## How to Think about Information

This tool is designed to support decision makers in understanding how information contributes to a more connected and resilient community.

Whether your community is defined by place, population, issue, or a mix of these, a good understanding of a community's information needs and use are essential elements in the design of effective, responsive systems and actions that enable a community to understand and adapt to change.

### Mapping Information in your Community

This map is designed to help you to :

- understand how people in your community communicate and use information
- identify significant gaps and impediments to the design of appropriate and effective interventions

which will ensure:

- information as a critical and effective element of your efforts to support communities
- information really has impact - communities receive what information they need in a way that is timely, trusted and actionable
- improved ability of communities to build resilience

The ideas and suggestions presented in the map are not prescriptive, but outline a flexible process that can be tailored to your specific needs and context.

### Why does information matter?

**Information is vital to people's lives.** Without information, people can neither understand nor effectively respond to events that shape their world. The ability to access, create, disseminate, and share critical information about the world is foundational to understanding the challenges they confront, adapting to an evolving environment, and ultimately, improving their lives.

**Information is the lifeblood of resilience.** The world is increasingly focused on building *resilience*, the capacity of individuals, communities, and systems to survive, adapt, grow, and even transform in the face of change, stress, shocks, and disruption, so that communities can better address their own challenges in the long term.

A community with **a strong information ecosystem is a more resilient one.** A significant element in the understanding, building, and reinforcement of community resilience must be an understanding of how to support the health of information ecosystems.

*Please flip the page for instructions on how to use this framework, background on information ecosystems, and a case study to help illustrate this approach.*

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## Internews — Center for Innovation & Learning

# Mapping Information Ecosystems to Support Resilience

### MACRO ENVIRONMENT
Key Structures

## INFORMATION LANDSCAPE

The physical and institutional infrastructure that supports information production and flow (e.g. media outlets, government, private industry, and civil society)

- Who has the capacity to curtail or expand infrastructure?
- Who owns information channels and infrastructure?
- What are the distribution networks? Are there areas of redundancy (multiple channels) or areas of darkness (no information)?

## DYNAMICS OF ACCESS

The environment in which information flows

The factors that influence information access (e.g. political, cultural, economic, technological)

- How do political, socioeconomic, and geographic factors affect access?
- Through what channels do people access information (e.g. radio, mobile, TV, word of mouth)?
- What power relationships shape community access to information?

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### CONTENT DISTRIBUTION & CONSUMPTION
The information market

## INFORMATION NEEDS

Information needs across different segments of the population, and how they change over time

- What information do communities need to receive? What information do they need to share?
- How do information needs change in times of stress, shock, and disruption?
- How do political, socioeconomic, and geographic factors affect information needs?

## PRODUCTION & MOVEMENT

The types of information available in a community

Information providers and information flows

- What types of information are available? Who provides and disseminates this information?
- Who are the producers of the most timely, targeted, and accurate information?
- What do information flows look like (e.g. who does information flow through; how fast does it move)? How does information change as it moves?

## INFORMATION USE

How information is processed, used and applied

- What do people do before using information (e.g. verify with friends, triangulate sources)?
- What factors influence the relevance of information to people (e.g. content, medium, source, habits)?
- How does the format of information affect its use (e.g. videos, images, audio, text)?

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### HUMAN & SOCIAL INSIGHTS
Information flows

## INFLUENCERS

The people, organizations, and institutions that shape information flows

- What factors define influence (e.g. politics, religion, socioeconomic status)?
- Who are the most accessible and collaborative influencers?
- Are there unintended consequences to engaging influencers (e.g. loss of community trust)?

## SOCIAL TRUST

Influence of trust networks on the flow and use of information

- Once identified, how do I protect the most trusted networks from disruption? What are the greatest threats to trust?
- What are the factors that affect change in trust over time?
- What are the most trusted information sources? How does this change during disruption?

## INFORMATION IMPACT

Relationship between information, knowledge, and behavior change

- Could information have unintended impacts (e.g. post-evacuation looting)? If so, how can you identify and monitor them?
- How do political, socioeconomic, and geographic factors affect impact?
- What previous communication failures could undermine future efforts (e.g. previous warnings deter future response)?

# Using the Information Ecosystem Map

There is no right or wrong way to use the map. However, it may be easiest to move from left to right, or from top to bottom. For example, it may be much simpler to assess "Information Landscape" than "Dynamics of Access." "Information Impact" may be the most complex dimension to fully understand.

**Iterate!**
Dynamic process of iteration and response

**1. Assess**
What do we already know?
How can we get the information we need?
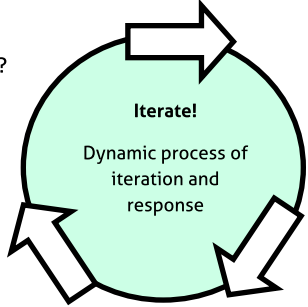
**2. Analyze**
What are the challenges and gaps?
How can these needs be met?

**3. Act**
Prioritize and use this information to design appropriate strategies for information creation, provision and delivery

## ASSESS

Start with what you know. Each dimension has three core questions that are the most important elements of understanding each dimension.*

## ANALYZE

What are the challenges and gaps? How can these needs be met? What resources are available? How should we prioritize? Map out the information ecosystem using all the information you have gathered.

## ACT

Design a strategy based on these inputs and intelligence.

Finally, **iterate!** Remember, information needs and use are not a static thing but a dynamic system - changes are happening all the time, so any activities need to be sensitive and responsive to these changes.

## DATA *You can use various data sources to assess each dimension, such as:

**Demographic and Community Data -** Census information, maps

**Media Landscape Assessments -** Digital and social media studies

**Government Documents -** Preparedness documents, policy statements, communications and public relations strategies

**Non-Governmental Organizations' Data -** Data from disaster response organizations, volunteer organizations, community institutions

**Multilateral Organizations' Data -** Preparedness documents, policy statements, communications and public relations strategies

**Private Sector Data -** Telecom and mobile company data (e.g. mobile traffic, location of towers, social media traffic etc.)

**Field research on Information Needs -** Surveys, ethnographic studies, market research, audience research etc.

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## What is an Information Ecosystem?

- Information ecosystems are complex adaptive systems that include information infrastructure, tools, media, producers, consumers, curators, and sharers. They are complex organizations of dynamic social relationships through which information moves and transforms in flows. Through information ecosystems, information appears as a master resource, like energy, the lack of which makes everything more difficult.
- The Information Ecosystems approach incorporates an analysis of Eight Critical Dimensions:
  - Information needs
  - Information landscape
  - Production and movement
  - Dynamics of access
  - Use of Information
  - Impact of information
  - Social trust
  - Influencers

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## What is Different about this Approach?

Generally one-dimensional and static, information needs and use are too often based on assumptions that rarely involve community input. We assume reach is enough, ignore the need for information to be communicated from communities as well as for them. Most often we fail to capture the essence of important elements such as trust and influence in the design and delivery and impact of information.

A powerful approach to **designing for impact** is ensuring that communities can create, access, and share the information they need, and that they are able to act upon it. This *framework* will help you to build a systemic understanding of how information flows, and the trust and influence networks that shape how people act upon information. In order to really understand how communities use information and how different types of information impact resilience, an ecosystems approach is a helpful tool to support the design of programs and interventions for impact that are **responsive and adapted** to any particular situations and needs at a given time.

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## Some Useful Resources

Here are a series of background material you may find helpful.

### Information Ecosystems

- Information Ecosystems - A Literature Review for Embracing Change: The Critical Role of Information
- Why Information Matters: A Foundation for Resilience
- Trust, Influence, and Connectivity: Understanding Information Ecosystems in Pakistan's Tribal Areas
- Information Ecosystems in Transition: A Case Study from Myanmar

### Design Thinking

- design.internews.org
- IDEO toolkit
- DIY Toolkit

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## Information Ecosystems in Action: The Jakarta Floods

To illustrate the Information Ecosystems framework, a pilot field study was conducted in Jakarta in early 2014, focusing on vulnerable communities in flood prone areas. This research allowed us to **assess** the information ecosystem, **analyze** gaps and challenges, and surface recommendations for **acting** to strengthen the information ecosystem.This mapping of Jakarta's flood information ecosystem was based on:

- Field research: 18 in-depth interviews with stakeholders in Jakarta from multilateral organizations, the provincial government, local NGOs, universities, for-profit companies, in addition to independent journalists and researchers. Researchers also made site visits to flood-affected areas in Jakarta.
- Desk research: documents related to flood preparation, humanitarian communication channels, media landscape, emergency preparedness and other topics by NGOs, think tanks, academics, and UN.

### Information Landscape

People in Jakarta identify television as their most important source of information.

**Act:** Where available, use television as a channel for providing hyper-local, actionable flood-related information. Ensure that this information is available via information sources that do not rely on electricity (e.g. radio, word of mouth networks).

### Dynamics of Access

Community roles in Jakarta are highly structured and formalized, where the exclusion of marginalized groups and informal organizations is common.

**Act:** Understand the complex power dynamics of each community, and design strategies for including these groups - such as renters, local gangs and militias, political parties, local clinics, and women - in flood-related activities.

### Information Needs

First responders and disaster planning organizations have started to map institutional information flows to improve sharing and coordination. However, community information needs have never been assessed.

**Act:** Organizations should conduct participatory community information needs assessments to ensure that flood-related information will have an impact on communities.

### Production & Movement

During floods, information flow is still beset by chaos and weak links between provincial offices and local communities.

**Act:** Clearly designate channels of authority and decision making structures within the government. Strengthen support for the Provincial Management Agency's Pusdalops control center, which is designed to be a central information hub during flooding.

### Information Use

During floods, people most want to know about the water level at the Bogar dam in West Java. However, upon receiving this information, their responses are vastly different.

**Act:** Consult with communities to understand constraints and motivations behind their behavior during floods. Planning and policy must acknowledge the heterogeneity of decision-making, rather than rely on what seems logical from the perspective of an outsider or any one group in the community.

### Influencers

Community leaders are utilized by the government and responder organizations as information influencers. However, these people are not accessible, nor trusted, by all members of the community.

**Act:** Consult with communities, especially marginalized groups, to identify alternative influencers (e.g. rickshaw drivers).

### Social Trust

In Jakarta, people tend to be very skeptical about news and media messages during crisis. Trust may be weakest when it is needed most.

**Act:** Provide flood information in multimedia formats, and disseminate it through trusted community networks. People have higher trust in information when it is verified by personal contacts or through pictures.

### Information Impact

Poor communities in Jakarta have used information and experience to promote survival. Raising up homes are a common adaptation to living with floods.

**Act:** Identify examples of positive deviance: effective solutions that deviate from the norm but may not be widely adopted. Facilitating wider adoption of clever adaptations could make communities even more resilient.