Open ICTs and Development : A Marriage of Inconvenience

(Where there is a meeting of hearts, but not of outlooks)

Comments on the Final Report of the Research Project

Mediating Voices and Communicating Realities

Using information crowdsourcing tools, open data initiatives and digital media to support and protect the vulnerable and marginalised

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1.Open ICTs and Development – Is There a Match?

What are open ICTs?

As a question of principle, it is not difficult to answer the question of whether open ICT models have a role in furthering participatory development . Perhaps, for the first time ,a set of technologies have such an inherently social character; for ICTs are being continuously made and remade in the hands of users. Being 'intelligent' technologies, they can interact iteratively with human intelligence and can be employed in a range of human actions in almost unlimited trajectories towards very different ends. Also, each of the new emerging forms of ICTs, essentially the information contained in them, is a non-rival good, in that its use does not diminish it for others to use it. The closest analogy to such collaborative non-rival construction of a technology is 'language'. It is however different with ICTs in that unlike language they are tied to some machines or implements outside of the human body, and thus dependent on their availability.

To make the analogy more apt, we can imagine a situation where we may need a simple device to make the sound for constructing spoken words – say, a flute-like thing – and require another simple device to 'hear' it. These two end-devices would be personal and proprietary, but the sounds, words and language between them, would be something of reiterative collaborative production and for common use and sharing. New ICTs can be approached from a similar principle, though the manner of their functioning and the possibilities they open up are infinitely more complex.

In the context of ICTs, the term 'openness' has been used with many different meanings. At one level, fundamentally new levels of connectivity and interactivity that they afford, can in themselves be considered to render them open. In this view, *all* new ICTs are considered as promoting openness, and thus in some way to be open technologies. Somewhat more restrictive is a definition whereby ICTs are open if they follow open standards. In this definition, various restrictions on access and use of ICTs can legitimately be placed as long as they are interoperable along some key interface elements. What these key interface elements are, and how seamless should the interoperability be, is still judged differently by different actors, providing different definitions of 'open standards'.

What would, however, be completely and really open are those ICTs where all intangible aspects of ICTs (information tied to or carried upon such ICTs) – i.e. not including the hardware part – are open to access and use by anyone. Such an open regime of use and access should only be constrained by restrictions that contribute to the common good : for instance, open source software licences that allow free use only if further modifications of the used intangibles are themselves free for all others to access and use.

It is in this sense of full openness that we speak of the relevance of open ICTs to development. It should be obvious that communal appropriation of important (non-rival) intangible resources would help the cause of equity and social justice. A collaborative mode of production based on common sharing should also increase the net intangible assets of the community, because open access to these resources greatly facilitates further production. A shared access to non-rival intangible resources and a collaborative mode of their production then leaves a level playing field for people to compete for rival tangible goods through a market mechanism (though there are of course many such goods that too have to be provided as public or common goods, like a sufficient quantity of

food for everyone, and other basic requirements for a decent and dignified life). As ICTs become a significant resource base of our societies, open ICTs enhance the community sector vis a vis the market sector.

The preponderance of ICT-based intangible resources today only provides the possibility for the emergence of a strong community sector, it does not guarantee it. Even if we were to brush aside an unthinking reliance on the wisdom of the 'tragedy of commons' in the new situation, effectively managing the new community configurations and systems is the real challenge. Undoubtedly, ICTs themselves enable new forms of management of large decentralised systems, as we have seen in the case of FOSS. However, things can become considerably more complex and difficult to manage when we move beyond systems or community configurations dealing with core technology production to more social areas. It is the challenge of managing open ICT systems in these social contexts that requires urgent attention and considerable research. We find that the final report of the research 'Mediating Voices and Communicating Realities' treats this challenge as a central issue, to which our comments are also mainly addressed. Firstly, however, we will offer some practical comments on the relevance of open ICTs to development.

It is should be obvious that more information and better communication is useful to development practice . Indeed, even in the research report (mentioned above), the uses and benefits of local mapping, micro-reporting and micro-media seem to be largely taken for granted, and that aspect is not much inquired into. In a context of very poor information availability and undeveloped local media, providing an ICT based powerhouse of such new, extremely potent possibilities can be justifiably pursued without much self-doubt. However, at some stage, a strong connection between actual uses and impacts of these experiments in the local context and further development of open ICT systems will need to be established. When and how can such a connection be established, has been a key question in the area of ICTs for development.

On one hand, there is the 'productivity paradox'. Real benefits of using ICTs, with demonstrated positive cost/ benefit equations, often take quite some time to be visible. While the possibilities of introducing ICTs look tantalisingly large, the initial costs of investing into new individual and organisational habits, let alone the direct technology related costs, can be huge. Using ICTs therefore , requires a considerable leap of faith initially. In that sense, one is often required to proceed on informed assumptions. Anecdotal evidence therefore helps to show the dots that have then to be connected by imaginative reasoning and extrapolation by the involved actors, with reference to the specific local realities.

Another, major issue, quite connected to the above, is the fact that ICTs are general purpose technologies, and once they are used effectively ,they find uses in almost all lines of activities pursued by an organisation. Correspondingly, the cost-benefit equation is best served if open ICT systems start to be used for a variety of purposes, simultaneously or in relatively quick succession, rather than in stand alone application. One of the most important lessons of a decade of ICTD experience is that such stand alone applications, even when they often provide a spectacular vision of new possibilities, have almost always failed to sustain. However, even if an organisation adopts open ICT systems in a large array of its activities, the extent of use of ICTs in its ecology (much less, use of open ICTs) can significantly limit their usefulness.

Experimentation is a very significant element in the process of adapting open ICT systems to development practice ;this factor needs to be kept in mind while devising any such intervention. In

any case, the starting point has to be an appreciation of generic new possibilities offered by open ICTs for development; some of which are discussed below.

It may be worth mentioning at this point that while there are different visions of development, the connection we are trying to establish is between open ICTs and participatory development. Many understand development to be contingent on making quick and deep connections with external mature markets (national, global). In this vision, local enterprises are best developed around such linkages, which spurs all-round development of the community. For those who subscribe to this vision, appropriate commodification of ICTs seems useful both for incentivising outside players and enabling profit-motivated local entrepreneurial activity.

While it is not possible here to go into the relative merits of different visions of development, we do consider that even local entrepreneurship is much better served by open ICT systems rather than closed ones. A lot of literature available on FOSS and local enterprises provide us with demonstrable evidence in this regard.

Below are discussed briefly some new possibilities offered by ICTs for participatory development practice. Participatory development focusses on community based processes. For the sake of the present discussion we can classify them into two kinds- processes of community reflection and that of community action.

Open ICTs for community reflection

Community reflection is important for developing community norms, and for shaping community action. The local public sphere can greatly be reshaped by the use of open ICTs, like community radio, participatory video and internet based crowd-sourcing of news and opinions, including in the form of local audio-video material.

In a context that is overwhelmingly dominated by homogenised national/ global media, there are innumerable instances of community radio and participatory video setting up powerful eddies of local counter discourses. For instance, the women's organisation *Anandi* locally produced a video film on the experiences of women accused of witch craft and ostracised by the communities they belonged to, in parts of Gujarat. When such a video about the travails and experiences of 'real and known' women is played back to the community, something shifts in the collective consciousness. A similar impact has been caused by community radio broadcasts by women's collectives in Mysore, in an intervention facilitated by the *Mahila Samkhaya* programme and IT for Change's Centre for Community Informatics and Development. In these radio broadcasts, women of the village discuss issues of 'wife-beating' (a much more direct and locally meaningful expression than 'domestic violence') and men hear the broadcasts at a village shop, with the name of the village being highlighted and the voices on the radio recognisable. When an issue of common tacit knowledge in a village community is presented in such a powerful, ICT enabled fashion, to the convened collective consciousness of the community, it becomes that much more difficult for the community to continue to leave the issue politically unacknowledged

Audio-video uploads to open spaces on the Internet greatly democratise, and also expand, such counter spaces of community discourses in the public sphere. If systematic work is done in this area including the incorporation of more 'interesting' stuff like local news and entertainment, it can open up a whole new robust local media space, enabling the articulation and emergence of new local identities and collective empowerment. (This is not to romanticise a 'homogeneous local

community'. It is of course possible that these new spaces are used for separate identity assertion and empowerment of different groups within the local communities.)

Open ICTs for community action

When something has been collectively taken note of, it is more difficult to not do anything at all about it. It is true even when the 'truth' was always largely known. In a village of Gujarat, where the *Abhiyan* Collective works, village household data was collected and analysed by community volunteers. This was presented back to the community. The advantaged castes were 'shocked to learn' that the educational status of girls from their group was worse than that from the much poorer disadvantaged castes. This of course had to do with more strict patriarchal norms among the more advantaged castes. However, when this data was presented at a collective village meeting, village and caste leaders immediately begin to take steps to ensure that more girls went to school, and if possible, to college. Similarly, community action was triggered when a local voluntary organisation in Haryana, which has a very low sex ratio (834/ 1000) due to female foeticide practices, conducted the simple act of putting up a blackboard at the village bus-stop with the village sex ratio written on it. Every time a baby was born in the village, the statistics changed on the blackboard. Soon, the village elders and the local self governance body decided to arrange a local awareness campaign on this issue.

Community generated data can be used effectively for micro-planning, as the data is more reliable and also covers fields that are in line with local community priorities. Two examples from the work of *Abhiyan* Collective in Gujarat State may be useful here. Often, official data sets do not have data fields most relevant to local communities. In some villages where *Abhiyan* works, there was large scale land acquisition for industrialisation. So, when community generated data gathering was planned, it included fields like, whether someone has lost land to such acquisitions, who was the first person to approach them to acquire their land etc., which provided very insightful and, potentially, politically volatile facts. At some other villages, in order to encourage local communities to engage with community generated data, *Abhiyan* not only helped in developing such data but also offered incentives to the villagers to use it for micro-planning. *Abhiyan* came up with a Village Development Fund scheme whereby villages were to present a well-supported plan for local development activities. Those with the most well-developed plans, *inter alia* using community generated data, were awarded an annual support from a local charitable fund.

A working group of the Ministry of rural self-government of the Government of India has recommended that village self government bodies collect their own local data and do their planning using it, apart from using official data made available by government agencies. It is however difficult to collect and manage such data without good ICT applications. Over open ICT platforms, it should be possible that such data is presented along with official data, so that they can be compared on a dynamic basis. Also, it should be possible for community members to annotate the data on an ongoing basis. Such open annotated public data can become a powerful means of local community empowerment and self governance. It also provides the basis for local intra-community political contestations.

It was a movement of labourers employed in public works asking for officials records of payments made to them, which they sought to contest, that gave birth to the right to information legislation in India. This process of challenging official data by testimonies of local people has been institutionalised through the process of 'social audits' in India. Most new development schemes have provisions for some such social audits. Regular and effective social audits however require

open access to all the required public information at all times; and also capturing the 'alternative information' on open ICT platforms so that they can effectively challenge official records. Open annotated public information maintained at the local community level can thus transform governance and development activities at the community level.

2.Open ICTs for Development - Getting the Act Together

The differences run deep

As mentioned earlier, it is much easier to argue that open ICTs can greatly help processes of participatory development, and thus benefit the marginalised groups. It is much more difficult to suggest the best pathways for application of such technology to, or its integration with, development practice. We have already alluded to some issues involved in any such endeavour; the necessary experimental aspects of any intervention (at least early on), the productivity paradox, and the need for developing new individual and organisational habits.

The dynamics of the organisational setting of any open ICTs for development intervention is perhaps the single most important issue that requires to be focussed upon. Almost all such interventions are in the form of some kind of partnership between an ICT actor and (by contrast) a 'traditional' development actor. Appropriate structuring of the relationship between these two kinds of actors is very important. Furthermore, open ICTs require some kind of distributed community or volunteer contribution. Therefore, we are looking at exploring the dynamics of relationship between at least three kinds of actors. (Since ICTs enable systemic linkages, a fourth category of public sector actors may also be relevant to most interventions). We find the research report (mentioned earlier) most useful with respect to the insights regarding this all-important dynamic among different kinds of actors involved in open ICTs for development projects. , While the report provides important tips for application of ICTs in practice, it also opens up significant new areas that require continued research.

It is the nature of ICTs to structurally reconfigure most systems that they get applied to, over time. As mentioned earlier, We are speaking here of a new community system (or a vastly expanded one, depending on how we see it) – which can be defined as a system of actors where the incentive for action is not profit, or direct material benefit, but the 'common good'. The real issue is how to appropriately manage this new system of actors, who are motivated to work for the 'common good'. Some may say, it is basically about managing a new technology commons. In this regard, insights from the path-breaking work done by FOSS communities comes to mind at once, which is indeed rather useful in the present context. However, what we are dealing here with, in terms of new development practices, are techno-social or simply new social commons, and their contexts may be quite different from a typical 'technology commons'. Use of open ICTs can greatly increase the extent of social commons[1], since most 'new resources' associated with ICTs are inherently of a non rival nature. As importantly, these new resources are also continually enhanced by the transformed

1 We understand that the distinction between 'technology commons' and 'social commons' is not quite strong, as is indeed between a technical process and a social process. In any case, the distinction made here refers more to the nature of actors involved than the substantive content of the respective commons. We could have used the term 'informational commons' instead of 'new social commons' but we think that while information is large part of it, the new commons include a bigger set of capabilities than is covered by the term 'informational'. Also, ICTs may provide new ways of managing existing, pre-ICT, commons of different kinds.

nature and extent of horizontal interactivity. ICTs also provide new possibilities for managing these new commons (as also old, existing ones), which could come into a possible tension with traditional ways of managing commons, such as management through the institutions of the state, through professional NGOs/ charities organising voluntary activity or common ownership.

The technology actors in these emerging systems of communal activity are almost always from the outside. They often have the 'technology expertise' chip-on-the-shoulder, and also mostly are the ones who bring in the funds. This generally tips the power equation to their side. The development actors, on the other hand, 'own' the local development space – in terms of the right connections and knowledge or expertise. It is generally the external technology actors who are most keen to do the technology experiment, and not so much the local development actors. Very often the latter are likely to see it just as an opportunity for some extra funding support for the work they may already be doing. Working in the extremely resource starved contexts that most development actors do, apart from perhaps the expected technology scepticism, there are more real issues of externalities involved with ICT related processes, that extends over time and space. Most real benefits look like they will emerge only too much into the future, and it also seems as though there is ground that needs to be covered beyond the areas of work the actors may already have chosen to focus on. Unless the development actors involved make an informed and conscious choice of contributing their efforts towards some new benefits to the community, or to development practice, there is mostly not enough meeting-of-minds and common ownership for a successful ICT for development intervention.

Working together

Even if such an initial meeting-of-minds and a set of common objectives could be attained , it remains difficult to manage an ongoing relationship during the phase of project implementation. Since there are no explicit hierarchies between technology actors and development actors, it becomes difficult to prioritise and organise work. Indeed, not only are open technology actors typically very averse to hierarchies, and rely on informal p2p relationships, application of open ICTs in the host development organisation itself, to some extent, tends to strain its hierarchies. This could become a problem because most development agencies are used to working in some clear hierarchies, even if they employ participatory development practices.

Technology actors typically want things to move faster, and are more interested in the experimental and spectacular outcomes part. They may even over-apply technology. Development actors do not want their existing activities and methods to be disrupted, and prefer to focus on slow but abiding impacts and changes. They also remain very concerned about what happens when the external technology support is withdrawn.

Most development organisations do organise local volunteers as a part of their traditional activities. Volunteering for open ICT projects has a strong additional incentive of 'playing with technology', building new skills, and, as one goes along, perhaps, in the manner of typical FOSS contributors, to be able to 'show off' one's specific contributions to the community which can bring new status. However, material gains remain a strong incentive, especially if one is sourcing individual volunteers. Most traditional development work, while often involving paid local voluntarism, tends to leverage existing organised community based groups, whereby a different set of incentives can come into play. This is especially so if the proposed work can be aligned with the existing priorities of the group.

Most successful ICT for development initiatives focus on some specific activity important to the local community, which can show a real impact. Making such connections to real community action is very important, because once some benefits are foreseen,the stakes of both the involved intermediary traditional development agency and the community in doing ICT based experiments can increase greatly. In seeing the specific benefits, they are now able to interpret open ICTs in their thought processes and language; they can make sense of it. Beyond a point, just talking about 'possibilities' is of limited use. The local groups will need to see and know what it really means, in a meaning and idiom of their own, and not just of the external ICT actor.

In South Africa, even as most stand alone telecentre initiatives failed to take off in many better-off communities, one such initiative became a huge success in a poor fishing community of Struisbaai, a coastal settlement in South Africa's Western Cape Province. This was because the telecentre managed to emerge as the hub of activities of small fishermen resisting the large fishing trawlers. This centre served to provide them the necessary information on all aspects of the issue :for making applications to obtain fishing licenses, sending representations and complaints to governments and so on.

Among different kinds of ICTs, it is the open ICT models that can most easily resonate with the ethos of traditional development actors. However, the real practical meaning of 'openness' is something they will understand only from real instances of use and impact emerging from their work with the technologies, and not just from the formulations of the external actors, however well translated and simplified. The external actors should in fact be looking out for the local idiom and sense-making with regard to open ICTs that they can employ, to further evangelise them.

Do we need a mediator?

While obviously needed, neither technological knowledge nor local knowledge and connections are necessarily the most important factors in making open ICTs work for development. What is most essential is a conscious appreciation of the key issue of how to make different actors work together, in a new context which mostly involves breaching and rearranging institutional boundaries and organisational structures. To use a heavy term, it requires expertise in the 'network society phenomenon' as it expresses contextually, at the specific local community level.

ICT actors and development actors have to be both trained in understanding the emergent new phenomena and working with it. It may be required to have specialised agencies, rooted in the traditional development sector, to develop expertise and capacity building skills in this new area. The discipline and practice of the new area called 'community informatics' may be a useful peg to hang this new requirement on, although, in our understanding, this discipline may need to be more centrally informed of the emerging networked social phenomenon than it may be at present. It may still be too 'social application of ICTs' centric.

Such specialised agencies should work with all the involved actors to explore issues of power equations between technology and development actors; new contexts for, and means of, organising volunteerism; how to do the necessary experiments while focussing on issues with clearest useful outcomes for the community; how to manage strains on hierarchies in local organisations when open ICTs get applied; and how mission creeps are to be managed, and possible new forms of development processes and outcomes collectively agreed upon and planned.

It will also be useful to make clear distinctions between projects that employ a specific community

context to test out a socio-technical application, even if it is supposed to be a non-profit effort towards improving the ICT-development interface. Other projects may be more specifically oriented towards capacity building of local organisations in respect to generalised ICTs based possibilities, which they can leverage contextually in the work they are doing, and the outcomes they seek to achieve. Such clarity of the overall nature of the techno-developmental project greatly helps in defining the dynamics of the interventions, including the relationship between different actors.

Many conditions that determine the success of open ICT projects lie in the external ecology of the directly involved development agencies. For this reasons, one good place for such projects to start with may be to establish ICT-enabled open interactive networks of different actors involved in various development activities at the local level . While it is not at all easy to establish and sustain them, such networks can help collective ownership and considerably mitigate the many adverse factors being faced by most 'ICTs for development' interventions. This is one instance of using ICTs to shape a community process, that may not have immediate spectacular outcomes (in fact there would just be too many doubts expressed about everything at these interacting spaces, at least initially), but can help root ICT interventions much better in the community. Such a platform ,of course, will not replace the more important,regular ,face to face meetings with all the involved actors;but to the extent some of the involved actors may start accessing this platform, it can trigger many positive dynamics. This may include better managing of power equations and issues of hierarchies, and initiating a process of collective sense-making.

3.What is 'Openness' in a Development Context?

In the Map Kibera project there was an interesting disagreement on how should the effort of, and the platforms for, open mapping and open micro-media be sustained. Undoubtedly, the real development impact of these socio-technical platforms or processes can only come through their appropriation by organised and sustained community efforts. In all likelihood, this will take place through local community based organisations and/ or NGOs like the Kibera Community Development Agenda that the Map Kibera project partnered with. The chief of Kibera Community Development Agenda seemed to be disappointed that Map Kibera set up an independent trust to own and run these socio-technical platforms/ processes. He says that it was his understanding that the project was undertaken to build capacities of organisations like his, and therefore, by implication, such processes which came out of the project should be carried forward by them. Those driving the Map Kibera project probably thought that the involved socio-technical platforms/ processes were most useful as well as sustainable if they were 'independently' maintained and managed as a common resource for all groups to use.

So, we are back to what we earlier identified as the key issue; what is the best way to manage a common resource in a particular condition? Both views above have their merit. We ourselves earlier proposed a more networked local system of ownership, where a deliberative platform can help smooth out many rough edges of different views and approaches. Such a 'solution', however, is not easy and ready-made, and it will still require many questions of core ownership, power and hierarchies to be sorted out.

In the end, we will try to link this discussion of how best to manage community ownership to the issue of what does openness mean to development in the new techno-social context of an

information society or a network society.

For 'techies', the term openness is naturally attractive, as meaning no restraint from technological exploration and use. In development, the positive rights of actual enablement are more meaningful. Openness to development actors will be a real, realisable, right to equal participation; in its socio-political meaning. We therefore suggest that openness in the context of ICTs for development means a democratic manner of managing the new commons that are made possible by the network society phenomenon. Local situated innovations using ICT platforms should be employed to 'open up' ownership, not just of the technical elements of the project, but of the whole local development project. It goes back to the point that the technical part of the intervention should always be *in situ*, completely located, and driven from, within the larger local development ecology. Making such abiding connections take time and energy, and perhaps a different kind of orientation and expertise. However, there may not be an easier route around this imperative.