

Minimum ethical standards for ICTD/ICT4D research

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Minimum ethical standards in ICTD/ICT4D research: A co-produced document

Introduction

This document defines a set of minimum ethical standards to be applied in ICTD/ICT4D research. It is a response to a call for such standards for the interdisciplinary ICTD/ICT4D research community. This document draws on existing guidelines from different disciplines which were reviewed collectively in a participatory process for their usefulness for our research community.

This participatory process included a series of workshops involving researchers, practitioners and students working in the ICTD/ICT4D field. These #ICTDEthics workshops took place at ICTD 2016 conference, Ann Arbor, Michigan USA, June 2016; ICT4D Meetup, London UK, January 2017; ICTDevers workshop, Cape Town, South Africa, April 2017; IFIP Working Group 9.4 Conference, Yogyakarta, Indonesia, May 2017. The workshops were facilitated by Andy Dearden, Dorothea Kleine and various colleagues. Andy Dearden and Dorothea Kleine collated responses, and then edited and drafted a proposed text for collective review.

The draft text was reviewed in face to face workshops at the ICTD 2017 Conference in Lahore, Pakistan, November 2017 (facilitated by Melissa Densmore and Linus Kendall) and at the MERL Tech 2018 conference in London, UK in May 2018 (facilitated by Andy Dearden and Kecia Bertermann). The draft was also published online and extensive comments and suggestions were received. This feedback has been used to revise and improve the document.

As facilitators of this process, we are publishing this second, post peer-review version of the document under a creative commons license and recommending that organisations adopt this version of the document, and/or amend it to meet their particular circumstances. We also aim to treat this as a 'living document' to allow comments, discussion and enrichment.

We thank the many contributors, particularly those who helped to facilitate various discussion workshops and hope that these minimum ethical standards will prove to be a useful tool for the community.

Andy Dearden and Dorothea Kleine



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For the #ICTDEthics project.

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Preamble

ICTD/ICT4D research is diverse and complex. It brings together researchers and participants who come from very different contexts, who have very different life experiences, very different knowledges, who face very different life challenges, and together they explore technologies that are rapidly evolving and are profoundly affecting social, political and economic relationships.

ICTD/ICT4D researchers, individually and collectively, place themselves in positions where their actions can have intended and unintended consequences and therefore they carry responsibility. Most ICTD/ICT4D researchers seek to behave ethically, but the complex interdisciplinary nature of the field, and its distinctive characteristics, including the emergent nature of technology, make it difficult for both new and experienced researchers to identify and reason about the ethical issues that surround their work. Individual researchers will refer to ethical guidance and debates within their own discipline. However, none of the contributing disciplines in ICTD/ICT4D, on their own, is likely to provide ethical guidance that covers all of the diverse challenges of ICTD/ICT4D research. It is therefore important for the interdisciplinary ICTD/ICT4D research community to encourage debate of ethical principles and to promote good practice. Our approach has been to conduct a participatory process and collectively develop and record some minimum ethical standards and guidelines. This process started by synthesising key points from existing guidance that is available in the multiple disciplines and organisations that are relevant to ICTD/ICT4D¹ and has been enriched by the experiences and input from participants in the process.

In some areas, in particular big data research, technologies are evolving rapidly and ethical debates are currently ongoing, highly dynamic and have not yet crystallized in fixed guidelines. We recommend that future versions of this document integrate such guidelines as they emerge. In the meantime we strongly encourage researchers using such technologies and research methodologies to engage with these live debates.

While the document is designed to evolve in future versions, this version - Version 2.0, has been developed through a rigorous co-production process and is now available for use. These guidelines will be useful to researchers, practitioners, publishers and ethical oversight bodies reasoning about ethical issues in ICTD/ICT4D research, and as a resource for teaching and preparing for research.

The guidelines below have been collaboratively developed through a series of workshops with ICTD/ICT4D researchers across the world. We recommend that key organisations in ICTD/ICT4D research, such as conference series, academic journals, and research networks commit to these minimum standards. We hope that this process and this document will provide a focus for debate on research ethics in ICTD/ICT4D, and that this document will be reviewed periodically to reflect new understandings that emerge and to address new challenges that arise in the future.

¹ The code of ethics for community informatics researchers; The ethical guidelines of the Developing Areas Research Group; The code of the Association of Internet Researchers; The Canadian Tri-Council Guidance on Research Involving the First Nations, Inuit and Métis Peoples of Canada; The guide to ethical principles and practice in Community Based Participatory Research; The Ethics of Research Related to Healthcare in Developing Countries (Nuffield Council on Bioethics); UNICEF's Principles for Innovation and Technology in Development; The American Anthropological Association's Principles of Professional Responsibility



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1. Basic Principles

In keeping with many research disciplines, ICTD/ICT4D researchers in the interdisciplinary field of ICTD/ICT4D begin with basic principles such as:

- to do no harm;
- to act with honesty and integrity in dealing with research participants;
- to report findings openly and accurately, this includes in particular (where feasible and appropriate) to report findings back to the participants and communities who have engaged in the work, in a form and in language that is useful and accessible for the participants and partners involved;
- to act with fairness and without discrimination so that no individuals or groups of people are unfairly excluded from participation in research or from deriving the benefits of research;
- to show respect for all entities (persons and communities, as appropriate) involved, recognising their inherent dignity and not simply seeing them as means who can be exploited to achieve the researchers' ends;
- to show sensitivity to the diversity of cultures, values and experiences; and
- to respect our shared global natural environment.

Realising these principles in the complex, dynamic practice of ICTD/ICT4D research demands:

- ways of working that take into account and are adapted to the varied contexts in which ICTD/ICT4D research occurs;
- an approach that is attentive to changing conditions and circumstances;
- a commitment to ongoing critical reflection on and reflexivity about the researcher's own plans, decisions and actions;
- an openness to feedback from participants and fellow researchers, including the willingness to change one's own practice.

ICTD/ICT4D researchers should recognise that we do not have any automatic moral or legal right to study other people.

Finally, we emphasise that this document is intended as a discussion of *minimum* standards. ICTD/ICT4D researchers may set higher aspirations for themselves, e.g. to conduct research that promotes, even more actively, inclusion, growth, freedom, justice, equality, peace, well-being etc., informed by their own understandings of 'development'.

2. Positionality

Before embarking on research, ICTD/ICTD researchers should reflect on their own position as compared to the people they write about or work with. Typical axes of difference might include age, gender/gender identity, ethnicity, nationality, disability, marital status, having children/not, sexual orientation, education, income, wealth, social class, faith/religion, cultural beliefs and practices. These differences can lead to misunderstandings and misrepresentations. Some of these differences also imply power differentials which will have to be navigated actively throughout the research process.

Power differentials in favour of the researcher must never consciously be used as a lever to persuade or coerce research participants to participate in all or parts of the research or to affect the data.



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3. Cultural Awareness and Contextuality

ICTD/ICT4D researchers often have a very different cultural and social background to the people who collaborate with them as research partners and research participants.

ICTD/ICT4D researchers should be aware that the consequences of decisions and actions are highly sensitive to different contexts. Researchers themselves may be perceived as important and influential actors so that their words, choices and actions may have significant impacts including being seen to reinforce or challenge local social norms or power structures. Therefore, researchers must constantly develop their understanding and awareness of their working context, and pay attention to advice and guidance from local collaborators and people with experience of that context.

It is possible that there will be laws, social norms, cultural values and practices in the local context and differences amongst partners that may be contrary to the personal values of the researcher. ICTD/ICT4D researchers should consider this possibility in planning their research and seek to recognise such tensions during the research process. Compromises are likely. Researchers should reflect frequently, seeking advice from research partners, peers and advisors as appropriate.

4. Appropriate Research Methods

ICTD/ICT4D researchers must select appropriate research methods. This entails an assessment not only of the appropriate methods for the research questions but also the local context and what is culturally acceptable to participants and other local stakeholders. It is the responsibility of the researcher to obtain sufficient training for the methods they are planning to use, including training in the ethical expectations relating to specific research methods. For instance, informal conversations are not interviews, short visits do not represent ethnographic fieldwork.

Research methodologies and methods used must be open for full discussion and review by peers and stakeholders.

5. Reciprocity and Partnerships

ICTD/ICT4D Researchers should maintain respectful and professional partnerships with other researchers and with other stakeholders. Researchers should actively seek reciprocity and consider how they can give back to the communities and the organisations with which they do research. ICTD/ICT4D research should seek to generate benefits for the participants themselves, for other individuals and for society as a whole, and/or for the advancement of knowledge.

ICTD/ICT4D research is undertaken in a global context characterised by extreme inequalities between countries and within societies in the opportunities to and means for undertaking research. ICT4D researchers who are benefitting from privileges and power within this system should seek at the very least to avoid reinforcing them.

ICT4D researchers should seek exchanges and partnerships with local and national research institutions and academic colleagues in the areas and countries where the research is undertaken. ICTD/ICT4D researchers should seek to strengthen local capacities in research, in ICT and in ethical oversight. Joint research partnerships should then lead to joint publications in local as well as international outlets, including in the local language. The publication pressures of Northern



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researchers should not be the only, or the dominant criterion in developing an appropriate portfolio of research outputs for a project.

ICTD/ICT4D researchers should not waste resources and should consider the environmental cost of research, as well as the time, energy, motivation and hope invested by research participants and partners into the research project. Where local participants are asked to contribute their time to the research without direct benefit arising to them, it is often appropriate to compensate them for their time. It is the researcher's responsibility to explore whether compensation is locally appropriate, and if so at what rate and in what form compensation should be provided. For example, e.g. whether compensation ought to be individual or collective (e.g. a donation to a community organisation), whether it should be financial, material or in kind.

It is the duty of ICT4D researchers to familiarise themselves with the legal rights of respondents and the legal requirements of institutions of the host country to the data and the research outputs. Wherever possible, ICTD/ICT4D researchers should seek to use expertise, research assistance and technical services in the host country and local communities where the work is conducted.

6. Honesty and Realism

There is no such thing as an ideal research process. Constraining factors include timelines, funding, capacity, access etc.

ICTD/ICT4D researchers should be open and honest regarding their work and its limitations. Expectations about the outcomes and possible impact of the research should be as accurate as possible. The expectations of participants should not be raised unrealistically. Under no circumstances should unrealistic promises be used as a device to gain research access and cooperation.

7. Links to Companies, Organisations, Consultancy or Government

ICTD/ICT4D researchers should avoid working in isolation or duplicating existing work. Wherever possible, they should avoid stand-alone, time-limited projects and instead seek to align work to existing projects, local organisations' work, national programmes and priorities. They should engage with other actors in exchanging ideas, building on each other's work and maximising the potential for scaling up. The desire for scale should be balanced with the need for context- and group specific solutions.

Research partnerships with organisations and communities should involve pre-emptive, open, constant and explicit negotiation about access, data ownership, and the benefits of the research.

Written agreements (such as a Memoranda of Understanding) are appropriate to identify clearly the agreed roles, responsibilities, rights and benefits of different stakeholders. When negotiating partnerships with communities, ICTD/ICT4D researchers need to show respect for the representative role of local leaders and appropriate authorities, while developing an awareness of which groups (such as women, lower caste, minorities, financially excluded, or other marginalised groups) might not be represented by the traditional leadership. Further, researchers must recognise that local communities may have more collectivist social norms that deserve respect but should be balanced with the respect for the individual rights of less powerful people in these collectives.



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Careful consideration should be given to engaging in research with, or funded by, certain institutions and agencies, such as the military, secret or intelligence services, or organisations, companies and governments that have poor human rights records. Reasons for caution include the risk of research results being used against certain members or groups in society, unintended use of data for surveillance purposes, and the possibility that the researcher will be co-opted or be seen to legitimise these actors.

Where research is funded by public bodies, the results of this research should be placed in the public domain for public use, while protecting the identities and interests of research participants.

8. Gifts, Bribes, Corruption, Conflict of Interest

ICTD/ICT4D researchers should not be involved in the paying of bribes or in corruption in relation to their research. Researchers may give and/or receive small gifts to research partners or participants where this is culturally appropriate or expected.

ICTD/ICT4D researchers should not accept funding for their research which may lead to a conflict of interest in respect of their findings. They must openly declare, and where possible avoid, any potential conflicts of interest.

Where paid consultancy work overlaps with research activities, ICTD/ICT4D researchers should not allow the consultancy relationship to lead them to adopt an unduly narrow research approach or to have an impact on data collection, interpretation or presentation of findings. Consultants should resist pressure to shape the content of their findings or recommendations to fit the expectations of their funder.

In particular, ICT4D research that advertises or imposes commercial technical products, solutions and services which do not correspond to local needs or priorities bring the field of ICTD/ICT4D into disrepute.

All funding received for research should be clearly and fully declared in all public outputs.

9. Action Research and Authentic Participation

ICTD/ICT4D research should be carried out with the intention to benefit society or the environment. Some research will achieve this by generating new more abstract knowledge while other forms will entail action research which aims to co-produce knowledge and social change with groups or communities.

In action research, the needs and interests of research participants must be at the heart of an intervention. Wherever possible, interventions and technologies should be designed with end users. Relevant user groups and stakeholders should be included in the planning, development, design, implementation, monitoring and assessment of interventions. ICTD/ICT4D researchers should strive to ensure that interventions and projects are sensitive to the needs of less well-represented and the most marginalised groups, which include women, children, those less literate, those with disabilities, minorities and those affected by conflict and disaster.

ICTD/ICT4D researchers should use participatory methodologies only where there is real scope for meaningful participation. Participation as a mere performance of community input to decisions that



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are pre-decided or which are non-essential (i.e. "fake participation") is worse than no participation at all. Fake participation wastes participants' time, sullies the name of participation and increases cynicism, which in turn undermines future dialogue and participatory practice by other researchers.

In action research in particular, ICTD/ICT4D researchers should be aware of power differentials which may affect access to the research process and affect (mis-)representation. ICTD/ICT4D researchers should reflect on the costs and consequences of research participation for all participants and seek to alleviate potential disadvantages of, and overcome barriers to, participation for any individual or group.

Any interventionist approach carries with it the responsibility of a thought-through exit at the end of the project. Before embarking on interventions, ICTD/ICT4D researchers should consider how any interventions and benefits might be sustained after the researcher leaves the research setting, and should work and negotiate with local partners to maximise the potential for sustained benefit.

10. Findings, Reporting and Dissemination

The results of ICTD/ICT4D research should be returned to the participants and communities who have engaged in the work in a form and in languages that are useful and accessible for the participants and partners involved.

ICTD/ICT4D researchers should give appropriate acknowledgement (and compensation) to research participants, co-researchers and contributors to the research. Such acknowledgement may include co-authorship of outputs and co-ownership of research products. ICTD/ICT4D researchers are obliged to give proper credit to employees, students and research collaborators for their ideas, and senior researchers should support the professional development of junior researchers. ICTD/ICT4D researchers should give appropriate acknowledgement to previous work that has informed or influenced the research.

ICTD/ICT4D researchers should recognise outcomes of research for participants and communities as being at least as important as formal research outputs from the research team. In some situations it may be appropriate to limit dissemination of results and findings to protect the interests of research participants.

11. Accountability to Participants and Accuracy of Reports

Research findings often require interpretation and there is a high risk of misunderstanding and misinformation if the findings are being interpreted by people who are coming from outside the local cultural context. Researchers should seek to authenticate their findings by discussing them with their research participants and gathering their feedback before these are published more generally.

In reporting back findings to participants, ICTD/ICT4D researchers should take care to avoid exposing individual participants, or subgroups of participants to risks, for example by undermining anonymity, breaking confidentiality or by adding fuel to local tensions.

12. Risks

Participants and stakeholders in research, including those conducting the research, must not be subjected to unnecessary risks of harm.



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Potential hazards in ICTD/ICT4D research include not only physical harm, but also harm to people's dignity, privacy and to people's political, psychological, material, economic, social, cultural and human rights conditions. ICTD/ICT4D researchers should consider not only significant harms that might affect one individual, but also possible systemic, collective effects that could cause minor harms but to large numbers of people.

Harms from research are possible both during the research process and subsequently when results are published or if data is shared or re-used.

ICTD/ICT4D researchers should carefully analyse and monitor the potential risks to participants, research collaborators, assistants, local communities and other stakeholders. Because harm is difficult to predict, initial risk analysis before commencing research is insufficient and ongoing review of risks is necessary. Researchers should seek advice and guidance from local partners in assessing and monitoring risks.

ICTD/ICT4D researchers should be aware of the harms that can arise when research participants, partners or other stakeholders develop unrealistic expectations about the potential outcomes and impacts of the research. ICTD/ICT4D researchers have a responsibility not to raise expectations about outcomes and impact unreasonably, and where appropriate, this may include challenging unrealistic expectations about technologies.

Researchers should take appropriate actions to alleviate risks that are identified. The risks to participants (or other stakeholders) should not outweigh the benefits of the research participation.

13. Non-Discrimination and Vulnerable Populations

No segment of the population should be excluded from the research unless this can be justified by explicit ethical reasoning. In principle, research should neither neglect nor discriminate against individuals or groups who may benefit from advances in research. On the other hand, no segment of the population should be unduly burdened with the disadvantages (e.g. time costs, risks) of research.

Particular care should be taken when undertaking research with vulnerable groups such as children, institutionalised persons (e.g. in prisons, hospitals etc.), homeless, those with diminished decision-making capacity, socially stigmatised groups and those affected by severe disadvantage and insecure livelihoods. Where there is a risk that research with vulnerable participants may potentially raise emotional responses and traumatic memories, (but the research can still be justified), additional professional help and follow-up (e.g. counselling; social support) needs to be integrated into the research process from the start. Apart from potential harm arising to an individual, special attention needs to be paid to harms to groups, for instance if socially more disadvantaged groups are asked disproportionately often to participate in research. A group's right to be considered and heard needs to be balanced with a group's right to not be excessively imposed upon.

It is worth remembering that the "digital" as a subject area and digital methods, are more likely to be understood in their concept and consequences, by those with higher digital literacy. These are often the more literate, more educated, socially advantaged and younger groups in the population. This needs to be taken into account when more vulnerable populations are asked to make decisions about their participation in research.



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14. Disclosure and Informed Consent

ICTD/ICT4D researchers recognise that people participating in research have equal worth as themselves and have a right to make informed and autonomous decisions about their involvement.

ICTD/ICT4D researchers should always provide open and honest disclosure of the aims and objectives of the research; the sources of funding and expectations of the funding agencies; the research methods being used; the activities that are planned; the data that will be collected and how it will be managed; the way that the outputs from the research will be used and shared; and the potential risks that have been identified.

Because some participants in ICTD/ICT4D research may be unfamiliar with the concept of research and the ways that research is reported, and because of cultural and language differences, ICTD/ICT4D researchers must take active steps to ensure that consent is truly informed and voluntarily given. ICTD/ICT4D researchers must never use unrealistic promises of impact or benefit as a means to encourage participation in research.

Consent should normally be obtained before the research begins, unless there are specific features of the context or the research process that mean that consent can only be obtained retrospectively. In some research practices that involve longer term engagements and iterative development of the research process (e.g. action research or technology design), understanding of the research and of potential risks may evolve over the course of the research. Informed consent must be understood as a continuous process of learning and dialogue. ICTD/ICT4D researchers should regularly review the risks involved in their activities and encourage dialogue with participants and external research governance bodies (e.g. ethics committees, Institutional Review Boards etc.)

In most cases, ICTD/ICT4D researchers should obtain evidence of informed consent in writing. However, there are situations in ICTD/ICT4D research where completing written consent forms is inappropriate or culturally unacceptable. In such cases, researchers should clearly document and account for procedures for freely obtaining and recording the informed consent of participants.

In contexts where collective decision-making is common, collective discussion of consent may be regarded as more culturally appropriate. Owing to the challenges of uneven power relations in communities discussed above, collective consent may be appropriate, but only in situations where there is no risk of less powerful individuals being rendered voiceless. Collective consent should not override an individual's right to grant or withhold their own, individual consent.

Some ICTD/ICT4D research may be based on observations of people's actions in public settings. Normally such research does not require people's individual prior consent. However, ICTD/ICT4D researchers should comply with local arrangements for the oversight and regulation of research. For example, some countries require that researchers hold a 'Research visa', some require visiting researchers to work in partnership with locally based research institutions.

Some ICTD/ICT4D research may be based on digital data collected from electronic social 'spaces' that can be accessed freely on-line. In these cases, ICTD/ICT4D researchers must carefully consider the expectations of people who are using these spaces about the identity and behaviour of other users of the space. There are many situations and spaces that can be freely accessed, where it would not be appropriate to use people's contributions to the space without their explicit consent. When



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participating in such on-line spaces for research purposes, ICTD/ICT4D researchers should ensure that their on-line profile in the space clearly identifies and explains their research activity, and that people they interact with in the space are aware of their role as researchers.

15. Confidentiality and Privacy

Participants in research have a right to protection from undue intrusion, interference, distress, indignity or other harm. Such harm may arise from the collection and sharing of data, or from the publication and presentation of research. Researchers should protect research participants from being personally identified unless participants explicitly make an informed choice to be identified. ICTD/ICT4D researchers should consider carefully whether identifying the specific places or organisations where research has been conducted might result in participants' privacy being compromised.

16. Acknowledgement of Research Participants

In participatory research and co-design, research participants may make important direct contributions to the research outcomes and outputs. In reporting such research it is sometimes appropriate for ICTD/ICT4D researchers to acknowledge individual participants or organisational stakeholders directly, perhaps as co-authors or co-designers. However, ICTD/ICT4D researchers must consider how such acknowledgements might result in (other) participants' desires and rights for privacy and confidentiality being compromised. ICTD/ICT4D researchers should consider such issues in developing research plans, data management plans and procedures for informed consent.

17. Ownership of Data

ICTD/ICT4D researchers should seek to maximise the opportunities for data re-use and sharing that are consistent with avoiding harm to research participants and maintaining participants' rights to privacy. Where there are economic benefits that may be derived from their data, this needs to be explained to participants and where appropriate, such gains should be shared with them.

ICTD/ICT4D researchers must negotiate arrangements for data storage, ownership and access that respect the rights of participants and local research partners, whilst ensuring adequate protection of the confidentiality and privacy for research participants. Data repositories that can be used in future by local researchers may be appropriate.

ICTD/ICT4D researchers must familiarise themselves with the legal rights of participants and partner institutions in relation to research data.

ICTD/ICT4D researchers should recognise the particular responsibilities that surround traditional knowledge and sacred knowledge in the settings in which they are working. Researchers must comply with community expectations in regard of such knowledge, and should ensure that community interests in relation to such knowledge are not undermined by research and reporting.

18. Treatment of Data

The increasing ease with which data can be collected, stored, shared and processed, and the constant development of new data handling technologies (e.g. big data) open new opportunities for



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ICTD/ICT4D, but also new possibilities for unintended harmful consequences. The rapid development of these technologies and techniques means that (at the time of writing) ethical debates are live and dynamically evolving. ICTD/ICT4D researchers making use of such technologies, should ensure that they are engaging in and reviewing those emerging ethical debates. One starting point to join these debates is the 'Responsible Data' community <https://responsibledata.io/>.

ICTD/ICT4D researchers should develop and implement a clear data management plan for all data to be collected during research. Plans should define and justify the data that will be collected and who will own and have rights over that data. The data management plan should also explain how data will be communicated between researchers, how it will be stored, who will have access, how it will be used, how long it will be retained and who is responsible for the management of the data.

ICTD/ICT4D researchers should use appropriate and secure methods to manage collection of, storage of, transmission of, and access to any personally identifiable data about research participants, as well as other primary research data, e.g. field notes, recordings, samples. This includes research diaries.

If third parties are involved in any aspect of the data storage, communication or management (e.g. using cloud services), appropriate measures should be taken to protect the data (e.g. use of encryption, contractual arrangements with the third party etc.).

In planning data management, ICTD/ICT4D researchers should implement principles of 'Data Protection by Design', i.e. they should consider issues of data protection and privacy from the initial inception of the research. ICTD/ICT4D researchers should apply 'Data Protection by Default', i.e. personally identifiable data should be stored for the minimum length of time, and access to personal data should be minimised.

In considering what data to collect, particular care should be taken regarding personal data, i.e. data that relates to an identified or identifiable individual. Collection of personal data should follow principles of data minimisation, so that no more data is collected than is necessary for the purposes or the methodology of the research, and personal data is anonymised and protected as soon as practically possible. Methodological approaches that are radically inductive, such as ethnography based on grounded theory and open-ended searching for patterns in data, stand in tension to the principle of data minimisation and require specific justification, weighing public good, individual rights, appropriateness and relative advantages of the method. Decisions about storage and sharing of data should recognise how data from different sources, including Internet search engines, can be combined to discover identities and information that may have been hidden in the individual data sources.

ICTD/ICT4D researchers should recognise that the data that they collect or analyse may have economic value to the providers of that data or to other people. In retaining data, ICTD/ICT4D researchers need to balance the need to maintain data integrity and accountability, requests for sharing of research data (e.g. open data policies), with the responsibility to protect the privacy and rights, including economic rights, of research participants.

ICT provides many opportunities to collect data automatically by logging interactions with and through digital devices. The collection of such data, and use of the data should be properly justified in the context of the research, and should take account of the risks of future misuse of such data (e.g. undermining anonymization). Given that such data collection may be difficult for research participants



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to observe and monitor, care must be taken so that properly informed consent is obtained, and that the data is only used for the purposes for which consent has been given.

ICTD/ICT4D researchers should review their data management plans to identify and mitigate any risks of harm to research participants, including risks to privacy, prior to commencing research. These risk analyses should be reviewed regularly as the research progresses.

19. Designing Technology in ICTD/ICT4D Research

Designing and exploring novel technologies in a development context can carry particular risks and potentials for harm for both researchers and research participants. These include:

- participants confusing the role and intention of researchers with the roles and intentions of other development and community actors;
- participants developing unrealistic expectations about the future benefits from the research and the technologies that cannot be fulfilled;
- participants donating their time and energy to develop technologies that they cannot benefit from (e.g. because they cannot afford those technologies, the technologies are in a very early stage of development or the technologies are not sustainable in the context); or
- participants being used to serve researchers' interests without any commensurate sustainable benefits being delivered for participants and their communities.

ICTD/ICT4D researchers must take active steps to avoid these risks.

ICTD/ICT4D researchers should not introduce new technologies into a setting without first understanding how those technologies relate to the existing technology ecosystem in that setting.

ICTD/ICT4D researchers introducing new technologies should always have a clear and transparent exit plan. The exit plan will define: what will happen to the technologies that have been introduced when the researchers withdraw? what capacity building will take place during the research to ensure that sustainable benefits can be derived?; and how will hardware be safely disposed of at the end of its life?

ICTD/ICT4D researchers designing and introducing new technologies should consider the Principles for Digital Development (<http://www.digitalprinciples.org>). Where ICTD/ICT4D research activities diverge from such principles, there should be a clear justification for doing so and analysis of the possible consequences of these choices.

20. Promoting Ethical Practice and Oversight

The aim of these minimum ethical standards has been to develop, in a consultative process, guidelines which are appropriate for the ICTD/ICT4D research community. We propose that going forward these guidelines should be used in a variety of ways including those listed below:

- 1) As a collective statement of intent that the community of ICTD/ICT4D researchers seek to hold themselves and each other to the highest possible standards of ethical research practice.
- 2) As a non-exhaustive summary which puts into writing some of the ethical issues relevant to the interdisciplinary field of ICTD/ICT4D.



Minimum ethical standards in ICTD/ICT4D research: A co-produced document

Version 2.0 - incorporating a second round of peer input.

For the #ICTDEthics project.

Collated, drafted and edited by: Andy Dearden and Dorothea Kleine.

- 3) As a checklist to be used in conjunction with the ethics procedures of universities and other research organisations, of funders and of governments.
- 4) As a sensitising device, drawing the attention of more and of less experienced researchers to these ethical issues. We recognise that ethics are contextual and need to still be weighed for each specific situation, so guidelines can never be fixed rules. We hope however, that these guidelines challenge researchers to ongoing self-reflection.
- 5) As a living document which will in future years will need updating as digital technology evolves.

To strengthen the impact of this collective effort we recommend the following actions.

- That all students of ICTD/ICT4D in various disciplines are asked to read and reflect on these guidelines.
- That all researchers in ICTD/ICT4D are asked to reflect on these guidelines as they apply for ethical approval (such as Institutional Review Boards or ethics committees) for their research in their institutions and/or plan their research, and are asked to share these guidelines with ethical review bodies who may not be familiar with the particular challenges of ICTD/ICT4D research.
- That examiners of Masters and PhD theses in the area of ICTD/ICT4D examine new researchers against the guidelines set out here.
- That in cases where researchers witness ICTD/ICT4D research which is incompatible with these ethical guidelines, the peer researcher contacts the fellow researcher responsible, points to these guidelines and asks the fellow researcher to reflect on their practice.
- That researchers submitting papers to conferences and journals make explicit their approach to the research ethics of their study, in their publications.
- That journal editors, conference chairs and reviewers consider these guidelines when reviewing the ethicality of research. ICTD/ICT4D researchers should hold each other to account for research ethics. Research carried out in a way that is incompatible with these ethical guidelines should not be published.
- That all funders and grant application reviewers ask for the approach to research ethics to be clearly stated on grant applications. Research that is incompatible with these ethical guidelines should not be funded.

ICTD/ICT4D researchers, as a community, have a responsibility to the people and communities we work with, as well as for the reputation of our field as a whole. It is hoped that these guidelines form an important step towards effective and pro-active self-regulation of the ICTD/ICT4D research community in all its diversity.

