7 The Myth of Market Price Information: Mobile Phones and the Application of Economic Knowledge in ICTD

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Introduction

The mobile phone as a platform for the dissemination of information, particularly market prices, has become shorthand for the transformative possibilities of *information* in general for low-income rural populations in the Global South. This new variant of economic development thinking after the decline of capital fundamentalism, defined by Peter Evans as the assumption that "the problem of underdevelopment was primarily about increasing poor countries' stock of capital" (Evans 2005, 91), places mobile phones and other network infrastructures in a critical role, hastening an end to a state of presumed "information scarcity" in remote regions. Such thinking is gaining influence in the domains of development policy and practice. Thus, we seek to gain specificity about the role of information in the emerging field of information and communication technologies and development (ICTD), which brings together academic researchers and practitioners.

Our critique focuses on "market price" as a particular type of information within agriculture and natural resources work. We consider the translation of "market prices" from neoclassical economic model to ICTD truism, and then to application in technological system building. "Information" in this process of translation is reified: it comes to be understood as a real and separable substance and is treated as existing in the world in the same way as the isolated variable in the economic model. It is imagined as unproblematically extractable, especially from the relationships between actors who exchange it. Yet, information is also understood to escape conventional material constraints. It may traverse digital networks at the speed of light and be reproduced without cost. The characterization of information

as a kind of substanceless substance, which offers a practically cost-free way to enhance the incomes of the poor (i.e., by recapturing profits lost to market inefficiencies), explains some of its appeal to narratives of poverty alleviation.

We give particular attention in our analysis to market information systems (MIS), which are designed to collect and distribute "market price information" impersonally. Recent evaluations show MIS as having a disappointing lack of impact (Fafchamps and Minten 2012; Camacho and Conover 2011). Such negative evaluations raise questions about how economic knowledge is incorporated into technological system building and what understanding of the decision-making processes of farmers they assume and embed. We arrive at a plausible explanation for farmers' lack of interest in MIS through methods that ascertain as directly as possible the decision-making practices of rural agriculturalists. Such an approach draws attention to counter-narratives that are unavailable from within the conceptual and epistemological frameworks of the econometric studies and economic models that have been most influential to the thinking on market prices (and their scarcity) in ICTD and in the broader field of international development work.

In describing the emergence of this particular bit of economic knowledge as a "myth," we are noting its circulation within elite technocratic circles and the way it is fueled by repetition and an increasing tone of factuality, conviction, and presumed breadth of applicability. An ongoing conversation at the intersection of economic sociology and science and technology studies (STS) questions the relationship between economics and economies, considers economics as *performed*, and attends to the way its theories and ideas are composed materially as well as the role of economic actors, ranging from experts to "nonexperts" (such as consumers) in this performance (Barry and Slater 2005; MacKenzie, Muniesa, and Siu 2007). The success of modern (and particularly mathematical) thinking in economics in promoting itself as a resource for powerful real-world solutions is evident in how noneconomists from other domains of expertise find economic models compelling and seek to extract from them what may be actionable. What are we then to make of the plausible charge that failures in application (such as in MIS) derive not from the inadequacy of the model but from the "misapplication" or "misinterpretation" of economic

knowledge? Could the models themselves be held accountable for misinterpretation in relation to economists' claims of real-world relevance and applicability? We examine this through the notion that the myth of market price information is a boundary object, which is by necessity translated and recast across fields and approaches.

To illustrate a counter-narrative to the myth, we draw from our qualitative research on trade, livelihoods, and mobile phones among low- to medium-income rural fishermen and fish traders in Uganda and farmers in northern rural China. In Uganda, the first author completed two periods of fieldwork in four villages (including two fishing villages) exploring general questions of mobile phone use in livelihood activities. Sites included a small and quite remote fishing village on Lake Kyoga, visited in November 2007, and a larger landing site where fish are sold locally as well as packaged in trucks for export, visited in July 2008. In China, the second author carried out fieldwork in three corn- and wheat-growing villages in the provinces of Shandong and Hebei in 2010 and in the summer of 2011. In both cases, the data were gathered through semistructured interviews covering the use of ICT and people's livelihoods, accompanied by participant observation and casual conversations with residents and traders. With such methods, we emphasize the meaning and motives that fishermen and farmers attach to their actions. What economists investigate as "mechanisms," sociologists and anthropologists refer to as "processes" or "practices," which emphasizes a stronger sense of agency in the work done by human actors (Cetina, Schatzki, and von Savigny 2005). For example, in interviews, when our informants had the opportunity to describe their key decision-making points, they consistently disclaimed any practice of acquiring market price information for the purpose of comparison between markets (by phone or other means), with a few rare exceptions. In Uganda, however, fishermen and fish traders still described the mobile phone as critical to their trade activities. In China, by contrast, farmers found little use for the mobile phone in agricultural activities, even though mobile phones were widely available and actively used for other purposes. We suggest that the contrasting behavior of these market actors is logical in the context of the available resources and pressures related to their socioeconomic circumstances and social settings of village life, both of which shape livelihood strategies.

Birth of a Myth: "Market Price Information" as Boundary Object in the ICTD Community

The emerging field of ICTD brings into contact various types of experts and professionals (from academia, research institutes, NGOs, aid agencies, and the commercial sector) with different forms of institutional backing and warrant for their work. They share an interest in understanding how digital technologies may help to realize development outcomes, by whatever definition one might attach to "development." They are a community in a rather broad sense, not contained by any one institution, and whose key contributors do not necessarily all identify as members. How, then, are the ideas that become common reference points understood and applied by such diverse players? Problems arise, in part, from the multiple challenges of this field, where members trained in different disciplinary traditions meet and attempt to draw on one another's efforts. One challenge has to do with disciplinary values, that is, what members of different fields consider to be priorities in the pursuit of knowledge and practice (Burrell and Toyama 2009). A second is validity, what members of different fields consider to be compelling evidence or a convincing argument. The third relates to communication and the terminology, case studies, publications, and so forth that become a kind of shorthand within a discipline, but that become distorted while moving between groups. By examining the particularly widespread notion that farmers use mobile phones to seek market price information, we seek to specify concretely some of the challenges that stem from the involvement of NGOs and commercial entities in ICTD, specifically in building market information systems, which often draw from academic research for their justification.

We suggest that "market price information" has come to serve as a *boundary object*, "both plastic enough to adapt to local needs and the constraints of the several parties employing them, yet robust enough to maintain a common identity across sites" (Star and Griesemer 1989, 393). Boundary objects have a common representation between diverse groups (such as economists and computer scientists or academics and practitioners) but are "weakly structured in common use" (393). Subgroups of the broader community develop a deeper understanding of a boundary object but "use the boundary objects in very different ways" (Bødker and Bannon 1997, 85), and "problems … may occur in the subsequent interpretation

of information by others where the origins of the information, in terms of the person or system that constructed it, or aspects of the context within which the information was produced, may not be available to other actors in the space" (85). When farmers are described by economists as *acquiring market prices via mobile phone*, this claim is embedded within assumptions that are clear, if implicit, to the members of the same epistemological tradition, who also understand the limitations of their models. Yet, members of other traditions (e.g., computer scientists, engineers, designers) interpret this claim according to their own ways of acting in the world and translate it into other shorthand (e.g., a set of user requirements) that is meaningful within *their* community but that does not capture enough of what is necessary to know about these farmers to make their solutions work in the way the economic model seems to suggest they should.

A Counter-Narrative

An alternative reading of the promise of better market price information can be found by focusing on how fishermen and farmers commonly describe how prices affect their decision making about trade, the role that mobile phones play (or do not) in acquiring price information, and how regulatory and political frameworks influence all business decisions.

Through our empirical work, we find four aspects of the "myth of market price information" that require reconsideration: (1) that information critical to decision making is scarce and actively sought after by farmers, fishermen, and small traders in rural settings; (2) that in their key decision-making practices, market price is the most critical piece of information; (3) that improvements in market functioning following the arrival of mobile phones necessarily stem from acquiring market price information; and (4) that the provisioning of market prices is the primary application of mobile phones in the context of rural trade activities.

Myth 1: Information on Prices Is Scarce

The broader narrative of information scarcity was not met with a similar account by the inhabitants of the rural regions we studied, who were generally not preoccupied with the search for a better price. Scarcity of information on prices is highly dependent on location—not all rural areas in

developing countries experience such drought. In China, for example, the going prices for crops are widely known: "I know the prices of crops and all those agricultural news from television. Also, there is a government official who comes to the village and tells us; he is from the agricultural office in the town" (Male farmer, Shandong Province).

In the Chinese villages where we carried out fieldwork, information on prices, agricultural techniques, fertilizers, diseases, and new crops comes from sources such as television, radio, newspapers (for those few who read them), traders, neighbors, agricultural extension workers, the head of the village, and so forth. People find out prices from multiple sources and constantly double-check them in the course of casual conversations. Most of this information gathering and sharing is based not on written text but on oral exchanges in person among people who know each other. Prices, at least at this level of small trade, are inextricably embedded within relationships among people. Another older farmer received a daily weather forecast SMS on his mobile. He was aware of the opportunities offered by the Internet, but even more aware that a lot of information he could find online already reached him through the agricultural extension worker: "There is an agricultural extension worker, actually there is one in the county and one in the town, so we get the one from the town; he comes here to tell us about fertilizer or pesticide and all that. So we don't need to find out this information, because he tells us" (Male farmer, Shandong Province).

The Chinese agricultural extension worker brings not only information, but also "meta-information" that helps farmers place what he says in context. For example, this farmer pointed out that he knew the agricultural extension worker personally; therefore, he could evaluate the information he received. The information is certainly not all good, or impartial, or useful, but by knowing who the agricultural extension worker is, how he works within the community, and what kind of relationship he has with, for example, seed sellers, farmers know how to parse his advice and understand it in context. All this context is lost when the same information is detached from the information provider (Oreglia, Liu, and Zhao 2011).

Fieldwork in Uganda pointed to similar matters of relational context and a concern with information source. Fishermen in these villages also spoke of the material resources they needed to be able to act on better information. A focus group with members of a savings group in a remote fishing village on Lake Kyoga showed a relatively low level of interest in

information relative to other needs and priorities. When participants were asked directly about what types of information they desired, they continually turned the discussion back around to assets and facilities that would improve their lives. This started with a problem of translation: there was no word in Luganda that directly translates to "information," so the word for "news" was used as the best substitute. When asked, "If you want information [news] on fishing issues, the information you will be interested in, what will it be talking about?" one fisherman responded, "The information [news] I would be interested in is that the government has put in place a good way of fishing, like giving people new fishing nets."

The fisherman, in light of government regulations against the use of traditional fishing nets because of overfishing, wanted "information" that the government would be giving away the legal (and expensive) nets. He did not truly desire information—he knew the rules and how they affected him—instead he sought tangible assets.

Adding further nuance to the issue of information in remote rural communities and its perceived scarcity, the village chairman (also a fisherman) expressed a desire not simply for information, but for "advice." Speaking now of the use of mosquito nets (or lack thereof) in the village to prevent malaria, the chairman commented, "You may be having the money [to buy a mosquito net], but if no one has encouraged or advised you to use the mosquito net, you may not bother" (Village chairman, Buyende district). What he drew attention to was the question of information *source* and of the quality of the relationship between what he envisioned as a kind of mentoring figure and the village community.

The examples of the Ugandan chairman's desire for "advice" and the Chinese farmer's reliance on the agricultural extension worker contrast with the impersonal nature of "information" as it is conceived in scholarship that explores its role as a catalyst for socioeconomic development. The general enthusiasm surrounding information as a developmental salve entails promoting a concept in sociocultural settings where it simply may not be as salient.

Myth 2: Market Prices Are the Most Critical Piece of Information in Trade-Related Decision Making

An abstracted view of the role of information in the market removes prices from the trade practices and relationships among trade partners in which

this information is ordinarily embedded. Yet such relationships appear to be critical at the level of smallholder farmers and fishermen. Price is often an important factor in decision making, but as one of several variables embedded in specific local conditions. Existing business relationships, trust, attitude toward risk, and institutional rules and policies around the goods traded—these are all inputs for fishermen's and farmers' final decisions on whether or not to sell, whom to sell to, what species to fish and what crops to grow, and so on. Among our research participants, two factors took precedence over price in making sales decisions: long-term relationships with trade partners and individual attitudes toward risk.

Long-Term Relationships with Trade Partners

Among our research participants, an ability to act on information was often tied to who the source of this information was and the trust built over a history of interactions. In "new institutional economics," the need to trade with known and trusted trade partners is treated as an adaptation within a certain institutional context, specifically one lacking structures for effectively enforcing contracts (Fafchamps 2004). Granovetter (1985) suggests more broadly that markets everywhere are embedded in social relations between specific individuals and emphasizes that the "concrete personal relations and the obligations inherent in them" (488) are the basis of the trust that prevents market actors from malfeasance.

In Uganda, the mobile phone proved critical as a tool for building and maintaining a social network of "concrete personal relations" in an industry of remote and distributed suppliers and buyers. On the problem of unreliable trade partners, one middleman trader in the fish export business noted, "Some other people can lie to you that they will give you cash immediately. You bring the fish, but then when you bring it, they disappoint you" (Fish trader, Mukono district).

The significance of relationships was all the more evident on Lake Victoria, where fishermen were given credit from middlemen who bought their fish and transported it to nearby factories for export. Given these credit dependencies, fishermen (specifically those who had progressed in trade enough to own assets such as a boat or nets) sold exclusively to the middleman to whom they were indebted, removing the possibility of comparing and making decisions about whom to sell to based on the best price. Moreover, for the lowest-level fishermen, working exclusively on salary,

checking prices could be a threat to their employment or even their freedom, as they own no assets and have no say over the sale of the fish catch. One such fisherman, who also worked as a porter, commented on market prices: "I leave it to the boss because if [I] am caught [checking prices] he would throw [me] in jail. It would clearly indicate that I clearly want to operate behind his back" (Male fisherman, Mukono district).

He referred to fishermen who, once outside the surveillance of their employer, will attempt to sell some portion of a fish catch. A woman who worked as a smoked fish seller in the fishing village on Lake Victoria noted that the mobile phone was most critical for capturing supply. It was essential that she maintain her availability so that if her supplier called she could be there immediately to buy his fish before another seller did: "I have been his customer for a long time. I have been dealing with him for three years now. … I buy from him at good price. I don't disturb him" (Female smoked fish seller, Mukono district).

In other words, she made transactions with her supplier as seamless as possible, neither haggling over price nor calling other suppliers for price comparisons, and she offered this as an explanation for why her supplier treated her with preference over other sellers.

Attitude toward Risk

Among agriculturalists, traders, and retailers at the low-income end of the spectrum, income predictability (an expression of their conservative attitude toward risk) often took precedence over a short-term focus on maximizing profits. This was the case with the smoked fish seller mentioned above, who, since separating from her husband seven years prior, was her family's sole breadwinner. She was the one on whom her children (and specifically their education) were totally reliant. She was explicit about the purpose to which her profits were put: "I am gaining some money, which I use for the children's school fees."

In both sites we have seen varying degrees of willingness to take on risk, and to diverge from the patterns of others to realize a gain, often related especially to family composition and stage of life. Among the Chinese participants, who were mostly middle aged or elderly, farming served as a combination of income generation and social security. Not having state pensions, older farmers grow crops that can be both sold and eaten; their main concern is predictability. In emergencies, it is easier to rely on

remittances from migrant children or to find a casual job nearby, as an elderly farmer explains:

> There isn't a big pressure to get a better income from the land, because almost everybody has income from work outside. I'd say for most families, half of the yearly income is from the land, half from other work. … Also, my goal is not to grow my income or business, as long as things remain okay, that's all I need. The Internet is useful for young people who want to improve and grow their business, not for old people like me. My children are all grown up and have good jobs, so I don't need much and don't have lots of worries. Until two years ago I also went out to work, but now I don't. There's no need. (Male farmer, Shandong Province)

Prior to any decision making about prices, the Chinese farmers and the Ugandan fishermen had to decide what crop to plant or what species to fish. These decisions were made in anticipation of price, but also often in terms of how stable or predictable the price was likely to be. For the Ugandan fishermen, fishing the variety called mukene (minnows), as opposed to the larger Nile perch or Tilapia, for export meant staying closer to shore and facing less exposure and danger (from storms or pirates) out on open water. For the Chinese farmers, planting the same crops as their neighbors was another way of mitigating risk, as other farmers in the village provide a network of support for the individual. They shared their knowledge of farming, directly by giving suggestions, or indirectly by starting to do a specific task, such as using fertilizer in their field and thereby communicating to the others that it was time to do that work. They shared risks in the sense that if something happened to a crop, it was usually a common problem and it could be easier to come up with a common solution. The network of support represented by neighbors growing the same crop disappeared when a farmer decided to grow something different and therefore did not have anyone to consult in case of trouble. For farmers who depend entirely on their crop for food and income, such a risk could be potentially ruinous.

If the selling and buying activities of these farmers and fishermen are seen as one discrete decision point, they might seem illogical. Nonetheless, the coherence of their reasoning is apparent in the broader context of life events and opportunities that unveil over the course of a longer period, and that are shaped by past experiences and current conditions of both the individual and the community.

Myth 3: Improvements in Market Efficiency Realized by the Mobile Phone Stem from the Better Circulation of Market Prices

A constant refrain among rural mobile phone users is how, by using the mobile phone, they avoid wasted trips. But the information necessary to avoid such wasted trips, and waste in general, was not specifically market prices. A relatively affluent fisherman working on Lake Victoria noted the value of his mobile phone for calling and requesting ice for preserving fish. He would call any of his contacts at the landing site and have them send out ice to him on the next boat. Ice, storms, and equipment failure were all unpredictable factors. The trader from Mukono district first mentioned above, who bought fish for export, spoke of a recent incident where just such a series of factors were in play and a shipment of fish was saved from being dumped by the use of the mobile phone: "After the coming of the phone, I remember one time the engine failed when we were supposed to arrive here at 4:00 p.m., and if we didn't get in contact with people here, the truck would leave us. So we had to inform them about our problem and assure them that we were coming, and we arrive at almost 10:00 a.m. because of engine failure and the storm. But because we had informed them, they were here waiting for us. So the phone helped us so much."

This is not simply information exchange but coordination work, specifically work to synchronize buyers and sellers in time and space. Information of various sorts is part of this work, but the broader practice of coordination does not readily conform to the reification of information-as-extractable-good. In Uganda, the information being passed around had to do with quantities of fish, availability of supplies (ice, fuel), location of vehicles and people, estimated time of arrival, sufficiency of cash for making payments, and so forth. Along the way, reputational information was not necessarily explicitly communicated but was nonetheless acquired through the process of arranging these transactions. This is reflected in the fish export trader's comment above: "people can lie to you that they will give you cash immediately. You bring the fish, but then when you bring it, they disappoint you." Thus, the reputation of one who came reliably with cash as they had promised would be enhanced.

Similarly, the head of one of the Chinese villages had a contact at a wheat mill whom he would call at harvest time to negotiate the sale of

wheat on behalf of most of the villagers. The price was usually slightly higher than what traders offered, and farmers trusted the head of the village to negotiate a good deal for everybody because of his personal relationship with the mill buyer. The phone facilitated a relationship and the practical coordination of it, both elements that had been in place before the arrival of any kind of telephony.

Myth 4: Obtaining Market Prices Is the Most Valued Application of the Mobile Phone in Trade

Apart from coordination work, fishermen found the mobile phone useful—indeed, in some cases essential—for its most basic functionality: connecting two individuals across sometimes vast distances for synchronous speech-based communication. The phone can help establish and maintain one's reputation as a market actor, as noted above. Phone calls picked up immediately or made to communicate the status of a shipment contribute to one's reputation just as successful face-to-face transactions do. For some, having a phone was considered absolutely critical to being able to participate in trade at all, as the smoked fish seller notes: "If you do not have a phone, you can't get these kinds of jobs." Phone calls did not simply transfer information, but also communicated requests or commands—to "send ice" or to "meet the boat at a particular time and place," or commitments such as, "I will come with cash." These phone calls were speech acts that had some force. Looking at communicated speech in this way, it is helpful to distinguish between locutionary and illocutionary acts of speech. The former refers to what the speaker says specifically, the latter to the force of what is said and the intended effect on the listener, to drive the listener to specific actions (Austin 1960). Information communicated about price also entailed an indication (if not a firm commitment) that the buying party, by imparting a price, would be willing to buy at that price.

Uses of the mobile phone differed quite substantially among roles in the fish supply chain. For frontline fishermen in Uganda, who worked for salaries, by far the most critical use of the phone was to seek rescue when an engine died, a storm struck, or the boat was attacked by pirates, as other studies have also found (Abraham 2007; Sreekumar 2011). For middlemen in the fish supply chain, the phone could be useful as a tool for doing surveillance and monitoring at a distance. The fish export trader used his

widely dispersed social network, a product of a lifetime living and working in the area, to keep track of his debtors. The phone was critical to this, as he noted: "When you come to me, I first find out who you are, your family, and about your work so even if he [the fisherman] got lost, I would locate him" (Fish trader, Mukono district). He called around to other villages to get reports of whether fish had been sold without his knowledge or to locate a fisherman who had disappeared.

This is not to say that "disembedded" information sources are never valuable. In rural China, by far the most successful use of mobile phones in farming has been the weather forecast delivered daily via SMS. The subscription back then was about RMB 3 per month (US$0.42), and many farmers had it, even those who had a hard time reading the screen or finding the message itself. The forecast helped to decrease short-term uncertainty and augmented existing sources. As the Shandong farmer cited above summarizes, "First I watch the national weather report on television; then I watch the local one; then I compare them with the weather forecast I get on my mobile. Then I analyze this information and come up with my forecast, and it's 70 percent reliable."

The weather forecast is something immediately actionable, which fits the farmer's existing routine (listening to news from multiple sources) and complements existing sources of information, which may be neither specific nor accurate enough.

This fourth and final "myth" about market price information illustrates how an investment in a particular scholarly conceptualization can obscure comprehension of the full range of ground-level priorities. Information sought out in our field sites covered an array of topics that went well beyond market prices to include status updates about shipments and transactions in process, information about trade partners that might reshape reputation assessments, and weather predictions. The phone was a platform for relational work, for communication, for sparking action. The information exchanged was inseparably intertwined with this work.

Conclusion: Information as Boundary Object in Market Information Services

The first generation of MIS for agriculture in developing countries began in the 1980s, but the appearance of affordable mobile phones in this century's

first decade has given a new impetus to the development of agricultural applications, with a wide variety of digital services on offer (Aker 2011). While evidence of whether these systems work is mixed, what is constant is a generally poor rate of adoption and limited effect of SMS-based market price information services on market efficiency (Egg, Dembéle, and Diarra 2014; Fafchamps and Minten 2012; Camacho and Conover 2011). From the counter-narratives discussed above, we can see two explanations for this. First, "information" likely loses its usefulness once extracted from actual trade relationships and presented impersonally (i.e., as an SMS message), apart from any commitment from a buyer to pay a particular price. The way many scholars and ICTD practitioners represent mobile phone uses as *impersonal* information exchange is a consequence of abstraction: the extra details of the conversations are excluded from the economists' model in order to communicate insights parsimoniously, according to discipline-specific practices of knowledge building. In the subsequent application of such findings to build MIS, person-to-person phone calls in which *more* than just market prices were communicated became SMS messages, dispensing with the personal and business relationships between callers. Second, the encoding of market actors and their decision-making practices in system designs are based on epistemological assumptions (of the utility-maximizing market actor of neoclassical economics) that are supported by *indirect* evidence from econometric studies (e.g., of shifts in price in the market as opposed to direct observation of phone use). Even the indirect evidence, however, has been shown to apply only to middle-income or affluent agriculturalists (e.g., Jensen 2007). In the circulation of "market price information" as poverty reduction across different fields of practice in ICTD, these important distinctions have often been lost. Thus, in the wider circulation of "market price information" as a boundary object, and through the process of "deletion of modalities" (Woolgar and Latour 1986, 79), this model of decision making has come to characterize the category of "farmers" or "fishermen" as a whole, and is assumed to be inclusive of those at the lowest income levels as well.

In the ICTD field, both researchers and practitioners are generally interested in how users in lower socioeconomic strata might benefit *directly* from digital technologies. Our field data show that the smaller-scale market actors—low-income farmers and fishermen who own few or no assets—have less ability to act on better information about market price because of

a reasonable reluctance to take on risk and their general lack of resources. Further exclusions follow from the shift to SMS-based market information services, which *introduce* literacy barriers that did not exist in voice-based modes of phone use, consequently blocking access to the least educated (and typically lower-income) groups who may be the ones purportedly targeted by such services.

Taking the perspective of small-scale agriculturalists on market prices, rather than an abstract view of economic principles, would likely result in different and varied types of MIS, based on the political economy and social organization of local markets. By examining the role market prices do and do not play in the decision making of rural agriculturalists, we have contributed a critical view on the rise of "information" in development policy and practice, how its relationship to the market is described, and consequently how its capacity for poverty alleviation is imagined and enacted, especially as embedded in the code and configurations of MIS. The very idea of "information" is of something that can circulate intact with its utility to end users unaltered. The declining expense of infrastructure building and the accompanying spread of mobile phones into rural and remote regions is considered an important step toward overcoming a state of information scarcity. Such regions are newly diagnosed with this affliction, and information comes to be positioned as a powerful potential salve for poverty. Our findings contribute similar insights toward an alternative understanding of the role of market prices and information delivery via mobile phone, even though the livelihood strategies and trade practices we observed were organized in different ways. In the Chinese field sites, the sharing of risk was a key consideration in deciding what to plant and in selling the resulting crops. Farmers generally did not seek a competitive edge by differentiating from other farmers, but rather followed along with their rural neighbors as a way of buffeting themselves against the vagaries of weather, crop pests, and the global economy. In the Ugandan fishing villages, the nature of fishing entailed travel onto the lake and away from the landing site for a few days at a time. This, as well as the perishability of the commodity, yielded a special emphasis on mobile phone use for contingency handling and for efficient coordination across time and space and between different roles in the fishing industry to supply ice and fuel, to call for rescue, and to predict arrival times.

By presenting a comparison of two different sites, we seek to map out the patterns and "missteps" in the way economic knowledge is extrapolated and materialized in applications such as MIS. In the notion of the boundary object, we indicate the impossibility of a perfect translation across disciplines and between model and practice. Economists might reasonably claim misinterpretation in how the notion of "market price information" is employed by noneconomists. Yet, at the same time this allows the field of economics to seize a victory of influence while sidestepping accountability. Additionally, where an attempt is made to apply the model and such an application fails (as is apparent in some evaluations of MIS), it is exceedingly difficult to arrive at an explanation based on the world selectively represented within the model.

If we take the perspective of prices, to the exclusion of all else, then as small-scale agriculturalists are put in a position to easily discover them, one would expect that they would get better prices and that general welfare (as measured by income) would increase. If this does not happen, innumerable additional elements in the context might explain why agriculturalists are still not getting better prices. Yet, a parsimonious economic model is compelling because of its simple clarity, which is accomplished by ignoring any elements that might be considered extraneous. As a result, the predominance of price, for example, is naturalized into the way the market works, and the model provides no way of arriving at any other intelligible counter-narrative. Furthermore, groups outside the circuit of this reified economic knowledge (such as the rural agriculturalists who fail to conform to the myth) come to appear irrational. And yet, the counter-narrative about market prices can be heard by involving these agriculturalists in conversations about how they make decisions. Thus, our critique is, fundamentally, also a call for methodological diversity both in ICTD and in development policy and practice. Narrow definitions of empiricism in influential strains of development economics prevent the methods we have used here from being routinely incorporated into how knowledge about poverty is generated. The result is an echo chamber that continues to reinforce a compelling myth—that farmers are using mobile phones to get market prices.

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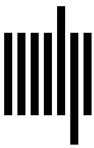

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