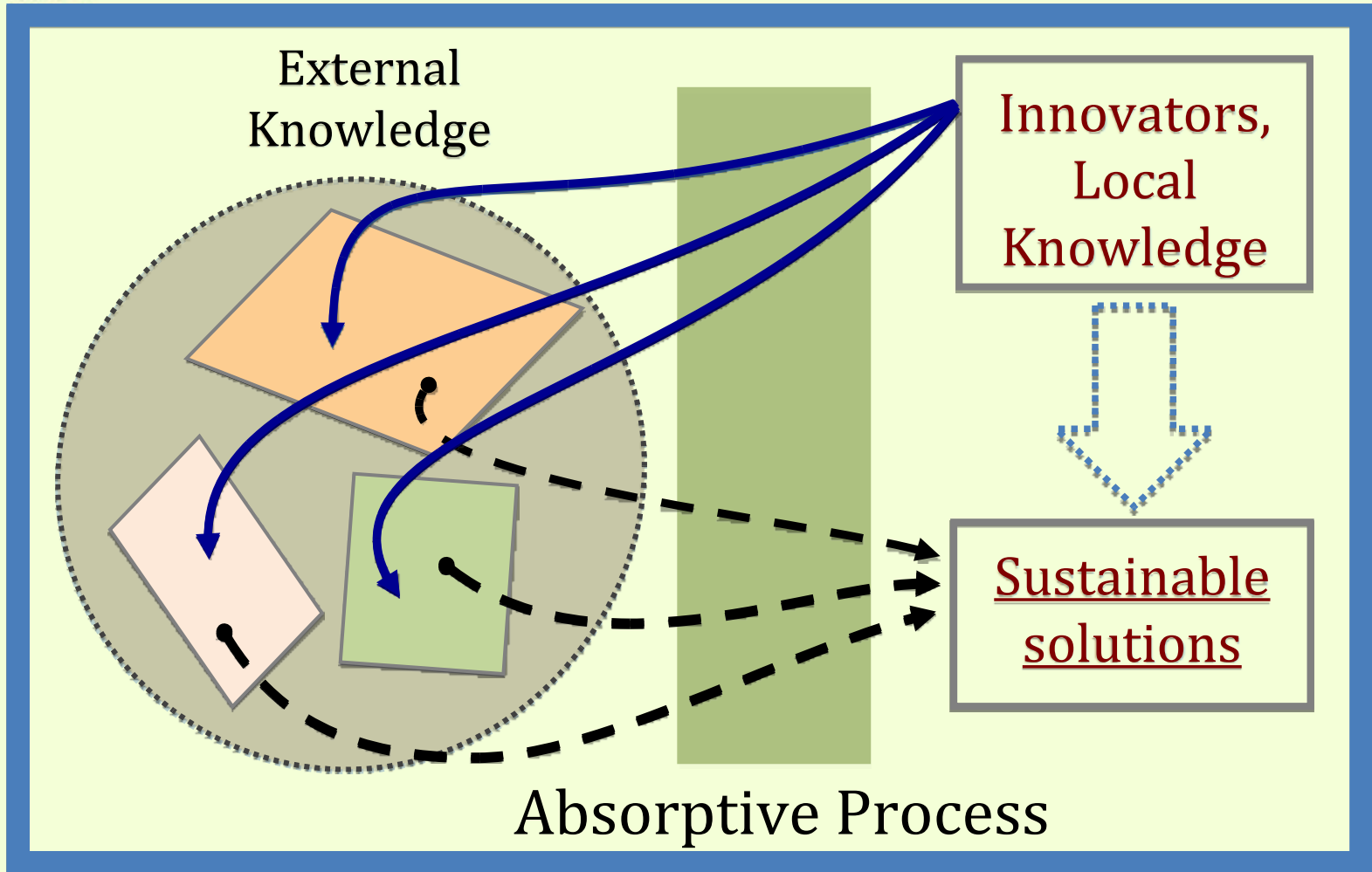
- Making Local Knowledge explicit, visible
- Moving from fragmentation to Integration
- Expressing existing narrative

## 1. Create conditions to external knowledge absorption

- Bringing information that challenge aspects of local beliefs
- Supporting reconceptualization of local expressions of systemic problems
- Supporting the development of a new narrative.

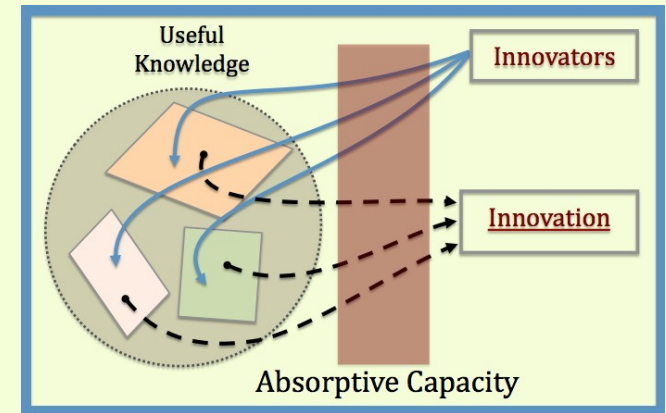


# Fusion of Local and External Knowledge





# Mechanisms for Cognitive Intermediation



- Purpose: increase local absorptive capacity to approach systemic problems
- International partnerships to approach two sides of the knowledge sharing equation:
  - make knowledge more intelligible
  - increase absorptive capacity.
- Process oriented:
  - contextualizing external knowledge
  - Building and informing local knowledge
- Developing sustainable institutional arrangements to address the cognitive challenges of innovation and policy making.



# The development of local epistemic communities

1. Common language: common concepts and terminology
2. Cognitive (epistemic) beliefs: what knowledge is and how to produce knowledge
3. Cognitive tools: analysis, aggregation, visualization, synthesis, etc.
4. Cognitive skills: cognitive operations that can be carried out
5. Subject related theories and sources of new analogies
6. Organizational arrangement to produce and share knowledge
7. Common narrative: a way to communicate knowledge
8. Contextual knowledge: the understanding of the local context



# Thank you

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