Reframing Empowerment
A new Paradigm for ICT4D

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KEYWORDS	ABSTRACT
ICT4D Empowerment Participation Kerala	In this essay, we will problematize the situated view of technology that, we argue, is very much diffused in ICT for development (ICT4D), the domain in which our research is inscribed. Our problematization focuses on the idea of empowerment, that in development is regarded, we argue, entirely in terms of participation and content – without, in effect, any real attention for the role of the technology in this process. Hence, drawing on the literature on technology as a social regulator, we will propose a reframed idea of empowerment, which gives the right attention to the technological side of it, in terms of the actual balance of power between technology and its users. E-Krishi, an Internet platform implemented by the government of Kerala, a state in southern India, is proposed here as a case study to see technology-related empowerment in action.

Introduction

The concept of *empowerment* is an integral part of development theory and of the practice underpinning the field of information and communication technology for development (ICT4D). Our reflection, in this work, is triggered by the observation that empowerment, in ICT4D, is firmly predicated on the developmental vision of the problem: this monolithic vision results in neglecting, by and large, the technological dimension, epitomized by the role of ICTs in the process. In this paper, the situated view of technology, on which ICT4D is aprioristically predicated, is problematized from its very grounding bases: indeed, this vision implicitly deprives technology of any power in terms of influencing human behaviour. As such, a paradoxical situation is arrived to, in which ICT4D arises as a field where technology stays in the background, instead of being brought at the forefront of examination.

Therefore the key question, *where is the technology in ICT4D?* remains by and large unresponded, and a concept of empowerment with reference to technology is not at all devised in this academic field. Our objective here is that of structuring this lacking concept, starting from the idea, found in Kallinikos (2011; 2004), that a thorough understanding of technology should not be reduced to the interface at which humans encounter computer-based artefacts.

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Our reframed idea of empowerment is therefore two-pronged, consisting of both a developmental component and a technological one, to be granted equal dignity within research and project evaluation.

To illustrate this idea, we focus on E-Krishi, a web-based device for e-commerce and e-inclusion, implemented for the farmer community in the southern Indian state of Kerala. We note that, within E-Krishi, recipient farmers are empowered on the developmental side, as several participatory arrangements are purposefully set up, for them to fulfil their own objectives through the web-based platforms provided. Yet, at the same time, E-Krishi disempowers users in the terms set out by technology, as the closed structure of the artefact makes the farmers entirely subjected to the government, which monopolizes ownership and control on the artefact's mechanics and provisions. The perspective of ICT4D, by remaining limited to a monolithic orientation to development, is *per se* unable to grasp the implications of these technological restrictions on empowerment; as such, the E-Krishi case is used here to rehabilitate technology, through our own two-pronged model for reframing empowerment.

This paper is structured as follows. Firstly, we examine the developmental vision of empowerment, as the capacity of enlarging people's choices through systematic arrangements for strong participation. Secondly, the technological vision of empowerment,

which is not formally contemplated in ICT4D, is brought to the fore, so that the concept of empowerment is problematized and eventually reframed in a dichotomous way. Thirdly, we look at the case study provided by E-Krishi, describing the technology underlying it and the modules in which it is articulated: as we discuss the case study, we observe that empowerment here is reached in the developmental sense, but not in the technological one. As such, our reframed notion of empowerment is presented as a new tool, for a complete picture of empowerment to be provided.

Empowerment: The Development View

The idea of empowerment is one of the key concepts in the field of development, pervading both development theory and the setting up of practical project objectives. A mainstream school of thought, in development theory, refers to empowerment as productivity-oriented, i.e. reachable solely and entirely through the mechanism of economic growth. This idea is predicated on the assumption that poor countries are just low-income ones (Prakash and De 2007: 264), and therefore, increases in national productivity are necessary and sufficient to solve the problems related to underdevelopment (Akpan 2003: 263).

The main challenge to this idea of development-as-growth comes from the work of Sen (2001), which revolves around the concept of development as freedom. It is Sen's view that the maximization of productivity, rather than constituting the primary key to development, is just one of the ways for the poor to break down the barriers that constrain their existence, and, by doing so, prevent human empowerment from coming about. Real freedoms, in the vision of Sen, are to be achieved in a set of interconnected fields: each freedom stems, in an almost tautological way, from the removal of a "substantial unfreedom". As a result, sufficient incomes stem from the removal of poverty and unemployment; equally, education comes from eliminating barriers to school attainment, and high life expectancy is the outcome of the progressive deletion of roadblocks to health. This is the vision that we adopt in this piece, relinquishing the monolithic reductionism underlying the idea of development-as-growth: empowerment is equated, as a final outcome, with a state in which people are free to fully develop their own life plan (Sen 2001: 7).

A key problem in this respect is *how* can empowerment be realized in development? To answer this question, we adopt the perspective implicit in the institutional theory of development, of which the work of Brett (2003, 1999) is paradigmatic. In this vision, the key input factor resulting in people's empowerment is to be ascribed to institutional accountability,

which is to be achieved primarily through participation: indeed, for the capabilities of the poor to be fully expressed and liberated, development practitioners need to proactively incorporate the knowledge of recipients into development projects, rather than just inform them in a top-down fashion (Chambers 1994). As a result, the developmental view of empowerment can be seen as an input-output model, where strong participatory arrangements are at the basis of the enlargement of people's capability of developing their own life plan. The dichotomous approach set up by Michener (1998), between *weak* and *strong* participatory arrangements, is relevant in this respect, as it differentiates the instruments of weak participation, limited to the informal consultation of development beneficiaries, from strong participatory toolkits that proactively endow the poor with decision-making power in development projects.

In the composite domain of ICT4D, development encounters the polymorphous arena of technology studies. Here, on the one hand, optimistic accounts highlight the potential of ICTs for economic growth and prosperity (UNDP 2001, World Bank 1999), and in particular for enabling good governance in the nations that need institutions to be strengthened. In particular, a relatively recent stream of literature highlights the relevance of "open" technologies (Smith and Elder 2010, Smith, Elder and Emdon 2011) to create social transformations that, in turn, act as drivers of development: indeed, as noted by Thomson (2008), collaborative technologies based on the web have devised a brand new way to do ICT4D, capable of involving the users more directly. On the other hand, less optimistic accounts point to the empirically registered ineffectiveness of ICTs as implanted in the developing world, and ascribe it to several reasons: the "new form of dependency" that ICTs engender for poorer nations (Wade 2002), the systematic devaluation of locally produced knowledge (Dagron 2001), the low capabilities of the Internet in terms of generating inclusion mechanisms (Mercer 2006).

Our argument here is that the problem, that arises when the developmental view of empowerment is applied to ICT4D, can be stated in the terms of a lacking focus on *mechanisms*. We sustain indeed that the developmental vision, focusing sharply on the enlargement of people's choices through participation, implicitly reduces the totality of toolkits for institutional accountability to the role of potential inputs, without establishing systematic differences according to the nature of the inputs themselves. As such, this view reduces the role of ICTs to that of a mere instrument, devised for the end of capability-based empowerment: the systematic prioritization of development objectives, and the consequent neglect of technological inputs, are, in themselves, im-

plications of a view of technology as constantly re-shapable *in situ* by the agents of development. This is entailed by the argument of technological situatedness, of which the work of Orlikowski (2000) is paradigmatic: in this approach, technology is not an agent shaping human action in its own right, but rather a pliable means to service our own human purposes.

The point here is that the situated view of technology is widely adopted in ICT4D, in an unspelled and aprioristic fashion. Indeed, a careful examination of this academic domain reveals that ICT4D is not grounded on theories of technology in its own right: rather, this field relies crucially on a plethora of single, context-based case studies, out of which policy recommendations are extracted and generalized to macro-areas of action. Yet, the problem with this view is that, owing to its context- and objective-oriented nature, it systematically overlooks the technology by depriving it of any constitutive power, and relegates it to the role of tool for an existing, pre-determined purpose (Orlikowski and Iacono 2001: 123-124). As such, a paradoxical outcome comes to be reached, in which ICT4D arises as a field where the technology, epitomized by wholly pliable ICTs, stays in the background, instead of being brought at the forefront of debate and examination.

As a result, in ICT4D, empowerment is not measured with reference to technology. This concept remains, by and large, confined to the developmental vision, which measures it solely with reference to the achievement of capabilities for attaining people's life plans. Therefore the key question, *where is the technology* in this process? remains by and large unresponded: the underlying, unspelled assumption of situatedness, as it is systematically accepted in ICT4D, does not allow for examination of empowerment under the point of view of technology, and its multifaceted relations with its relevant groups of users. Thus constructed, the concept of empowerment presents, therefore, a severe incompleteness on the technological side, which calls for a thorough project of reframing and reconstruction.

Empowerment: The Technology View

As observed above, in the theoretical scheme underlying ICT4D, technology tends to be conceived *a priori* as a pliable element, amenable to be reshaped and plied for achieving the users' objectives. As such, in the ICT4D literature, a concept of empowerment with reference to technology is lacking, and the technological side of it is entirely substituted by the development-oriented purpose of enlargement of people's choices. Therefore, our objective here is that of structuring this lacking concept, starting from the idea, set out by Kallinikos (2011: 3; 2004:

236), that a thorough understanding of technology should not be reduced to the interface at which humans encounter computer-based artefacts. Hence, we examine the notion of technology as a generic, cross-contextual force, and subsequently apply this conception to the macro-area of ICT4D for reframing empowerment.

The idea of technology as cross-contextual is articulated by Kallinikos (2011: 25-31) in the argument that technology, rather than a malleable substratum of action and thought, is a powerful regulator of social practice, juxtaposed to social norms and culture in the task of influencing human behaviour. Drawing on Luhmann (1993), the strategies on which technology relies for regulation are conceptualized by Kallinikos in the terms of *functional simplification* and *closure*: functional simplification reduces the multiplicity of social settings by selecting a strict set of functions that are instrumented as strict causal couplings, whilst functional closure ensures that these couplings occur in a fixed and predictable order. Through these strategies, technology invites human action to be conducted along specific paths, and this puts into severe discussion the idea of situatedness on which academic literature, within ICT4D, implicitly relies. The relevance of this body of theory, for our work here, lies in the fact that it brings technology out of neglect and back to the centre of the academic debate, as a regulative force in its own right.

What are the implications of this body of theory, for the literature and practice in ICT4D? Counterbalanced against the conception of technology as a malleable substratum, this idea of technology as a powerful regulating force brings the key question *where is the technology* here? out of aprioristic visions, and back into discussion. The key implication of this lies in the fact that the concept of empowerment, rooted so far on a situated and context-based view of technology, needs to be reframed at its very grounding bases. As a result, if we conceptualize technology as a regulative force, then empowerment needs to be viewed with respect to technology itself, and not only under a developmental, capability-centred point of view. We need to coin, therefore, a concept of empowerment *with reference to technology* in ICT4D: this notion stems directly from the conception of a balance of power, between the regulative power of technology and the human reactions of the user. An input-output definition can be devised here, paralleling the one just devised for the development view: users are empowered with respect to technology, *if they are capable of manipulating it* at their own advantage, notwithstanding the regulative power that it yields.

If manipulability of the artefact is the outcome, what is the input required in this process? It is our view

that, whereas the developmental idea of empowerment requires toolkits for implementing strong participation, the technological view of this concept requires an *open structure* of developmental tools that is amenable to users' proactive mastery and intervention. This idea can be traced back to the point of Kallinikos (2011: 42), stating that artefacts are most retraceable when, with respect to them, processes and outcomes can be separated: which is, when there is a well-defined syntactic and semantic code lying at the basis of technological structure. Semantics is to be seen here, in a fashion similar to that of Manovich (2001: 32-33), as the meanings embedded in the artefact, which needs to be mastered for conscious manipulation to be achieved. We can conclude, as a result, that open structures are required, for developmental technologies to actually empower the users: through openness, beneficiaries are entitled to comprehend the syntax of the artefact, and to master it in the ways that are most beneficial for their intended outcomes.

Our reframed concept of empowerment in ICT4D is synthesized in Table 1 above. In our conceptualization, ICT4D-induced empowerment stems from the sum of two dimensions, a development-based one oriented to participation in project-making, and a technology-based one oriented to openness in the nature of the artefacts. Our argument here is that, in contrast to a literature that systematically privileges the first conception, both dimensions of human empowerment need to be granted equal dignity in ICT4D: indeed, neglecting one of them leaves the picture incomplete, as both ICTs and development mutually interact in constituting the social practice of this composite field. This is most evident in the case examined here, picturing an ICT-based development project where the two dimensions of empowerment have been fulfilled to significantly different extents.

E-Krishi: E-Commerce and E-Inclusion in Kerala

Our case study here is that of E-Krishi, a web-based device for e-commerce and e-inclusion, designed for usage by the farmer community in the southern Indian state of Kerala. Launched in 2006 by the Kerala State Information Technology Mission (KSITM), an implementation agency depending on the Kerala Department of Information Technology, E-Krishi has been developed with the purpose of addressing the existing gap in information flow and transaction management through the toolkits provided by computers and the Internet. To achieve this purpose, the E-Krishi web space has been created out of the dynamic combination of three integrated modules: a platform for e-commerce, in which buyers and sellers are matched in specific spaces of interaction; a platform for information, providing expert advisory on cropping and agri-market highlights; and a platform for communication, allowing farmer-to-farmer interaction flows and direct communication with agricultural institutions. The project operates through IT-enabled agri-business centres, i.e. the *telecentres* that are positioned across the whole state of Kerala.

The E-Krishi project works as an interactive website, based on the mutual integration of its three platforms. The platform for e-commerce is, in itself, an "agricultural trade centre" located online: it consists of two dedicated corners, for buyers and sellers respectively, where farmers are enabled to post their own announcements. This platform is remarkably useful for the foreign trade of crops, and yet, a systemic drawback here is ascribed to the lack of transaction-support services: the site works, in the terms set out by Pare (2003), as a mere "match-making" device, which provides no additional services for ensuring that transactions are actually performed and completed by the parts.

	Input	Output
Empowerment in Development	Strong participatory arrangements: - Accountability-enhancing toolkits - Transfer of decisional power from development agents to recipients	People's capability of fully developing their own life plans
Empowerment in Technology	Open structure of artefacts: - Clear syntax underlying technology - Amenability to users' mastery	People's capability of manipulating the artefact for their own needs

Table 1: A Model for Reframing Empowerment

In effect, this platform does not supply a system for reference submission and provision: there is, *de facto*, self-assessment of the quality of goods that are sold, which sharply reduces the trustability of the agri-market vendors encountered online.

The platform for information, oriented to supply farmers with locally relevant advice for agri-business, is composed out of two complementary web spaces. On the one hand, a section on farm advisory services provides information on the appropriate cultivation of crops, weather-related forecasts, and general advice on the usage of fertilizers. On the other hand, a section revolving around agri-market information provides relevant data on commodities and prices, and constant updates in terms of both inputs and outputs in the market for farming produce. This dichotomous platform has been created to ensure that farmers benefit from best practices in their operations, while maximizing financial awareness when performing their own transactions.

Finally, the platform for communication allows farmers to raise their own points and questions, both to each other within a web forum and to the government institutions embedded in a dedicated system, namely the Karshaka Information Systems Services And Networking (KISSAN). On the one hand, a web forum organized along the lines of *panchayats* (local administrative units) and agri-market topics is in place, and it is purposefully moderated to maximize the informational gains stemming from mutual interaction between cultivators in the state. On the other hand, the institutional system of KISSAN is called into question: KISSAN is an integrated service delivery model, elaborated with the objective of providing farmers with accurate, customized information on their activity and produce.

Discussion: Empowerment Reframed

Our objective, in this section, is that of putting our reframed notion of empowerment into action, by examining if, and how, the E-Krishi device is able to generate empowerment, from both a developmental and a technological point of view. We focus on the developmental dimension first. Is there, in E-Krishi, any evidence of those strong participatory toolkits that are aimed at maximizing the recipients' capacity of fulfilling their objectives?

Our argument here is that such tools are, indeed, present and embedded in E-Krishi, and can be identified in three different respects. Firstly, the platform for information and that for communication purposefully put their users – namely, farmers subjected to systemic uncertainties, both in environmental conditions and in the market – in a situation that sharply reduces existing asymmetries in information. Informational devices for cropping, on the one hand, and for pricing, on the other, are aimed exactly at filling information gaps, induced by isolation and factor volatility: moreover, customized information is provided by KISSAN in a farmer-centric model that provides personal consultancy for specific enquirers. As such, users of E-Krishi are systematically equipped with the background in terms of information and awareness that forms the basis of a conscious active participation in agri-business.

Secondly, the platform for e-commerce is participatory in its own nature, as it allows for enrolment and perusal by virtually every farmer in the state. This is, in our interpretation, the positive flip side of the lack of transaction support services, which lowers significantly the barriers to entry in E-Krishi's buyer-seller matching hub. Given that there is no specific requirement for references or for a minimum initial guarantee to back commercial offers, all farmers are enabled to post their announcements and to actively take part in the virtual E-Krishi marketplace. In this respect, E-Krishi provides a counter-example to the several failures that have marked e-commerce in developing nations. In a field that some literature has identified as problematic for the developing world (Molla and Heeks 2007, Moodley and Morris 2004, Odedra-Straub 2003), this toolkit has achieved, in effect, a democratization in farmers' access to the e-market. Indeed, any Keralite cultivator is now entitled to take part in it, helped by the aforementioned informational devices on adequate prices for buying and selling.

Thirdly, within the telecentres where E-Krishi is accessed, participatory action is promoted proactively and continuously by the Akshaya telecentre entrepreneurs. Indeed, these actors need to constantly monitor the social sustainability of their own e-centres (Masiero 2011), and therefore they are subjected to a strong incentive in keeping services coherent with local demand. This involves, in rural areas, the actual setting up of *bhoomi* clubs: these associations induce farmers to physically go to the e-kiosks to learn how to use the E-Krishi devices and exchange information with other local cultivators. What emerges then, in several cases, is the formation of a regular pattern of usage of the telecentres by the farmers involved in the project of E-Krishi. In this way, as noted by Madon (2007), telecentres are actually turned into shared social spaces, where participation takes the shape of awareness of a collective condition, such as that of rural dwellers in the countryside of Kerala. Collective awareness is reinforced by the mutual exchange of contents in the dedicated forum, which is an integral part of the web-based platform for communication.

Figure 1 below synthesizes these three mechanisms, which are instrumental for us in arguing that E-Krishi *does* reach empowerment, if seen from the developmental point of view on the concept. Each of these three channels, embedded in E-Krishi, proactively helps farmers in realizing their own life plans: platforms for information and communication minimize informational asymmetries, acting towards the users' liberation from the "substantial unfreedom" of lacking knowledge. The platform for e-commerce, by itself, abates barriers to entry into the e-market for agricultural goods, creating new trade opportunities and the potential of greater revenues from produce. Finally, *bhoomi* clubs and the web-based forum operate as social enablers in the farmer community, acting as an antidote to the constraints induced by geographic barriers and isolation.
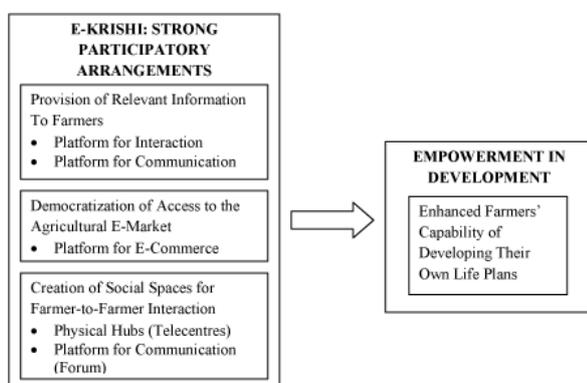

Figure 1: Factors of Empowerment in Development within E-Krishi

Notwithstanding this discourse, we now need to turn to what happens when, bringing into play our reframed notion of empowerment, we observe this very same concept from the point of view of technology. Our point here is that, by conceiving the idea of empowerment in a strictly developmental sense, E-Krishi does, in turn, sharply reduce the empowerment of farmers in technological terms. The regulative power of technology, we have argued, tends to be systematically overlooked in ICT4D, and a closer look to the mechanics of E-Krishi shows that, in effect, this project hardly makes an exception. There are, in our view, three motives for stating that the technology, in E-Krishi, minimizes the weight of users in the related balance of power.

Firstly, information supplied through E-Krishi's dedicated platforms, for accurate and business-enabling that it can be, is entirely monopolized by the Government of Kerala. On the one hand, information on best practices in cropping is based on recommendations from the Kerala Department for Agriculture. This body, committed to act in the interest of the state, has a systemic incentive towards promoting certain cropping patterns, aimed at improving Kerala's terms of trade over other ones. The same holds for the online fertilizer recommendation system that falls under KISSAN – a government-owned information device. Through monopoly on information provision, the government is enabled to promote certain fertilizers – those produced by the "right" firms – over competing products. As of McLuhan (1964), a medium proactively shapes the informational content that it carries, and in this case, where informational devices are actually owned and operated by the government, these are amenable to be used for conveying exactly the contents that the Government wants to pass. As such, open integration of information sources is not achieved, and information provided through E-Krishi is monopolized by a single ruling actor.

Secondly, within the E-Krishi platform for e-commerce, advertising announcements are listed in order of relevance, through a ranking algorithm devised by the National Informatics Centre (NIC) of Kerala: once again, a body depending directly on the Keralite government. Here we should trace back to the discourse of Manovich (2001), stating that artefacts, to be semantically mastered by users, should have an open architectural code at their basis. Yet, in E-Krishi, the situation is the opposite. Not only cultivators have no power in determining the level of relevance of their announcements, but, despite the e-literacy achieved in the state through Akshaya, the closed architecture of the algorithm prevents *anyone* from knowing the factors that this device considers for the task of relevance attribution. The outcome of the process is that the government, interested in enacting specific patterns of agricultural trade, is enabled to manipulate the ranking as it prefers, given that ownership of the technology rests firmly in its own hands.

Thirdly, the farmer-to-farmer communication, enabled online by the dedicated forum, may look at a first glance as a grassroots instrument, where gains from virtual interaction are achieved from below by the people. And yet, two factors lead us to suspend the judgement, when assessing the nature of the interaction promoted here. First, interaction is streamlined through administrative and conceptual divisions, operationalized in the forum's structure by technology designers – belonging, once again, to the NIC. Secondly, moderation is heavy in the forum with frequent cases of direct action by moderators on the content of discussions – which has, indeed, generated widespread disappointment in local users. The interest of government, here, is not in bottom-up participation. By contrast, a top-down process of community construction is achieved, where the government, and not the user, is the actor empowered by mastering the technology for its own aims.

Figure 2 below synthesizes these three instruments, i.e. those that sharply reduce empowerment in E-Krishi from the technological point of view of the concept. These instruments provide an implicit answer to the question on if and how technology matters in ICT4D. The structuring architecture of E-Krishi is closed and monopolized. As a result, users enjoy no power in terms of comprehending its syntax and mastering it for themselves. By selecting the information most desired by the government, ranking announcements through a government-controlled algorithm and constructing communities in a top-down fashion, E-Krishi makes the user subjected to the dictates of the ruling administration, which derives its influence from controlling the technology.
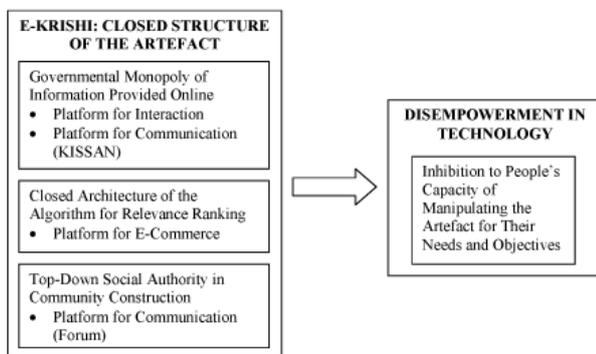

Figure 2: Factors of Disempowerment in Technology within E-Krishi

What do we conclude in terms of theory, from the case study examined here? Paraphrasing Kallinikos (2011: 142), E-Krishi gives empowerment with the hand of development, and, simultaneously, reclaims it with the hand of technology. As a result, this story illustrates the argument according to which empowerment, if viewed solely from the perspective of development, accounts for only a fraction of an inherently composite process. Indeed, participatory toolkits do exist within E-Krishi, but the grammar of the technology remains closed to its users: farmers take its consequences, but are unable to master it, given that ownership of drivers and algorithms remains firmly held in the ruling hands of government. The perspective of ICT4D, which remains by and large limited to a sole orientation to development, is *per se* unable to grasp the implications of these technological restrictions on empowerment. As such, this case is used here to reaffirm the value of our proposed framework: a two-pronged one, where empowerment is viewed both on the developmental and on the technological side.

Conclusion

Our reflection, in this paper, has been triggered by the acknowledgement of a major discrepancy between the composite nature of ICT4D – as made out of both a developmental and a technological sphere – and the aprioristic adoption, in this field, of a developmental perspective, which prioritizes the objectives of development over the ICT-induced route to it. Our task in this work has been that of reconstructing the concept of empowerment, a mainstream one in development theory, from the technological side of the problem. By asking the unspelled key question, *where is the technology in ICT4D?* we have reframed the concept of empowerment as two-pronged along the lines of an input-output model: in the development view, strong participatory arrangements constitute the factor resulting in the outcome of people's capability of fulfilling their own life plans. In a parallel fashion, empowerment towards technology coincides with users' capability of manipulating the artefact, predicated upon open structures that allow the recipients to comprehend and master the syntax of technological objects.

This reconstructed, two-pronged concept of empowerment has been put into action for analyzing E-Krishi, a web-based device for e-commerce and e-inclusion targeted to the Kerala farmer community. We have noted that, from a developmental perspective, E-Krishi does act as a carrier of empowerment to beneficiaries, as a result of the participatory toolkit embedded in its three platforms: relevant information on agri-business is provided, access to e-commerce is democratized and social spaces are created – both within physical telecentres and online – for farmer-to-farmer mutual communication. Yet, it is our point that E-Krishi, while empowering users developmentally, disempowers them from the point of view of technology. Indeed, the syntax of the artefact is subtracted to users' mastery, as its ownership and control are firmly held in the ruling hands of the government of Kerala. As a result, the government monopolizes the information provided online, manipulates the ranking of competitors in the e-market and constructs communities of participation in a top-down fashion, rather than encouraging grass-roots patterns of aggregation between farmers.

Reframing empowerment, through adding the perspective of technology to that of development, is a consequence of broadening the theoretical perspective, from one that takes situatedness as an unquestioned truth to one that problematizes it, considering technology as a regulator in its own right. By doing so, we shift from an ICT4D where the "D" is hegemonic, to one where equal dignity is granted to both dimensions, and technology is viewed as yielding power *per se*, rather than being systematically reshaped as a multipurpose development tool. Moreover, and most importantly, our reframed notion of empowerment allows us to explain real-life outcomes such as that of E-Krishi, where empowerment, while achieved from the point of view of ca-

pability enhancement, is limited by the lack of any form of influence from users on the technology that informs development management.

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