

Information Ownership

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Whose Information Is It?

Development cooperation and the act of measurement are closely intertwined. However, it is not always clear which types of information should be measured or what methods should be used to measure them. Consequently, these issues have been debated across a range of contexts, from assessing national wealth to evaluating indicators of human development. In discussions about national wealth, Simon Kuznets' development of GNP and the ensuing debates surrounding its implications have become key points of reference (Coyle 2015). Similarly, the development of the Human Development Index by Amartya Sen and the United Nations Development Programme (UNDP) has significantly contributed to ongoing debates about how human development should be defined and measured (Sen 2000; UNDP, various years).

In contrast to the growing sophistication of debates about what to measure and how to measure it, the question of **ownership**—that is, who leads measurement activities and who uses the results—has often been overlooked. A typical example is surveys assessing the living conditions of the poor or other vulnerable groups. Even when the findings of such surveys are used to support policies aimed at these populations, it is rarely assumed that the surveyed individuals will make practical use of the information generated. Furthermore, the use of such data does not necessarily benefit those who provided it. Those who collect data and apply it to policy or practice often belong to a different social stratum than those affected by the resulting policies, creating a structural misalignment.

This misalignment is particularly evident in the context of rural development. In rural areas of developing countries, where infrastructure remains underdeveloped, basic conditions for survival—such as education and sanitation—are often significantly inferior to those in urban areas. Notably, the information asymmetries between those who “develop” and those who are “developed” tend to be especially pronounced in rural settings. One of the first scholars to address this asymmetry from the perspective of development research was Robert Chambers of the University of Sussex (Chambers 1995). Chambers famously observed that “Decision-makers need information that is relevant, timely, accurate, and usable,” thereby bringing the issue of information in development projects into sharp focus (Khon Kaen University 1987).

Chambers particularly emphasized the trade-off between information accuracy and the speed at which it can be collected. While the findings of anthropologists conducting long-term fieldwork may provide highly accurate insights into lived realities, they are often too costly and time-consuming to be practical for development project planning. Building on this concern, Chambers proposed Rapid Rural Appraisal (RRA) as an approach aimed at developing survey methods that, while rough, would avoid major errors (Khon Kaen University 1987). His methodological proposals later evolved into Participatory Rural Appraisal (PRA), which places greater emphasis on the agency of the information providers themselves.

Nevertheless, despite the unprecedented capacities for information gathering that rural societies have gained through the spread of mobile phones, new problems have emerged—namely, disparities in access to information among

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individuals and gaps between those who collect information and those who use it. Ironically, these disparities are partly a product of “successful development.” As economic growth and infrastructure expansion have progressed, governments have significantly enhanced their ability to intervene in rural areas. Consequently, a pervasive tendency has developed among local residents to rely on governments, NGOs, or international organizations to resolve community problems rather than address them locally.

Furthermore, improvements in infrastructure have led to increasingly sophisticated information that is often difficult for ordinary people to understand. For instance, meteorological data that underpin climate change adaptation are monopolized by central governments, and the meanings of such data are seldom communicated in ways that local residents can easily grasp. Issues such as access to water amid climate change or disaster risks are deeply intertwined with people’s survival, yet the information needed to tackle these challenges has become increasingly distant from those most affected.

How can information be made more accessible to local people’s problem-solving capacities? To explore this question concretely, let us consider the case of rural Cambodia, where the author has recently conducted research.

Returning People’s Information to the People

Rural residents in Cambodia possess a wealth of knowledge about the relationship between seasonal water management and agricultural production, the ecology of riverine fish, and practical insights related to plants (including medicinal herbs), and draft animals. Additionally, while not directly tied to daily subsistence, cultural practices such as religious beliefs, the transmission of traditions, and care for children and the elderly are essential for maintaining social cohesion within local communities. Consequently, knowledge and information generated through everyday life are intermingled with what is taught in schools, forming an integrated body of understanding.

As national economic development progresses, codified

knowledge——systematically taught through written texts——gradually assumes a more dominant role than tacit knowledge rooted in traditional ways of life. This shift occurs as more people receive formal education and migrate to urban areas, often achieving economic prosperity. Concurrently, experiential knowledge based on rural livelihoods, which once held a central position, becomes increasingly marginalized and supplanted by scientific knowledge. As a consequence, trust in experiential knowledge declines relative to other forms of knowledge. Additionally, the transmission of such knowledge becomes problematic; in the past, children acquired experiential knowledge through apprenticeships in fishing or agriculture. However, increased time spent in school has made the intergenerational transfer of this knowledge more challenging.

Economic development also accelerates climate change. Rising temperatures and fluctuations in river flows, seldom experienced previously by communities, now pose direct threats to livelihoods. In addition to frequent climate-related disasters, chronic water shortages and the reliance on chemical fertilizers to compensate for declining productivity further exacerbate environmental pollution. Addressing these environmental changes requires timely, context-specific judgments, leaving little room to wait for instructions from administrative authorities. Rather than relegating livelihood-based knowledge to the past, there is a growing global need to create environments in which such knowledge can be fully utilized and effectively integrated with external scientific information.

The author has recently assembled a team skilled in processing hydrological and spatial information and has begun experimenting with the **Just-in-Time** concept pioneered by Toyota Motor Corporation, applying it to rural contexts in developing countries.¹ This involves exploring methodologies for providing “the necessary information, in the necessary form, at the necessary time.” The initial step in this effort has been to visualize and share the information that local people already possess by overlaying it onto high-resolution maps generated through drone imagery.

¹ <https://toyotafound.my.salesforce-sites.com/psearch/JoseiDetail?name=D24-N-0045>



Interview with villagers using a high-resolution map (left); map annotation (right)

Photos: Author

Through workshops with farmers, the research team confirmed that such maps can serve as effective tools for information sharing, even among those who cannot read or write. By discussing questions like how far past floods extended into the village, where shared ponds for drought mitigation are located, and who has access to them, these maps help bring locally grounded information into collective awareness and may foster behavioral change.

However, high-resolution maps are not available in all rural areas, and there is no guarantee that shared information will lead to collective decision-making or action. Nevertheless, this approach, which seeks to reverse the conventional flow of information from central governments to rural communities, is well worth pursuing.

Building Local Capacity for the Use and Ownership of Information

For local people to genuinely appropriate and utilize the information generated in their communities, three key capacities must be cultivated:

1. The ability to identify which information is useful for improving their livelihoods (avoiding risks and seizing opportunities);
2. The ability to update information as needed; and
3. The ability to use information in a timely manner and share it with others when appropriate.

The step of “sharing” is particularly crucial for introducing fairness into collective action. Visualizing information to foster these capacities can enhance the transparency of decision-making and guide discussions toward more persuasive and collectively acceptable conclusions. For example, if high-resolution maps can be rendered in three dimensions, they can provide hydrological justification for the most rational locations for constructing retention ponds, while also restraining self-interested arguments for placing ponds adjacent to one’s own land. Focusing on the “constraints imposed by place” and building systems that local people can use offer tools for engaging productively with the political processes that inevitably accompany development projects (Hirschman 2014).

Given the historical reliance of state-led development on the centralization of information, the initiatives described

above represent a significant conceptual shift. For a genuine transition from national security to human security, it is essential to decentralize the informational foundations of development itself. The notion of “rapidity,” once emphasized by Chambers, has thus acquired a new meaning. In an era that demands rapid behavioral change rather than merely rapid data collection or transmission, responding to urgent challenges such as climate change is impossible without systems that allow locally specific information to serve as a basis for judgment.

Building systems that enable residents to use information independently may not be achievable quickly. However, rethinking the long-standing assumption that information must first be centralized is something that can be implemented immediately if there is sufficient political will. Translating centrally collected information into forms that local people can understand should also be relatively swift. The theme of **information ownership**, deeply intertwined with human security, thus calls for further research and sustained attention.

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