SMART VILLAGES
New thinking for off-grid communities worldwide

Rural Electrification and Democratic Engagement

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Smart Villages

We aim to provide policymakers, donors, and development agencies concerned with rural energy access with new insights on the real barriers to energy access in villages in developing countries—technological, financial and political—and how they can be overcome. We have chosen to focus on remote off-grid villages, where local solutions (home- or institution-based systems and mini-grids) are both more realistic and cheaper than national grid extension. Our concern is to ensure that energy access results in development and the creation of "smart villages" in which many of the benefits of life in modern societies are available to rural communities.

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Introduction and Clarifications

The benefits of the Internet for the health of democracy in the long term are still somewhat unsure (Morsov, 2011). Many questions are unanswered or require further research, e.g. 'Will the Internet foster political polarization and promote what Cass Sustein called "enclave extremism"?', 'Will it further widen the gap between news junkies and those who avoid political news at all costs?', 'Will it decrease the overall amount of political education, as young people learn news from social networks?', 'Will it allow genuinely new voices to be heard as opposed to just being raised?' (Morsov, 2011). Such questions about the relationship between democracy and the Internet require careful study, research, and deliberation in each specific area.

As the purpose of this paper is to give a broad overview of the importance of energy access for democratic political engagement, such issues are not robustly tackled within this comparatively brief insight into what is a vast and constantly changing arena. The goal here is to give an insight into the potential of the Internet and social media (enabled by energy access) to facilitate informed rural political participation and to outline a selection of the core modern means by which this may be made possible.

The report aims to provide food for thought for energy practitioners when thinking about the possible impacts of their initiatives by drawing on a range of literature. Raised political awareness and other democratic engagement and social indicators 'have not been the main focus of electrification impact evaluations to date' (Lee and Miguel, 2016). More focus on such outcomes is required. Hence, the purpose of this paper is not to evaluate the impact to date of rural electrification on making voters more informed, but instead to establish why impact evaluation should be concerned with such outcomes, and the value that can be supplied by electrification to the working of modern democracy.

It is first necessary to briefly establish a couple of specific topics that are not going to be covered in this technical report, and the reasoning behind this.

Turnout:

A natural assumption is that rural voters may turn out at lower levels than urban voters. However, historically this is not the case, with rural societies actually turning out at higher levels as rural citizens 'tend to have higher levels of associational life' (Smets and Van Ham, 2013). More recently there has been some debate as to whether there is a significant difference between rural and urban turnout rates (Smets and Van Ham, 2013).

Nonetheless, whether we consider historical or more current evidence, it does not seem that rural areas are at a significant disadvantage when it comes to turning out to vote. Instead, concerns about democratic participation in rural areas involve other aspects such as access to information for informed voting, and the ability to participate in discourse on an ongoing basis, e.g. signing petitions and other lines of communication with local and national government through social media and online platforms. All such activities and many others require efficient and accessible communication technology, enabled by energy access.

Electronic Voting:

Notably this paper also does not deal with electronic voting. This is because electronic voting has not yet reached a level to make it applicable to high-level elections due to numerous issues, including vulnerability and fraud. Of course this area may evolve further with technology, but at present it does not proffer a substantial enough opportunity to dedicate significant time to within this paper—particularly in the context of potentially more immediate benefits of energy

access to rural areas. Whilst there have been 'successes' in Belgium, Canada, and Estonia, 'these systems are not perfect—broadly speaking, they can be tampered with or hacked, they struggle to guarantee secrecy in casting a vote, they can fail or malfunction, and they lack the auditability and verifiability of paper ballots' (Maclean, 2016).

In terms of e-voting security, the areas of anonymity and verifiability (the latter two come into conflict) present major challenges: in trials in the UK and Estonia there were multiple problems in this area (Guardian, 2015). Budrushi et al, whilst investigating the use of electronic voting systems for complex elections, found that: 'It is clear that well-formulated interventions are required in order to encourage verification and to improve the detection of errors or fraudulent attempts' (Budurushi et al, 2016). The Estonian Government relies heavily 'on Internet services, and their electronic national ID system; and they are notorious for having suffered the first major distributed Denial of Service Attack in 2007. Security analysis of the I-voting (client server system) has identified many potential weaknesses for exploitation' (Gibson et al, 2016).

The Switzerland Harvard Cyber Law Department noted that, despite a relatively low number of attacks against e-voting systems thus far, 'It is reasonable to assume… that the systems will be exposed to higher numbers of attempted attacks and manipulation as the use of e-voting becomes more widespread' (Guardian, 2015). Voter manipulation poses another issue; whenever people vote from home the scope for vote buying is expanded – officials need to be sure everyone's device has not been tampered with (Guardian, 2015). Risk and trust can be key factors for the public even if taking voting online makes it easier, or increases the youth propensity to vote. In the Netherlands, development of their Internet voting project was stopped when the main feedback of the experiment highlighted risk and trust as significant concerns for the public. An NGO also demonstrated that 'the machine's software could be replaced with a manipulated version within 1 minute' (Gibson et al, 2016).

There are also complex challenges faced in understanding the interactions between different requirements of e-voting systems (Gibson et al, 2016). Furthermore, 'rapid advances in ICTs may give rise to novel solutions to some of the outstanding issues; but these advances may also render the problem more complex' (Gibson et al, 2016). There are numerous 'interesting ways to use technology to improve elections, without necessarily trusting the internet for the return of voted ballots (Gibson et al, 2016). Yet, because the main benefit of e-voting for rural populations focuses on turnout and their remote position and ability to travel to polling stations, these other improvements are less relevant for this report.

Context:

Access to information in rural areas is severely limited by lack of Internet and communication technology (phones, TV, radio). Worldwide, 'some four billion people do not have any internet access, nearly two billion do not use a mobile phone, and almost half a billion live outside areas with a mobile signal' (World Bank, 2016). The World Bank recently highlighted the growing digital divide between rich and poor (Guardian, 2016). Whilst no other technology 'has reached more people in so short a time as the internet' the 'development potential of technological change had yet to be reaped' (Guardian, 2016). 'Adoption gaps between the bottom 40 percent and the top 60 percent and between rural and urban populations are falling for mobile phones but increasing for the internet' (World Bank, 2016). However, improvements are being made. In China, large investments in rural connectivity are bringing success, with more than 90 percent of villages having fixed broadband by the end of 2015 (World Bank, 2016). In East Africa access and connectivity have been improving, with students enthusiastic about the changes (Hennessey et al 2010).

The report is divided into two separate chapters (with individual conclusions), with one appendix relating to smart villages and migration (and the potential link with voter turnout). The first chapter discusses the importance of informed voters and the information that the Internet brings; this is a more theoretical piece considering the importance of informed voters within democracies. The second chapter encapsulates multiple areas related to democratic participation beyond voting, whether this is e-consultations with representations, online petitions, protests, social media or online discussion forums and blogs.

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Chapter 1: The Informed Voter

The focus of this chapter is on informed voting, its necessity to democracy, how electricity access can help, and why access to information is an important equaliser for the rural poor. The vast majority of what is discussed here relies not just on energy provision but on the Internet and technologies such as TV, phones, computers and radio as well. It will start by considering why informed voters are important, the role of campaign information, state censorship and the need for an integrated approach, and the role of the media, radio, and TV. It will then consider some of the links between electrification and informed voting before offering some concluding remarks.

A couple of definitions are required at the outset before we enter a more detailed discussion of the topic, the first being for democracy: Democracy has been defined by Webster's as 'a government in which the supreme power is vested in the people and exercised by them directly or indirectly through a system of representation' (Coleman and Norris, 2005). The second definition is that this paper will be referring to voting as an activity taking place at a national and local level in order to elect representatives to a legislative body or government.

1.1 Why are informed voters necessary?

Classical democratic theory has in some cases worked on the assumption 'that for a democracy to function properly the average citizen should be interested in, pay attention to, discuss, and actively participate in politics' (Lau and Redlawsk, 1997). Such assumptions may be unrealistic and, Lau notes, behavioural research has shown that only a small 'minority of the citizens in any democracy actually live up to these ideals', with political knowledge and interest generally being low (Lau and Redlawsk, 1997).

However, whilst these standards are seemingly high, perhaps we should still be aiming for an informed electorate, even if it is not fully achievable. It has been argued that 'an informed electorate is an indispensable prerequisite for democracy' (Somin, 1998). One argument that supports this is that 'if people are not very well informed about a matter and express opinions about it in relative isolation those opinions are not well-grounded'; in that case there is 'no good reason for taking them seriously as the basis for structuring the body that is to make the decisions' (Burnheim, 2006).

Of course, we cannot expect voters to know everything about government, whose size and scope is such that a complete knowledge is impossible. 'One of the most striking contributions to the political science of half a century of survey research has been to document how poorly ordinary citizens approximate a classical ideal of informed democratic citizenship' (Bartels in Levy and Razin, 2015). Voters have been demonstrated to be poorly informed about what they vote on and 'to use the information they do have incorrectly' (Levy and Razin, 2015). It has also been claimed that 'voters make systematic errors, arising from incorrect beliefs, and thus elections fail to aggregate information' (Levy and Razin, 2015). However, some information can act as cues and the Internet can also enable access to expert analysis or organisations that reflect an individual's principles, to provide guidance.

There are many arguments within political theory that argue a voter does not have to be informed directly to be able to vote in an appropriate manner: for example, using political parties' general ideals as a guide, their experiences of daily life, focusing on a few issues rather than all, following cues from knowledgeable political activists, etc. (Somin, 1998). Wittman argues that a voter need know very little about the actions of their

representative to make 'intelligent choices in the election' (Wittman, 1989). 'It is sufficient for the voter to find a person or organizations with similar preferences and then ask advice on how to vote' (Wittman, 1989). Certainly, informational cues in the context of expanding technology become ever more important: when citizens are 'faced with an increasing information overload, the role of trusted "information mediators" (whether within, or independent of, government) capable of identifying, aggregating and explaining relevant information on specific policy issues of concern to citizens is likely to grow' (OECD, 2003).

What is important when thinking about informed voters is enabling access and opportunity, rather than demanding a certain level of knowledge from the electorate in order to make their vote justifiable. As Lupia reminds us, 'the more we demand of people, the less freedom they have, and freedom is among the most valuable products that democratic societies can produce' (Lupia, 2006). Emphasis on well-informed citizens should be paired with 'realistic evaluations of whether the sacrifices that being well informed entail generate tangible benefits' (Lupia, 2006).'Among these burdens are the psychic cost of inadequacy and the social cost of withdrawal when people falsely believe that they have nothing to contribute to civic life because they are comparing themselves to the unrealistic icon of the perfectly informed citizen' (Lupia, 2006). In the end it is down to the individual how informed they wish to make themselves, and what kind of information they feel is relevant and important to them.

Yet I would argue that in all of these cases it is not a case of information vs. no information but degrees and forms of information that may differ. Even if what these theorists argue is true, there is still some base level of information needed—whether it is knowing someone who is informed or understanding the principles of a political party. Communication is needed, and in the modern age electricity is the key enabler of this, particularly for rural areas that may be cut off from direct access to expertise.

Lau and Redlawsk have defined a correct vote decision 'as one that is the same choice which would have been made under conditions of full information. Ideally, this determination can best be made subjectively by the voter, on an individual basis' (Lau and Redlawsk, 1997). When we consider this, as Somin argues, there is 'no real substitute for voters who are adequately informed at the individual level' (Somin, 1998). Access to information will always be important. However, there is an interesting and somewhat contrary proposition by Levy and Razin (2015) that voters' 'misinformed and biased voting behaviour could help alleviate inherent externalities that are present in voting' (Levy and Razin, 2015). This particular study provides a critique of the approach that misinformed voters are a source of concern for the performance of democracies. Ultimately we still need to have a greater understanding of the main biases and deviations from rationality that affect voting behaviour (Levy and Razin, 2015).

Despite these arguments, a lack of information should and does present concerns, and ultimately we must ask ourselves whether it is good democracy that persons have access to the information they need to contextualise and inform their decisions, even if they choose not to engage with it or ultimately it does not impact their decision due to multiple other influencing factors. I will hold during this report that it is.

1.1.1 The Dangers of Lack of Information:

In addition to the justifications given above, there are numerous concerns for electoral representation when we think about uninformed voters.

Kheefer and Khemani note that the 'evidence supports the argument that the policy consequences of imperfect voter information

are likely to be severe' (Kheefer and Khemani, 2003). One of the key problems is the inability to 'disentangle the contribution that elected officials have made to their welfare from the contribution made by bureaucrats, "nature", and other exogenous circumstances' (Kheefer and Khemani, 2003). For example, in India, 'it appears that state governments tend to lose elections in years of poor rainfall' (Kheefer and Khemani, 2003). In addition, without access to information, rural voters are left at a significant disadvantage in being able to vote in an appropriate manner for them as individuals. For example, an individual may agree with a particular party based on its overarching principles, but (due to lack of information) be unaware of a certain scandal or particular policy that does not align with their principles, which, if they had knowledge of it, would affect how they vote.

Uninformed voters can have a knock-on effect on the kind of policies that are pursued. Ignorance of voters can work against the interests of the majority and potentially open the door for 'both elite manipulation of the public… and gross policy errors caused by politicians' (Somin, 1998). 'If voters do not understand the programs of rival candidates or their likely consequences, they cannot rationally exercise control over government' (Somin, 1998). Somin also argues that an 'ignorant electorate cannot achieve true democratic control over public policy' (Somin, 1998). Some of the theory and evidence previously presented by Besley and Burgess, as well as Stomberg, has suggested that 'where in the presence of uninformed voters, politicians are more likely to under-provide targeted transfers to voters and to retain greater rents for themselves' (Kheefer, 2005). There may also be consequences for distribution: 'Where imperfectly informed voters are more numerous, political actors are also less likely to invest effort in policies for which these voters cannot easily give them credit, such as improvements in education and health' (Kheefer and Khemani, 2003). In addition, 'imperfectly informed voters are therefore less likely to receive targeted benefits from government' (Kheefer and Khemani, 2003).

Bratton has noted that it has been commonly argued that rural dwellers have lower expectations of service delivery, and, as such are 'more easily satisfied than urbanites with government performance' (Bratton, 2012). Information not only makes rural dwellers more informed but could give them tools to question the status quo and perhaps raise their expectations of government, contributing to how they behave as voters.

Another perspective on this is the potential impact of uninformed voters on the quality of politicians themselves and the difficulty in identifying appropriate representatives. 'The poor numerically dominate the electorate in many low-income democracies, yet have largely failed to translate their political weight into effective service delivery and other economic gains' (Banerjee et al, 2011). One possible explanation for this is that 'voters may be unable to identify politicians who would serve them well, either because they lack information…or because they are unable to interpret the available information' (Banerjee et al, 2011). Pande also notes that common findings within the literature show that 'voter behaviour is malleable and the information about the political process and politician performance improves electoral accountability' (Pande, 2011). Limited availability of information then has a knock-on effect, or provides one explanation for the 'persistence of low-quality politicians and the existence of identity politics and electoral malpractices in low-income democracies' (Pande, 2011).

We have yet another reason why the impact of a lack of information cannot be underestimated, and why rural populations—whilst they are uniformed—may not be best served by their elected representatives.

When it comes to the rural poor: 'the evidence does point strongly to the conclusion that governments are sensitive to the demands of informed voters and, to the extent that poor voters are less informed, are less sensitive to the needs of poor voters' (Kheefer and Khemani, 2003).

However, there is a note to be made here that technology and the Internet could also work to make us less informed, rather than more so (Morsov, 2011). This could be via an information overload leading to disengagement or the dangers of unreliable or 'fake' news amongst multiple other potential impacts. There needs to be further monitoring in this area to determine the impacts of information on 'informed voting'. Some of the issues with information being unbalanced or overwhelming are touched on later in this paper.

1.1.2 Role of Campaign Information:

Information is also key when considering the political campaigning around elections: 'voting decisions appear to be swayed by political campaigns and advertisements' (Kheefer and Khemani, 2003).

Lodge et al find support for a candidate evaluation model that 'shows that citizens are responsive to campaign information, adjusting their overall evaluation of the candidates in response to their immediate assessment of campaign messages and events. Over time, people forget most of the campaign information they are exposed to but are nonetheless able to later recollect their summary effective evaluation of candidates which they then use to inform their preferences and vote choice' (Lodge et al, 1995).

The more uninformed voters are, the more important campaign information becomes. This then allows for special interested parties who provide 'campaign finance in return for targeted policies' (Kheefer and Khemani, 2003). In this case, 'the larger the proportion of uninformed voters, the greater the demand for campaign financing and the greater the shift in public policy away from the public interest and towards special or private interests' (Kheefer and Khemani, 2003). As the poor are more likely to be uninformed (due to information access), and are less likely to be organised, political environments that 'favor special interests tend to be less favourable for the interests of the poor' (Kheefer and Khemani, 2003). Again, the rural poor, whilst uninformed, are left at a disadvantage in terms of government working in their favour.

The nature of campaigning is indeed evolving: 'The US election campaigns of 2008 and 2012, and Barack Obama's engagement with interactive communication and empowerment of citizens through his campaigning strategy, has led to new thinking around how political communication can be performed' (Koc-Michalska et al, 2016). Online communication and social media are becoming key to campaign strategies. As such, for rural voters to have access to and engage with campaign information, debates and policy, energy and Internet access are fast emerging as a key pre-requisite.

Of course, there are also difficulties regarding interaction with biased campaign information exposure. Issues with informational bias will now be dealt with.

1.2 State Censorship and Information Bias:

Simply providing access to information does not rid us of the challenges in enabling individuals to become informed voters. The information itself presents a challenge. Some researchers argue media has a 'positive informative and mobilizing role', whilst others 'extend the findings that media contribute only to political cynicism, inefficiency or disengagement' (Koc-Michalska et al, 2016). Certainly, the portrayals of the media have a profound influence and such information could have a negative impact on how informed voters are.

One of the potential negative impacts of the media on how 'informed' a voter may become is state intervention in the content being portrayed, or indeed the views and ideology of media owners and key players. McChesney has argued that as media systems become 'concentrated and conglomerated into a relative handful of corporate hands', there is in such cases a need for the media system to be restructured to reconnect 'with the mass of citizens who in fact comprise "democracy"' (McChesney, 2015). 'The audience of a biased newspaper or television channel learns only half of the truth and hence might be less equipped to make informed and effective choices' (Voltmer, 2010):

> *'like political institutions, the media in many new democracies often seem to lack the qualities that would qualify them for playing a key role in promoting accountability and inclusive politics. They are frequently criticized for remaining too close to political power holders to be able to act as effective watch-dogs; political reporting is regarded as too opinionated to provide balanced gate-keeping; while commercial pressures on news coverage often encourage an over-emphasis on the trivial and popular at the expense of serious and sustained attention to international affairs and complex issues on the policy agenda' (Voltmer, 2010).*

Media bias can even go as far as providing false news, which brings in the interconnected challenges of freedom of expression vs. truth of content and press monitoring.

Bias not only occurs within the media but in citizens themselves. Some studies have indicated that, rather than utilise the breadth of the Internet, people choose news that fits with their existing beliefs and opinions instead of accessing a wider range of perspectives (Hsu, 2009). There have also been indications that individual confidence and certainty, 'stronger party affiliation, conservative political views, and greater interest in politics' can play a role in likelihood of clicking on opposing views and a person's reading patterns (Hsu, 2009). However, this does not mean to say, particularly with the prevalence of social media, that people remain unexposed to opposing views. Although there are frustrations about the tone and tenor of 'political discussions on social media', many highly 'politically engaged users feel that social media sites do "very well" at bringing new voices into the political discussion (31%) or helping people get involved with issues that matter to them (30%)' (Duggan and Smith, 2016).

However, 'For the most part, social media users try to refrain from engaging with the political arguments that enter their feeds: 83% of them say that when their friends post something about politics that they disagree with they usually just try to ignore it, while 15% usually respond to these posts with a post or comment of their own' (Duggan and Smith, 2016). Although they may not be actively engaging with opposing content, this still doesn't contradict accidental exposure to opposing arguments: 'Most Facebook and Twitter users' online networks contain a mix of people with a variety of political beliefs' (Duggan and Smith, 2016). Of course there are those whose networks hold similar beliefs to theirs, and a notable proportion of users who 'simply don't pay much attention to the political characteristics of the people in their networks' (Duggan and Smith, 2016). 'But for many users, friend networks that encompass a range of political beliefs are the norm. Roughly half of Facebook users (53%) and more than one-third of Twitter users (39%) say that there is a mix of political views among the people in their networks. And an additional 5% of Facebook users and 6% of Twitter users indicate that most of the people they associate with in these spaces hold different political beliefs from their own' (Duggan and Smith, 2016).

Another positive indicator against social media simply reaffirming people's views is the potential for these to be changed as a result of social media interaction:

> *'Despite their often-negative views about the political interactions they see on social media, people can sometimes end up changing their minds about political matters after these encounters. One-in-five social media users (20%) say they have modified their views about a political or social issue because of something they saw on social media, while 17% say they have modified their views about a particular political candidate' (Duggan and Smith, 2016).*

Although the majority are still left unswayed, the impact should not be underestimated even if one in five people change their minds as a result of accidental exposure on social media; this is still an important proportion in the scheme of more informed voting.

Access to information does not necessarily mean voters won't be taken in by lies or manipulation, which may negate their 'informed' status (depending on how we judge this). However, access to information can also give the tools to counter these statements in the media and to take the initiative of checking facts expounded by politicians. Although for some people this may be an unlikely active choice, with varied social media exposure the dangers of this for others may be counteracted. The Internet may be censored by what individuals choose to engage with, but communication technologies open up possibilities for interaction and give people the ability to interact and access diverse opinions.

Individual freedom is a key, although complex, value, and as we have seen in earlier arguments it is important not to overstep the mark in dictating what information an individual interacts with and how. To give 'training' to rural communities in developing countries on evaluating political sources that go beyond standard education would have a problematic undertone (whether this was something applied to developed countries as well or not). It instantly makes a comment on a person's natural ability to assess information and possibly on their own political beliefs and attitudes. How you evaluate the reliability of sources may be covered in subjects such as history, but having a government-initiated programme to 'educate' people on the 'correct' way to view political information could present a minefield of potential corruption and challenges in separating subjective thought and establishing what is classified as 'proof'. Teaching every person complex methodologies for evaluating evidence may simply be something that they do not want to learn and, as other arguments have shown, this does not necessarily mean they cannot make an informed vote. It is the informational access that is the key principle here. Informed voters may be an ideal, but not to the extent that certain approaches to political information are enforced to the point that paternalism is extended unnecessarily and in a manner that can be constituted as unjust. People have their own real-life experiences and valid beliefs and opinions, as well as multiple contributing streams of thought that inform how they interact with information; positioning these as invalid could be problematic.

Media bias is an issue in every country where social practices, key stakeholders, and government influence cause a person to lean towards one particular source. This is not something that is fixed by energy—but smart village initiatives can grant access to and encourage people to take advantage of the breadth of the Internet.

1.3 Integrated Solutions:

Even if the media manages to overcome some of these challenges noted by Voltmer, there is still work to be done: whilst they can disseminate knowledge they don't necessarily change views or behaviour (Voltmer, 2010). Voltmer argues that 'to help citizens make sense of politics and to actively engage in political decision-making, mediated communication and social communication 'on the ground' have to be merged' (Voltmer, 2010). Unlike the above arguments, however, this does not mean training or dictation but discussion and outreach to encourage connectivity. An in-

tegrated approach to encouraging the spread of political information and engagement is needed that goes beyond technology alone (although the extent to which this is warranted or necessary is a separate topic). Thus access to energy forms an essential facilitator, but it is part of many actions (e.g. on-the ground engagement and reducing media bias) that need to be taken to increase democratic engagement in rural areas as well as informed voting.

Energy is a starting point for facilitating multiple uses of technology for democracy promotion. However, what comes after this point, how it is used, the kind of media that is consumed, and the approach to democracy are in the hands of governments, media outlets, and external agencies. In addition, how the information is interpreted and used is in the hands of the electorate. Whilst we may not need to fully integrate and heavily consider issues such as media regulation when implementing an electrification initiative, the point here is to acknowledge the potential diverse impacts on the working of democracy itself that the provision of energy and the Internet can influence (as highlighted throughout this report) by changing what information can be accessed in a particular context.

The issue of online democratic engagement is complex and multifaceted, and the 'online' presents its own challenges: 'As we recognize the power of the Internet and its contributions to society, it is equally important to promote online safety, online freedoms and the free flow of information as well as freedom of expression. Research remains crucial in informing ICTs in governance interventions' (Spider, 2013).

1.4 The Role of the Media and TV/Radio:

As a result of the advances in communications technology the media has 'increasingly become the principal source of political information for the mass public as political discussion within, and information flows through, family, community, and other intermediary organizations have declined in frequency and importance' (Gunther and Mughan, 2000). As such, those living off-grid without access to communications technologies and modern media are being prevented from accessing the key to modern political information, and perhaps the ability to be an 'informed' voter in a 'modern' sense.

Although some information may come in the performance of ordinary social and economic roles and be 'free', in general, 'The poor are less likely to be informed, with less access to universal sources of information, such as newspapers and radio, as well as to accurate informal information networks' (Kheefer and Khemani, 2003). The rural poor are 'cut off' perhaps even more markedly than the urban poor when we consider these information channels. This information is particularly important when we add to this the fact that the poor tend to rely most 'on the publicly provided social services' (Kheefer and Khemani, 2003).

The media, facilitated by energy, serves a public information function 'to make political news from all sources (including government, opposition parties, and civil society organizations) available to the widest possible audience' (Blair, 2000). Radio is a particularly prevalent source for developing countries, with newspapers tending to be published more in larger population centres (also only accessible to the literate, unless read aloud by another) (Blair, 2000). The Philippines, for example, has hundreds of local AM stations that broadcast political feature programmes (Blair, 2000). The spread of radio improved information access for rural areas, since urban areas had alternative information sources such as newspapers (Kheefer and Khemani, 2003).

Television has cost and transmitter restraints but still presents a great potential for information with the 'advantage of audio and visual facilities' which can make for a more lasting impression (Iproject, no date) (Blair, 2000). 'Local news, talk shows, and

question-and-answer programs are all excellent ways to spread political news widely' (Blair, 2000). Other information problems for the rural poor are the newspapers that are available being of low quality and few in number ('available only to the minority of literate voters') and radio and television stations being 'often state-controlled' (an issue dealt with earlier in the report) (Kheefer and Khemani, 2003). A key takeaway here is that energy can facilitate access to information for non-literate rural populations through radio and television as well as visual content online.

However, there are constraints to gaining access to the technologies needed for electricity to provide information. These include high costs and irregular electricity supply (Iproject, no date). For the latter issue a renewable energy solution could be found but the first is, as ever, an obstacle to adoption and information access.

1.5 Electrification and Informed Voting: The Links

This section of the report is intended to give a few examples that can demonstrate the potential influence of information access on how informed voters are and on political awareness more broadly. It will also examine the difficulties faced in the measurement of such impacts and the importance of social media.

In Bangladesh, data revealed that women's political awareness 'is much higher in the electrified households as a result of the influence of TV and Radio, and to a certain degree, because [of] NGOs' endeavours' (Barkat et al, 2002). In Kenya, another study found that basic political awareness was 11.4% for un-electrified households and 36.7% for electrified households (Lee and Miguel, 2016).

However, measuring improved political knowledge is tricky as surveys tend to ask whether participants know the names of certain politicians or technical details of a ballot proposition (Matsuaka, 2005). In the Kenyan example given above, a 'basic political awareness indicator captures whether the household head was able to correctly identify the presidents of Tanzania, Uganda, and the United States' (Lee and Miguel, 2016). However, such indicators are problematic for measuring how 'informed' someone is with regard to politics due to the reliance on restrictive questions. For example, people may not need to know the name of a certain politician to be informed to vote; there are many different types and forms of political knowledge, and what is important to or relevant to the individual varies. As Lupia argues, 'The elitist move is to assume that these questions have a similar value to citizens whose societal responsibilities can be very different than their own' (Lupia, 2006).

'Many people do not give correct answers to standard "political knowledge" questions. Some respondents provide incorrect answers. Some say they "don't know." Others just don't respond at all. Academic writers have used these responses to generate broad conclusions about voter competence' (Lupia, 2006). However, what you need to know and what is important to you is dependent on what you perceive as your role in society; 'different citizens have different civic responsibilities' (Lupia, 2006). For example, what benefit does the citizen have from being able to recite a name of a politician or member of the judiciary, and what benefit does society receive from the citizen being able to recite this fact (Lupia, 2006)? Whilst political knowledge for democratic engagement is an important element for impact evaluations of rural electrification programmes, how to measure this and what is considered to demonstrate raised political awareness or knowledge needs to be carefully thought through in relation to the context of that community.

Evidence found in terms of the impact of information itself, rather than electrification, varies. Vreese and Boomgaarden found that 'the positive effects of news media exposure outweigh the neg-

ative effects and that the effects are conditional upon actual content' (Vreese and Boomgaarden, 2006). 'Exposure to news outlets with high levels of political content (such as public television news and broadsheet newspapers) contributes the most to knowledge gains and increases the propensity to turn out to vote' (Vreese and Boomgaarden, 2006).

Banerjee et al also conducted a field experiment in urban India that asked if 'providing…information via the media influences vote-buying, voter turnout and incumbent voteshare' (Banerjee et al, 2011). 'The idea that voters in an otherwise well-functioning democracy might be severely constrained by information about the candidates' qualifications and past record is both striking and important' (Banerjee et al, 2011). They found that 'voters move quite substantially when given the information' and that if applied to the whole jurisdiction outcomes may have been different (Banerjee et al, 2011). Notably, they also found evidence that 'voters are somewhat sophisticated in how they use the information, allaying fears that information would simply confuse them' (Banerjee et al, 2011).

Social media in particular presents a huge forum for gaining information. 'Pew Research suggests that approximately half of Facebook users get their news through Facebook, but the overwhelming majority of Facebook users are exposed to the news incidentally through social network ties on Facebook' (Boulianne, 2015). As a result, social media users 'may be exposed to mobilizing information without having to actively seek it out' (as noted in the previous section) (Boulianne, 2015). Such news could be even more influential as it has been filtered through family or friends, or other trusted or respected individuals (Boulianne, 2015).

> *'Accessing political information online, even perhaps accidentally via a Facebook news feed, can lead, as hypothesized by exponents of the mobilization theory, to further information seeking, interacting with others, and further participatory forms of behavior. Citizens can also be persuaded to think more and to change the attitudes that inform their voting behavior through being exposed to political material and interactions on social media' (Koc-Michalska et al, 2016).*

Information access itself can have a knock-on effect on participation. 'Academic research has consistently found that people who consume more news media have a greater probability of being civically and politically engaged across a variety of measures' (Pew Research Center, 2014).

However, a study by Dimitrova et al looking at the effects of digital media use found that 'when controlling for factors such as age, gender, education, political interest, general knowledge, and attention to politics in traditional media, the effects on political knowledge are very limited' (Dimitrova et al, 2011). 'In fact, only the use of some online news sites leads to higher levels of political knowledge while party web sites and social media do not. And although reading news online has a significant and positive effect on learning, that effect is relatively weak' (Dimitrova et al, 2011). Yet, in Boulianne's 2015 metadata analysis of research on social media use and participation, it was found that overall there is a 'positive relationship between social media use and participation' (although it was not conclusive as to whether the relationship is 'causal and transformative') (Boulianne, 2015). There will be further elaboration on the potentially transformative role of technology on participation specifically in Chapter 2. However, what is interesting to note here is that heightened knowledge and heightened participation may not go hand in hand.

The OECD have also noted that 'the online provision of information is an essential precondition for engagement', yet at the same time, 'quantity does not mean quality' (OECD, 2003). The Internet presents a huge and perhaps overwhelming wealth of information. The media plays an important

function for citizens in the context of potential information overload: 'in channelling and contextualising information streams; not only can the citizen today rely on the filtering mechanisms of these media and be relieved of such burden, but the media also provide a common frame of reference and analysis for the vast amount of simultaneous issues and stories' (Ward and Vedel, 2006). This is where challenges of media bias are brought into sharp review. Political organisations and government initiatives (as we have previously discussed) become more and more important in enabling not only participation but also understanding.

Concluding Remarks Chapter One:

Energy provision and democratic engagement is not about changing the expectations we have of citizens, but giving them access to information so that they can then exert their free will about how they consume and interpret that information. Reforming voter competence is of course a positive goal as part of electrification efforts, but not to the extent that it could be interpreted as restrictive of freedoms or wielding unrealistic or oppressive expectations. We are not saying here that for democracy to be achieved all voters need to be perfectly informed. However, by expanding access to information we are expanding the opportunity for voters to become more informed and as such have a positive impact on the working of the democratic system.

The concern here, as I have argued, is actually less about increasing democratic participation and more about providing equality of opportunity to access political information in order to inform people's vote in line with their own preferences. Electricity and the Internet enable substantially enhanced mechanisms for informing voters about not just a narrow spectrum of issues but politics and government across the board. Indeed, in an age where social media is so prevalent, it is not even necessary to actively seek out information, with people we know or follow posting about it and providing links to articles. It is also important to bear in mind that while there are concerns about judging the reliability of sources and people's ability to do so, the solution to this is unclear due to the paternalistic and problematic undertones that education on political information specifically (tied up in government) could present. We should also not underestimate a voter's ability to vote correctly for their choice of candidate as an individual based on multiple informational streams.

This report is not implying that rural voters are politically and democratically better informed to vote post-electrification; there is not yet enough evidence to suggest this to be definitively the case. Rather, on principle, access to information and communication technology in the modern age is intrinsically tied up with the working of democracy—the lack of such access could even impact the validity of election results. If there is no access in rural areas, a profound disparity of opportunity exists: people are left unable to choose to inform themselves in the same way and to the same degree that others can, which can result in voting contrary to their interests and principles due to lack of information. Ultimately what they do with the information and what information interests them is their prerogative as a free citizen—but it is the access to a range of information that is important in order for a democracy to be fair and mandates to govern to be legitimate in terms of an informed and representative vote.

Electricity, it seems, is not only essential for quality of life in terms of economic empowerment, health, and education (amongst others), but its implications go beyond this; through enabling access to information for the rural poor, electricity arguably becomes essential to the positive working of modern democracy.

Chapter 2: Beyond Voting—Participation and Accountability

2.1 Introduction and Background to Chapter 2

Democratic engagement goes far beyond the ballot box, with political participation taking many forms. The Internet and other spaces can be 'important platforms for voicing demands, providing mechanisms that can raise public awareness and ensure responsiveness' (Bjuremalm et al, 2014). In addition, technology can act as a key conduit for connectivity between the electorate and their elected representatives, as well as getting citizens more involved in and aware of the wider political machine.

The Internet is thought to be able to have 'a significant impact on broadening political participation by lowering the cost of involvement, creating new mechanisms for organising groups and opening up new channels of information that bypass traditional media gatekeepers' (Gennaro and Dutton, 2006). In addition, as Wang notes, political use of the Internet can promote 'political interest and feelings of trust and efficacy, and makes an individual more likely to participate in campaigns and politics' (Wang, 2007). More than this, the Internet could transform the landscape of politics and engagement: 'the Internet is now suggested to have the potential and means to change the existing status-quo building upon work stressing the importance of networked politics' (Koc-Michalska et al, 2016).

Claims around the transformative capacity of the Internet 'revolve around the feature of audience participation, the interactivity of the medium encouraging a shift from users to producers and the diminished or absent role of gatekeeper allowing uncensored flows of information and instantaneity of transmission' (Bolton, 2009). As Gennaro and Dutton noted, even in 2006: 'Unlike traditional media, the Internet's interactive and asynchronous features can be used to facilitate both horizontal communication among the public and vertical communication with public officials—bottom-up as well as top-down' (Gennaro and Dutton, 2006). Interactivity is the key to the transformative impact of technology.

The Internet and e-democracy enables discussion and can create a stronger sense of community across boundaries:

> 'the Internet is generally seen as a new medium that enables exchange across geographical, social and cultural boundaries and promotes free individual expression (notably because of the anonymity of participants); a large base of users would provide access and exposure to a variety of opinions and the self-organising nature of the medium could produce a self-regulated public space 'by the people, for the people'; taking part in public forums or discussion newsgroups would generate a greater sense of community and condense collective identities' (Ward and Vedel, 2006).
>
> 'The notion that anyone with a connection to the Internet can 'do' politics in some form, some scholars propose, makes for a more vibrant, chaotic and non-hierarchical political communication environment' (Koc-Michalska et al, 2016).

A West African study found that mobile technologies and other means of digital citizenship 'have the potential to improve the commitment of stakeholders in the political process, reversing a trend towards disengagement, enabling better access to information and focusing services on those who need them most' (The Panos Institute and UNDP, 2009). If this is true, the impact could be particularly important for rural areas whose needs may be overlooked or particularly acute as a result of their remote location.

In terms of challenges, the same study found that the key barriers to e-participation are: 'limited and unequal access to ICTs, lack of infrastructure, electronic fraud, and the absence of, or inadequate, legal frameworks' (The Panos Institute and UNDP, 2009). Access to the Internet also remains a challenge, as for 60 per cent of the world's population 'the internet remains unavailable, inaccessible, and unaffordable' (Robinson and Winthrop, 2016). In spite of the challenges, there are 44 people per 100 worldwide who are Internet users (World Bank, 2015) and in terms of social media, Facebook alone had 1,870 million active users globally as of January 2017 (Chaffey, 2017). In Nigeria as of 2015 there were 75 million Internet users, 700,000 of whom used social media in the April 2015 elections to report results from locally developed voter-monitoring applications (Godsall, 2015). In 2015 India was Twitter's fastest-growing market, with Internet usage growing at 37% each year (Godsall, 2015).

The mediums through which citizens can engage and participate in politics are numerous in the modern digital environment. In terms of engagement more broadly examples may be: 'Weblogs (blogs), archives, online newspapers, political websites, interactive and multimedia services' (Gennaro and Dutton, 2006). There is now a range of social networking sites facilitating 'peer-to-peer interactivity as well as…a site for political and corporate advertising' (Koc-Michalska et al, 2016). Such social media sites can potentially politicise and connect 'citizens who are interested in political issues or have partisan affiliations' (Koc-Michalska et al, 2016). Spaces such as forums have also 'become populated by citizens with shared interests, a shared agenda and who seek to have impact through collaboration and connectivity' (Koc-Michalska et al, 2016).

Online or e-participation is the use of ICT to 'enhance citizen participation by enabling citizens to interact better with each other and with their elected officials' (The Panos Institute and UNDP, 2009). 'E-participation can mobilize citizens to engage with others within their society, express their needs and open up new ideas for responding to current challenges' (Ibid). Research has shown that technologies facilitate 'three broad forms of behaviour: seeking information, discussing politics and participation in campaigns' (Koc-Michalska et al, 2016). Challenges are faced in measuring and identifying these forms of participation, e.g. does accidental exposure via a Facebook news feed count as seeking information? (Koc-Michalska et al, 2016). There is also debate as to whether 'clicktivist' activities, such as liking, sharing, retweeting, a simple click to sign an online petition, etc. 'should be treated as participation in a campaign' (Koc-Michalska et al, 2016). Whilst such actions conform 'to the general notion of political participation', and could have influence on decision-makers whilst working 'in tandem with a critical mass of activists', critics have suggested that these activities may be relatively 'weak' (Koc-Michalska et al, 2016).

Data suggests 'that the mechanisms for facilitating political participation are evolving alongside technological innovations' (Koc-Michalska et al, 2016). Traditional media outlets are 'co-opting the internet to either increase or maintain their audience share' (Bolton, 2009). Alternative media are also emerging. As such, research in this area has moved from stressing the 'digital divide' to considering new forms of online political participation and 'the emergence of new Web 2.0 communication technologies have further challenged the view that a participatory or semi-deliberative democracy remains as much a utopian ideal now as when proposed by Sartori' (Koc-Mickalska et al, 2016). The speed of innovation also means there is a lack of 'research on the role and effects of new tools offered by Web 2.0' (Koc-Michalska et al, 2016).

In terms of evidence linking technology and the internet at a general level, the results are variable. Dimitrova et al found that while digital media only had weak effects on political learning, 'the use of some digital media forms has appreciable

effects on political participation' (Dimitrova et al, 2011). There are multiple means by which online participation takes place, so naturally the impact varies depending on the means and there are mixed results. With regard to the Internet in a broad sense a meta-analysis by Boulianne found that there is 'strong evidence against the internet having a negative effect on engagement' (Boulianne, 2009). However, 'the meta-data do not establish that Internet use will have a substantial impact on engagement' (Boulianne, 2009). We should also note that the emergence of the internet does not mean traditional media no longer has a place. Zúñiga et al (2010) found that online and offline forms of participation can be considered both legitimate outcomes in their own right (Zúñiga et al, 2010). Yet at the same time online plays an important role in 'expressive' participation. There have been further studies that confirm that online tools may 'enhance learning, build communities or groups of online advocates and encourage different forms of engagement' (Koc-Michalska, 2016).

As this is a constantly changing field, this report will be less about specific technologies and methods and more about the opportunities that greater technology-facilitated communication, in whatever form, can open up for increased democratic engagement, along with some key examples of what has been done thus far.

The following sections provide context to the more practical areas outlined in the report. This paper will now briefly discuss technology's place in participatory democracy, accountability, the key theories surrounding online mobilisation, difficulties in impact measurement and the importance of taking a multifaceted approach.

2.1.1 Participatory Democracy:

In the modern world facilitating greater participation in democratic processes is often held up as a key priority. The Sustainable Development Goals call for 'participatory decision-making' (UN, 2016). 'Participatory politics are interactive, peer-based acts through which individuals and groups seek to exert both voice and influence on issues of public concern' (Kahne et al 2016). Participatory political acts can include 'blogging and circulating political news, to starting a new political group, to creating petitions, to mobilizing one's social network on behalf of a cause' (although these don't necessarily need to occur online) (Kahne et al, 2016). When engaged in participatory politics individuals and groups 'frequently leverage the power of social networks, the creation and circulation of civic media, and access to information from the Internet as a means of investigating issues, promoting dialogue, impacting cultural norms, and mobilizing others' (Kahne et al, 2016).

> *'Participatory politics empower individuals and groups to operate with greater independence in the political realm, circumventing traditional gatekeepers of information and influence. These practices often help to shift cultural and political understandings and create pressure for change' (Kahne et al, 2016).*

Technology can act as a key enabler of this. 'The Internet allows for scaling of deliberative processes beyond small group face-to-face discussion to broad public participation' (Epstein et al, 2012). However, the issue of political participation and accountability is complex; encouraging citizens to engage, and what they engage with, presents a huge range of challenges (e.g. media and informational bias, apathy and the dangers of restricting individual freedom when pursuing engagement). In addition, the Internet and technology opens up a range of opportunities, not just limited to political and democratic engagement: 'As a medium of choice par excellence, it seems improbable that digital politics will reach the disengaged, the apathetic, and the uninterested, if they choose to spend their time and energies on multiple alternative sites devoted to everything from the stock market to games and music' (Norris, 2001). Citizens

across most advanced industrial democracies use 'the online environment to provide and gather information, to network with colleagues, friends and supporters and to interact' (Koc-Michalska, 2016). The use of technology is largely focused on personal and professional gratification (Koc-Michalska, 2016). If we consider the deployment of radio and television, these have largely been put to use for their entertainment value in many cases rather than for democratic engagement (Bolton, 2009).

2.1.2 Accountability

At the centre of the importance of leveraging technology for political participation is the potential impact it can have on accountability in the democratic process. 'Holding public officials to account lies at the heart of democracy. Democratic accountability offers citizens, and their representatives, the mechanisms to voice concerns and demand explanations about, and, if need be, impose consequences for, the performance of elected and unelected officials' (Bjuremalm et al, 2014). Technology can play a key role in enabling citizen participation beyond the ballot box, and therefore contribute to accountability. In doing so, it can also have a potential impact on service delivery: 'When officials are held accountable and democratic principles are observed, there is a better chance that service provision will improve, in the form of faster, higher-quality or better-implemented services' (Bjuremalm et al, 2014).

'There are many spaces in which citizens can voice their concerns and demand accountability from officials, for instance through electoral processes, social media, street protests, petitions, public meetings' and referenda (Bjuremalm et al, 2014).

2.1.3 Mobilisation

Although some citizens do 'meet with political actors online' research suggests that these individuals are the 'already converted who are willing to extend the reach of the parties and candidates they support through reposting material' (Koc-Michalska, 2016). However, the individuals who are less understood are those 'who are independently engaging with political material, who themselves produce content and comment on weblogs, Facebook or Twitter, or who become aware of political issues through their networks' (Koc-Michalska, 2016).

There are two distinct approaches when it comes to considering the mobilising effects of the Internet. One school of thought is that the 'internet can…[not only[draw new participants to political engagement by lowering the barriers to participation and facilitating communication among citizens but also between citizens and elected officials' (Koc-Michalska, 2016). It is this idea—that new participants can be mobilised—that will now be tackled. 'Many Internet users when engaged by material they read online proceed generally to seek more information, so become more knowledgeable, more interested in politics and ultimately more engaged' (Koc-Mickalsa, 2016). In line with this, Wolsfeld et al in an analysis in Israel during the 2013 election campaign argued that 'a clear connection exists between peoples' informational and participatory repertoires' (Wolsfeld et al, 2016). Facilitation of information could then play a key role (although evidence in this area is varied).

Enjolras et al (2013) found in a Norway study that the 'type of participant mobilized via the social media is characterized by lower socioeconomic status and younger age than those mobilized via other channels' (Enjolras et al, 2013). This supports the mobilisation thesis in that: 'Social media seem to represent an alternative structure alongside mainstream media and established political and civil society that recruits in different ways and that reaches different types of people' (Enjolras et al, 2013). In addition, Koc-Michalska, Gibson and Vedel (2014) found that in the 2007 and 2012 French presidential campaigns there was a 'weakening in the significance of social-demographic factors in determining traditional

types of online engagement' among voters (Koc-Michalska et al, 2014). Social media specifically (as will be reflected in later sections), in the same study appeared to encourage younger and 'less politicized citizens to participate' (Koc-Michalska et al, 2014).

Bimber et al, using British election data from 2001, 2005, and 2010, found that 'digital media use is positively and consistently associated with political talk for those lower in political interest' (Bimber et al, 2015). Opinion poll data that was gathered in the UK in 2002 also suggests greater chances of new participation online; the data 'revealed that young people were significantly more likely to engage in online participation than offline forms' (Smith, 2005). Kahne et al have also noted that 'the affordances of digital media, have expanded opportunities for youth to engage in participatory politics—they make it easier to circulate news, or to mobilize one's social network, for example' (Kahne et al, 2016).

However, there is an 'opposing' school of thought called reinforcement theory which suggests:

> *'the affordances of digital technology can only strengthen citizens' existing patterns of engagement, so only facilitating the engagement of citizens who are already politically active. Online political activity requires willingness to engage with political information, the fact that evidence shows the majority of Internet browsers seek only entertainment means they will be no more likely to engage in online political participation as they would offline' (Koc-Mickalska et al, 2016).*

In short, the hypothesis is that adding technology as a means does not necessarily add new participants, but the patterns of engagement remain mostly the same. The findings of a report by Cantijoch et al found that 'online participatory sites mostly attract those already engaged, simply offering them a new, easier, means to participate in civic life': *'The results are mixed in that they confirm that users of these sites are typically more aware and engaged than average. However, it is also clear that they have integrated these tools into their existing repertoire of engagement' (*Koc-Mickalska et al, 2016) (Cantijoch et al, 2016). Gennaro and Dutton (2006) also found that in Britain (based on survey data), 'online political participation was reinforcing and in some cases exacerbating some of the existing social inequalities in offline political participation by marginalising the less educated and those from lower socioeconomic groups and by increasing involvement online among those who are already engaged offline' (Gennaro and Dutton, 2006). Inequalities in participation can persist online. Olphert and Damodaran note that access to technology and its benefits 'is not equally distributed either between or within nations' (Olphert and Damodaran, 2013).

In addition, others have observed 'disparities in how different socioeconomic groups utilize the Internet for political purposes and suggest that the more powerful social strata are overall better positioned to engage' (Epstein et al, 2012). 'It is commonly noted in the literature that new ICTs favour those already in power, and elites. Internet access is still somewhat restricted to middle- and high-income populations' (Browne, 2015).

One study in the Netherlands found that: 'when the Internet matures, it will increasingly reflect known social, economic and cultural relationships of the offline world, including inequalities' (Van Deursen and Van Dijk, 2013). However, differences in education may be longer lasting or more deeply engrained than differences between age and gender (Van Deursen and Van Dijk, 2013). Whilst we have noted that youth may be more likely to participate online, 'those youth with the most education are roughly twice as likely to engage in participatory politics as those youth with the least' (2012) (Kahne et al, 2016). Brandtzaeg also found that the 'gender differences in civic engagement that exist offline to a large degree are replicated and reinforced on Facebook' (Brandtzaeg, 2016). Old people also tend to be

on the wrong side of the 'digital divide' (Olphert and Damodaran, 2013).

> *'Education, political efficacy and gender have strong positive influences on individual political engagement. Those with a secondary education or higher, those who believe government officials care about their opinions and men participate in political activities at much higher rates. In addition to these factors, being employed and having a higher income also have a significant, positive impact on political engagement, though to a lesser degree' (Pew Research Center, 2014).*

Energy, as a partial enabler of education and economic development, can then indirectly influence political participation by helping to reduce other prevailing inequalities that impact engagement.

There is also considerable debate around whether accidental exposure to political information can be mobilising in terms of participation. As we noted previously, some critics argue 'many new forms of political participation are low effort and so evidence low involvement and engagement' (Koc-Michalska et al, 2016). 'Accessing political information online, even perhaps accidentally via a Facebook news feed can lead, as hypothesized by exponents of the mobilization theory, to further information seeking, interacting with others and further participatory forms of behaviour. Citizens can also be persuaded to think more and to change the attitudes that inform their voting behaviour through being exposed to political material and interactions on social media' (Koc-Michalska et al, 2016). Valeriani and Vaccari, in a study of internet users in Germany, Italy, and Britain (2014 European Parliament election aftermath), found that:

> '*Accidental exposure to political information on social media is positively and significantly correlated with online participation in all three countries, particularly so in Germany where overall levels of participation were lower. We also find that interest in politics moderates this relationship so that the correlation is stronger among the less interested than among the highly interested*' (Valeriani and Vaccari, 2016).

Further research is needed on 'causality as well as on the nature and persistency of participatory acts which result from accidental news exposure on social media' (Koc-Michalska et al, 2016). However, as is also highlighted in the social media section later in the report, accidental exposure can be significant, and in fact can work against the reinforcement theory.

Despite the problematic arguments regarding mobilisation, there are examples in which democratic engagement techniques through technology can expand the reach of government communication and increase or widen participation, as will be identified in the course of this paper. Before this, it is necessary to set out the importance of a multifaceted approach.

2.1.4 Measuring impacts and having a multi-faceted approach

> *'While the mainstream debate about online deliberation and civic participation is focused primarily on technological solutions, the nuanced lens of the digital divide illuminates the non-technical aspects of non-participation' (Epstein et al, 2012).*

A combination of interventions is needed to maximise the benefits of technology for democratic engagement, and work against the reinforcement hypothesis. Evidence from Gennaro and Dutton also suggested that 'growing familiarity and proficiency with the Internet could potentially increase online involvement among all social groups' (Gennaro and Dutton, 2006). 'In this way, use of the Internet tends to reinforce existing inequalities but also holds out the potential to broaden the pool of activists, especially among the younger generations. Thus, efforts aimed at increasing levels of literacy among

Internet users—old and young—could contribute to an expansion of online political engagement' (Gennaro and Dutton, 2006). Capacity building presents a huge challenge to enabling technology for democratic engagement.

We need to take into account that while technology is a key enabler of citizen engagement, the real barriers to online citizen engagement in areas such as e-democracy are 'cultural, organizational and constitutional' and lie outside the technological domain (OECD, 2003) (Epstein et al, 2012). 'The challenges of motivating the public, addressing its fears of complex bureaucratic processes, overcoming their mistrust and skepticism of the system, and educating them about the particular format of policy debate all belong to the analog world of process planning, outreach, and education' (Epstein et al, 2012). 'Overcoming these challenges will require greater efforts to raise awareness and raise capacity both within government and among citizens.' Further research is also needed by the academic community (OECD, 2003) (Epstein et al, 2012). The inputs into what stimulates and impacts online citizen engagement are also numerous, for example, prior political attitudes such as interest and trust (Koc-Michalska et al, 2014).

Importantly, even if participation is achieved, there is no guarantee that the voices of citizens, through whatever mechanisms, will have real influence in the policy-making process: 'while technology has the potential to amplify citizens' voices, it must be accompanied by clear political goals and other factors to increase their clout' (NDI, 2014). The process needs to bring returns to encourage continued participation: 'If citizens feel empowered through the affordances of digital technologies they are more likely to remain active and participate in activism within more diverse groups constituted of the connected' (Koc-Michalska, 2016). The overall solution to the engagement of rural citizens is multifaceted and not solved by technology as a facilitator of information and discussion alone.

A problem that is faced in analysing the relationship between participation and the Internet is that there will always be difficulties in identifying the real impacts of technology and participation due to the difficulties in isolating effects (Aichholzer and Allhutter, 2009). There is also a tendency to assume that once someone is online 'they will remain 'digitally engaged" (Olphert and Damodaran, 2013). 'In fact statistics show that some users give up using the internet, and there is emerging evidence that older people are more vulnerable to the factors which can lead to this outcome' (Olphert and Damodaran, 2013). Again there are multiple digital divides and inequalities that exist to be taken into account.

There is much talk of the potential of ICT to enhance democratic engagement. This is because, on balance, the evidence thus far may suggest the 'actual impact is limited' (Koc-Michalska, 2016). However, there is still 'significant potential for digital technologies to have a positive impact upon democratic participation, through enhancing political knowledge and facilitating political discussion and activism' (Koc-Michalska, 2016).

The complexities of exactly how to foster engagement with the lines of communication opened up by technology and these broader challenges are not the focus of this paper (although as with all technology initiatives capacity building is key). The purpose of this paper, in the context of Smart Villages, is to demonstrate the multiple opportunities for engagement that energy access and technology present.

This paper will now be structured by considering several different areas in which technology plays a role; first direct democracy and e-democracy, followed by integrity and transparency, rights education and the use of mobiles, then social media, group mobilisation, and wider forms of participation.

2.2 Direct Democracy:

There is an argument that holds that:

'direct democracy, as exemplified by the Athenian agora, is the optimal form of democracy; yet, because it was not materially possible to gather all citizens in the same place, representative democracy was implemented; fortunately, by allowing to electronically consult millions of citizens, the Internet will allow to revive the direct democracy' (Ward and Vedel, 2006).

My intention here is not to agree with this argument or say that direct democracy is preferable, rather to speculate on the shift that Internet provision may help trigger. The kind of democracy that may emerge from greater use of ICT in governmental processes and citizens' participation has been much debated: 'Would it result in changes to representative democracy—or to the emergence of direct democracy— or to a hybrid form of direct-representative democracy?' (Coleman and Norris, 2005). The potential enablement of direct democracy has been highlighted by Matsuaka:

> *'The spread of direct democracy is fuelled in part by the revolution in communications technology that has given ordinary citizens unprecedented access to information and heightened the desire to participate directly in policy decisions' (Matsuaka, 2005).*

'Opinion surveys reveal that 70 percent or more of Americans approve of direct democracy at the state and local level, with a majority even in favour of federal initiatives, and the numbers are comparable for Europe' (Matsuaka, 2005). 'Forms of direct democracies do exist today. Voters can approve or reject laws passed by elected officials, remove representatives from office and even propose and/or pass laws' (Timby and Papay, 2014).

However, using technology as an enabler of direct democracy is not without its problems; 'many journalists, pundits and scholars remain concerned about direct democracy' (Matsuaka, 2005). The concern is 'whether ordinary citizens have the attention span or competence required to decide complicated policy issues—and if they are not competent, if they can be manipulated into passing laws harmful to the general public' (Matsuaka, 2005). Certainly, in recent years the phenomena of fake news, and false promises and claims by politicians/pundits online and elsewhere, could call into question the level at which a referendum vote may be informed.

The benefits of enabling direct democracy are clearly up for debate. Nonetheless, by providing energy access and Internet/mobile phone connectivity we facilitate the first step towards establishing an environment in which citizens are potentially able to participate more readily in democracy (provided there is information access across the board—see previous chapter on informed voting) in whatever form.

This paper will now focus on some of the potential means of participation and greater connectivity between citizens and government.

2.3 E-Democracy and E-Governance:

> *'E-democracy is anything that governments do to facilitate greater participation in government using digital or electronic means. These initiatives can include e-forums, e-town hall meetings, e-consultations, e-referenda, e-voting, e-rule making, and other forms of e-participation' (Coleman and Norris, 2005).*

E-governance/government is a broader term that also refers to governments' internal functions, which are not purely about asking citizens' opinions but also delivering government services and exchanging information (UNDP, 2012). Internet access facilitates this in a 'convenient and transparent way, saving time and money' (UNDP, 2012). Mass migration from computers to mobile phones also brings new opportunities (UNDP, 2012). The

intention of this section is not to consider the specific methodologies or software used—as we shall see, the methods of engagement are numerous—as this lies beyond the scope of this paper. Rather, the purpose of this section is to outline what energy access and connectivity can facilitate in terms of participation and accountability, in the context of linking state and citizens, relevant to rural off-grid populations in the developing world.

Many developments are occurring in the field of e-government. 'The African Agenda 2063 contains references and goals to improve ICT infrastructure that—when delivered—would provide the much needed tools for expanding e-participation communication channels and spaces'. In this document public participation is put alongside poverty reduction as central to transforming the continent (UN, 2016).

'In Korea, which won the UN's global e-governance 2010 and 2011 awards, citizens can petition government, complain about government services, pay their taxes and apply for patents online. Businesses can get goods through customs quickly at a lower cost and find all information they need on a single online space' (UNDP, 2012). The republic of Korea was also ranked third in the e-government development index and forth in the e-participation index in 2016 (UN, 2016).

Norris has noted that 'digital technologies have the capacity to strengthen the institutions of civic society mediating between citizens and the state' (Norris, 2001). By expanding energy access to rural areas we are allowing rural citizens to participate in these new lines of communication, and, most importantly, preventing them from being excluded from the new form of democracy and democratic engagement that may emerge. The Internet can enable virtual surgeries/ e-consultations with local government representatives, access to information on representatives and their political behaviour, politicians' blogs and online diaries, amongst other media (Smith, 2005).

A wide variety of e-democracy projects has been initiated and run in many countries and as such there is a good database of lessons learnt for potential implementers. The UN have called for 'renewed focus' on knowledge sharing, education, capacity building, multi-stakeholder cooperation at all levels in the field of e-governance (UN, 2016). In the 2016 UN E-governance survey it was found that, whilst developed countries are among the top 50 performers, 'many developing countries are making good progress as well' (UN, 2016). The survey also found that a 'country's lower income level is not an obstacle to posting basic public sector information online on national portals or using social media and other innovative means for consulting and engaging people on a broad range of development-related issues' (UN, 2016). However, 'a country's income level matters when it comes to developing more technically complex and specialized e-participation portals, such as for e-petitioning or online consultation and deliberation' (UN, 2016).

Part of the reason low-income countries are faced with particular challenges in this area is the expensive infrastructure required (UNDP, 2012). Other challenges may include a lack of technical staff, poor existing infrastructure, low Internet access and a lack of knowledge among citizens regarding technology operation (Chen et al, 2006). In addition, there is a need for local content to be developed in a variety of languages to enable the far-reaching spread of many of the initiatives we will discuss (UN, 2016).

Governments tend to adopt technological solutions for 'reasons of efficiency and cost savings, rather than to enhance democratic processes' (Freeman and Quirke, 2013). Weerakkody et al argued that the 'success of any e-government system lies with its cost savings in both implementation as well as adoption, the benefits provided to the recipients of the system, and any associated risks in operating the system' (Weerakkody et al, 2015). There is a lack of up-to-date literature that 'comprehensively analyses the cost opportunity,

benefit and risk analysis linked with e-government systems' (Weerakkody et al, 2015). Whilst there are of course costs involved in implementing e-democracy and e-government systems, for many activities it could be that systems help improve efficiencies and costs in the longer term. This is a particularly important angle when considering restricted government budgets.

We will now consider the means of e-consultations, e-petitions and online government portals specifically.

2.3.1 E-consultations:

E-consultations are a direct pathway between the electorate and the elected. 'Various forms of online deliberation and collaborative actions are integral parts of the decision-making process' (UN, 2016). E-consultation involves people being consulted on a 'particular policy service or project' (UN, 2016), although there is no obligation for the government to utilise the inputs it receives (UN, 2016). Social media can facilitate this, with as many as 152 countries out of 193 offering 'social networking features, such as the 'like' button, on their national portals' (UN, 2016).

We should bear in mind that online participation can often be limited to discussion, reducing democracy to debating aspects, rather than placing more emphasis on decision-making processes (Ward and Vedel, 2006). E-consultation has the potential to go beyond discussion and in the direction of online decision-making and participation, and 'includes efforts to actively involve constituents' especially in the local communities (Ward and Vedel, 2006). Online consultations and focus groups, opinion polling, and surveys all fall into this category (Ward and Vedel, 2006).

Case Example: Tanzania Knowledge Network 'Partnership for shaping policymaking through online consultations'

> *'Tanzania Knowledge Network (TAKNET) promotes knowledge and information sharing on various aspects of social and economic development of national interest to stimulate discussions by informing individuals about current development issues. Both the general public and experts take part in these discussions, which result in consensus building on policy issues of concern to Tanzanian society. Summaries of discussions covering the outcome of a particular topic are produced by moderators, which include recommendations and statements of best practices, and are shared with policymakers and the public. TAKNET is a joint initiative of the Government of the United Republic of Tanzania, United Nations and the Economic and Social Research Foundation' (UN, 2016).*

The Canadian Parliament has previously experimented with online policy consultations (Coleman and Norris, 2005). The 'Canadian Parliament's Sub-Committee on the Status of Persons with Disabilities developed *The Canadian Pension Plan Online Consultation* with Canadians' (Coleman and Norris, 2005). 'This initiative represented the first interactive website for a parliamentary committee in Canada and was regarded by all concerned as a success' (Coleman and Norris, 2005).

In Tunisia, the website for the National Agency for Employment and Self-employment aims to give people an opportunity to ask questions and make suggestions about professional education. The Facebook page also enables discussion (UN, 2016). Every year the Scottish government 'runs around 100 consultations on many different issues in order to allow citizens to have their say on government proposals or policies' (Lironi, 2016). A 'Citizen Space' platform 'allows different options for consultations to improve the experience, such as several question formats, the possibility to add media, and a powerful search tool. Consultation results are made public and summarised under the 'We Asked, You Said, We Did' tab' (Lironi, 2016).

> *'One of the most successful cases was the consultation on Scotland's independence referendum. The Scottish Government decided to consult its citizens on the content and timing of the referendum and on some details on how it should be run (eg. allowing 16-17 year olds to vote). 23,569 responses were submitted through Citizen Space (compared with 725 that were submitted via email or post) and a consultation report was issued based on the quantitative and qualitative analysis of the received responses. The feedback provided by the consultation shaped the Scottish Government's proposal for the referendum' (Lironi, 2016).*

Such consultative initiatives have relevance to the developing world as well, as the examples I have listed here came with a wealth of lessons learned and key challenges (of which some but not all may be useful in other contexts). I will not go into detail on these at this point, but this is to illustrate the opportunities that may become available—although we must continue to bear in mind the resource-intensive nature of many of these interventions.

In terms of who may participate in such consultations it has been argued that even if only a minority participate and fewer have the 'potential to be heard and so have influence… if citizens can witness social and political impacts from their actions within online networks they will increase their activism' (Koc-Michalska et al, 2016).

As we have seen earlier in the paper, a common criticism of e-democracy initiatives is that they 'tend to attract individuals and groups who are already politically active and e-literate' rather than reaching marginalised/hard-to-reach groups (Smith, 2005). Yet, as we have also seen, there is evidence to the contrary. Stanley and Weare, looking at a web-based discussion forum, found that a 'web-based discussion run in parallel to the traditional docket attracted new individuals to participate in the decision-making process and influenced the range of topics discussed' (Stanley and Weare, 2004). The findings indicated that 'extending opportunities for participation can attract new voices, thereby changing decision-makers' information environment' (Stanley and Weare, 2004). If true for the rural environment in the developing world (provided there is access and capacity to engage), this could have profound benefits for sometimes overlooked rural communities, potentially enabling them to influence debate and even their representatives. It is also worth noting here that this particular online initiative was run alongside traditional means—the availability of the online does not necessarily negate the need for traditional methods of participation.

There are further examples which may support the idea that online mediums can attract 'new' participants. One such example is Womenspeak, which was organised by the Hansard Society in 2000 in order to allow survivors of domestic violence to give evidence to the 'All Party Domestic Violence Group' (Smith, 2005). A key element of engagement of such 'new' participants was the use of trusted intermediary organisations to approach them (Ibid). IT support was also important (Ibid). Previous 'evidence from the UK parliament does suggest that some new voices have been heard and the quality of evidence and discussion in e-consultations has been relatively high' (Smith, 2005). Whilst other initiatives (e.g. capacity building) are clearly needed to make the most of technology to expand the reach of consultations and engage 'new' participants, this is not to say that taking things online does not open up some opportunities.

Another potential issue, beyond attracting 'new' participants, is the need for reciprocity in the online consultation. For example, in the UK parliamentary evidence just mentioned, participants were disappointed by a lack of feedback from MPs, which was identified by the Power Inquiry as a typical 'criticism of consultation exercises' (Ibid). The UK portal Gov.uk now facilitates this feedback: it publishes policy drafts or other

information for consultation then publishes its 'position on the feedback received from the public and explains any changes in the proposed policy options taken as a result of consultation by highlighting what has been taken into account and what has not and why' (UN, 2016). It is important that online consultations are reciprocal: 'In the interests of transparency and accountability, governments…need to develop ICT tools for the analysis of public input and to provide feedback to citizens on how their comments and suggestions have been used in reaching decisions on public policy' (OECD, 2003). At a more general level:

> *'Engaging citizens online raises legitimate expectations that public input will be used to inform policy-making. Governments need to adapt their structures and processes to ensure that the results of online consultations are analysed, disseminated and used. This commitment must be communicated widely, demonstrated in practice and validated regularly (e.g. via annual reports, audits, parliamentary reviews)' (OECD, 2003).*

However, in the 2016 UN survey only '38 countries out of 193 Member States (20%) indicate that e-consultation outcomes have resulted in new policy decisions, regulation or service' (UN, 2016). Yet, considering the potential issues of lack of expertise outlined in the referenda section, or disinterest/lack of engagement, this can still be seen as a notable statistic. In addition, more evidence regarding e-consultations' effects on the policy process and 'the extent to which they generate 'meaningful' civic engagement' is needed (Tomkova, 2009).

2.3.2 E-petitions

Another medium of e-democracy is the use of online petitions, which is a stand-alone tool that is 'institutionalized and widely used by many people around the world' (UN, 2016).

In 2013 China began a new online platform to 'accept petitions from its citizens', a modernisation of a tradition of petitioning dating back to imperial times (BBC, 2013). Some countries have even embedded the use of petitions into their democratic structure. In March 2012 Finland adopted the 'New Citizens' Initiative Act', which takes on board an element of direct democracy by allowing 'Finnish citizens to submit an initiative to the Parliament' (Lironi, 2016).

> *'Any citizen of voting age can start a petition to propose to the government either a change to an existing legislation, or a completely new bill, formulated through crowdsourcing methods. This petition must receive 50,000 signatures in six months, in paper form or online (by using an online bank user identification), in order for the Parliament to discuss it' (Lironi, 2016).*

Online portals were created where the initiatives could be discussed and promoted to facilitate signature collection, as well as to collect the statements of support (Lironi, 2016). Scotland has also experimented with crowdsourcing in policy making using an online platform (Lironi, 2016). In 2014 the European Parliament launched a new online platform 'to allow citizens to submit an online petition and check the status of the different petitions' (Lironi, 2016).

The actual influence of such functions is up for debate, but in the UK if a petition gets more than 100,000 signatures it will be considered for a debate in parliament (Petitions, no date). However, this is a consideration rather than a guarantee. Real influence will always be unlikely in the absence of clear rules in place on the government's side. It has been argued that social campaigns cannot rest on government petitions, and that the government processes put in place to deal with such petitions simply result in very little real action or genuine consideration (Guardian, 2014). Furthermore, 'According to the findings of a report on e-petitions by the United Kingdom's

Hansard Society, this tool is used more as a way to attract the attention of the public and the media, rather than to understand public opinion more deeply' (UN, 2016). However, petitions and the 'associated public debates can also be seen as an important entry point for a two-way dialogue with the public' (UN, 2016). Indeed, an interesting element of the UK system is that rather than representing just a significant portion of people, they also represent people who will be notified if the MP fails to act, which could have more leverage on the MP than before (although this doesn't mean they are not ignored) (Independent, 2014).

In the Finnish example, whilst it is mandatory for the parliament to take into consideration successful initiatives, 'it can still decide to amend or reject the proposals' (Lironi, 2016). Since the initiative began in 2016 '9 successful initiatives reached the parliament (e.g. stricter penalties for drunk driving, changes to the energy certification law, copyright reform), among which only one has been turned into law so far (equal marriage rights for gay couples)' (Lironi, 2016). Such processes, even if not turned into law, can engage youth, provide a learning process for citizens and decision makers, encourage innovative ideas for shaping policies, etc. (Lironi, 2016). In addition, a 2015 analysis found that the Finnish experience of crowdsourcing has the 'potential to help enhance legitimacy by creating more trust in the decision-making process' (Lironi, 2016). 'Most importantly, even if the participants did not receive the desired outcome of their initiative, they kept their faith in the system if they perceived the whole process was fair' (Lironi, 2016)—although there have been cases where supporters of failed initiatives have developed less trust in the political system (Lironi, 2016). However, the general conclusion was that the 'the participants generally still believed that crowdsourcing legislation can help improve democracy in Finland' (Lironi, 2016).

Pew Research found in an international survey that 'About one-third believe that signing a petition (35%) and contacting a government official (34%) are effective in influencing government. Again, Africans are more likely to say these are effective. Asian public are less likely to say signing a political petition will make a difference (27%), while Middle Easterners are less likely to see the value of contacting government officials (31%)' (Pew Research Center, 2014). 'In Nigeria 8% of people in a survey had signed an online petition, 17% in South Africa and 8% in Kenya' (Pew Research Center, 2016).

One of the issues faced with online petitions is the potential requirement of online signature collection 'which discourages participation also because of people's fear of data theft' (Lironi, 2016). Another challenge is simply that they are 'unknown to citizens' (Lironi, 2016). In addition, citizens can find e-participation tools 'too complex or technical and this discourages from engagement in the policy process' (Lironi, 2016). Capacity building and security are key considerations when dealing with e-participation. The issue of verifiability vs. anonymity faced by e-voting can also apply here.

2.3.3 Service Delivery and Online Government Portals:

'In many countries, ICTs are presenting a number of opportunities and alternatives in the delivery of services from both public and private sectors' (Spider, 2013). There is growing value to be delivered by technology 'especially in terms of efficiency and effectiveness. Because of these capabilities, the demand for transparency and accountability through the use of ICTs is increasing' (Spider, 2013). ICT enables the general public and organisations 'to collaborate in the design of public services and participate in their delivery to provide more coherent and integrated solutions to complex challenges' (UN, 2016).

One such challenge in service delivery is the eradication of poverty (UN, 2016). As the UN has noted in its e-governance global survey, 'The effectiveness of pro-poor policies is intrinsically

linked to the level of participation of those affected by such policies' (UN, 2016). Digitally enabled discussions and communication, whether through complaints systems, polling, or consultation, can therefore contribute to improved services for the poor—provided they have access.

IDEA (International Institute for Democracy and Electoral Assistance) has also noted that there is only democratic accountability in service delivery 'when citizens or their representatives question or provide feedback on a public service, and the political actors and service providers either act on that feedback or face consequences' (Bjuremalm et al, 2014). As we have seen with online policy consultations, technology can contribute to this as a potential enabler.

Governments can use the Internet to publish official documents, and enable electronic submission of comments on certain consultation documents (Smith, 2005). Providing publically held information is crucial to enable evidence-based, 'fully relevant or significant' participation (in addition to its role in transparency noted later in this paper) (UN, 2016). 'As many as 183 countries (95%) post information on the Internet in key areas such as education, health, finance, environment, social protection, and labour. Only nine countries do not share such information' (UN, 2016).

In the UK 'a single, accessible government consultation portal where all open consultations are listed and accessible' has been used (Smith, 2005). Message boards and interactive discussion forums (secure closed sites which can even be used for the discussion of sensitive issues) allow citizens to discuss key issues with each other as well as with public officials; mobile technologies can also be leveraged (e.g. subscribing to updates) (UN, 2016). In Nigeria, the Federal Ministry of Information has also used an SMS request system to provide information to the public when they have an urgent request, e.g. passport renewal; simple requests may receive an automated response while more complex requests can be processed by officials (The Panos Institute and UNDP, 2009). Government portals have been used across the world, including in developing countries such as South Africa, Uganda and Burkina Faso, for various purposes including information, constitutional details, key facts, etc. (Backus, 2001).

Governments can also potentially improve the accessibility and efficiency of some practices by taking them online (The Panos Institute and UNDP, 2009)—'services' in this case meaning tasks such as e-forms for filing taxes, passport applications and renewal, and welfare/benefits (UN, 2016). In Cape Verde, one initiative allowed citizens access to services through multiple means, including 'the initiative's website, voice servers, SMS, email' amongst others (The Panos Institute and UNDP, 2009). In many instances in the 2016 UN survey it was found that 'government portals provide a secure myGov individual account that allows people to access a range of government services… all in one place' (UN, 2016). Such advances may become important to smart villagers as they become more connected to the government machine and society as a whole.

Around the world there has been much progress in the area of online service delivery; however, it remains a challenge for the least developed countries (UN, 2016). 'The regional distribution shows an increasing divide, with most of the African countries remaining at the lowest levels of OSI' (Online Service Index) (UN, 2016).

Another interesting element of taking services online, relevant to Smart Villages and its aim of facilitating entrepreneurship through energy access, is the enabling of online business registration. Ninety-seven countries also now offer online business registration, but almost no developing countries do (UN, 2016). With high transaction costs being particularly detrimental to small businesses with limited resources, the lack of online registration 'clearly hampers market entry for new businesses and access to much needed financing

for new start-ups and small and medium enterprises' (UN, 2016).

Case Example 1: iParticipate Uganda

> *'As part of its iParticipate Uganda's project, CIPESA has conducted a series of citizen journalism trainings to empower communities in the use of ICT, especially social media, to report on governance issues. Based on a citizen journalism training manual we developed, CIPESA has equipped community members in three districts with skills for seeking and disseminating information related to reporting and monitoring of service delivery concerns. The trainings were conducted at grassroots-based partner centers, the Northern Uganda Media Club (NUMEC), Busoga Rural Open Source and Development Initiatives (BROSDI) and the e-resource center in Kasese' (Spider, 2013).*

Case Example 2: Mozambique – Engaging citizens in the monitoring of waste management via Web/SMS

> *'The Service Monitoring System or Monitoria Participativa Maputo (MOPA) is designed to support marginalized and under-served populations in overcoming barriers to entry in the urban services sector. The system is based on a software platform, Ntxuva, which is designed to collect information from people via SMS, a mobile app, and a web portal; a voice interface in local languages is used to enhance access by less educated, poorer populations. Members of the public can dial *553# or access the www.mopa.co.mz website and use a computer, smartphone or ordinary cell phone (via SMS) to report failure to empty waste bins, illegal dumping or inappropriate burning of garbage. The project involves people in the process of monitoring the quality of solid waste management services, especially when contracted to third parties (with the support of the World Bank and other bilateral donors). The system provides visualizations and statistics originated from public information about urban services. The system also promotes engagement among the local software development/innovation community. Users can add photos, comments and other clarifications for quick intervention by the city council. The Municipal Directorate of Hygiene and Cemeteries (DMSO), with the help of the municipal districts, manages and monitors the information.' (UNDP, 2016)*

In all these cases of e-democracy and e-governance it is crucial that there are 'specific mechanisms and processes' in place to ensure the inclusion of poor and vulnerable groups in decision-making (UN, 2016). If rural groups engage in these lines of communication it could improve their quality of life and the services they receive from government, incorporating them into the wider government machine, and countering their geographical isolation.

Using ICT for service delivery can be viewed in different ways by different stakeholders, e.g. affordability and access angles, utility, and cultural issues which could impact women (Spider, 2013). There are of course many obstacles—sociocultural, political and economic—to the uptake of ICTs for governance (Spider, 2013). There is as ever a need to promote access and awareness, with Spider (the Swedish Program for ICT in Developing Regions) noting the need for government to play a big role in this respect, championing the use of ICT, and putting in place 'policies and practices that encourage citizens to use ICTs' (Spider, 2013). As with previous sections, capability building and broader frameworks are important in initiative success.

2.4 Integrity and Transparency:

'The experience of the Millennium Development Goals (MDGs) showed that progress towards poverty eradication, education for all, and access to healthcare is undermined when public institutions lack capacity or lack transparency and accountability' (UN, 2016).

'The use of ICTs in government has allowed people to access data that was previously difficult to obtain unless one would visit a government office in person' (UN, 2016). Access to such information is a crucial 'pre-requisite to the exercise of other rights, including the right to fully participate in the political process; which is a condition for achieving inclusive and participatory decision-making' (UN, 2016).

Governments have a huge amount of data and information on a vast range of issues relevant to citizens (UN, 2016). 'Providing government information online in open standards makes this information readily available for anyone to know or use. Today, government data can be found on regional, national and local online portals in many countries across the globe' (UN, 2016). Open data and transparency can also have knock-on effects on the effectiveness of services and public institutions (as we have seen in the case of e-democracy initiatives). In addition, 'access to timely and reliable data about public sector policies, allocation of tax revenues and international aid provides people with the information they need to hold their governments accountable' (UN, 2016).

> *'Transparency gives people in developing countries the information they need to improve their lives. When farmers have access to timely and comprehensive information on prices, they can make better investment decisions for the future…When people can track whether tax revenue is being used to provide quality services for the benefit of all, they have greater trust in their own governments' (UN, 2016).*

'Increased transparency and financial accountability are also critical to prevent corruption' (UN, 2016). This is particularly notable for vulnerable groups such as remote poverty-stricken areas, as it diverts 'vital' resources that could help address their needs (UN, 2016).

Information is not the only way technology can aid transparency. Opposition movements can utilise technology to 'develop virtual coalitions to challenge the predominance of the government's message in television, radio, and newspapers' (Norris, 2001). Technology has also been used by the public in election campaigns to encourage transparency and integrity. In the 2008 Ghanian election, mobile phones were the preferred tool for monitoring the electoral process, 'particularly counting the votes won by each candidate in the different constituencies and at the national level' (The Panos Institute and UNDP, 2009). Phones were additionally used to report incidents 'sent in by the public or the media in real time on the radio' (Ibid). 'This made it more difficult to commit fraud; meaning, the credibility and integrity of the electoral process were strengthened. Moreover, during the elections, 'bad' behaviour (such as donations for buying votes, and various attempts to influence voters to vote for a particular candidate) was immediately reported on the radio by mobile phone'(Ibid). Another consequence of this could be reporting problems with electoral violence. By expanding communications access to rural areas we can then not only influence citizen participation but the integrity of elections themselves, allowing governments to be held to account.

The emancipatory power of the Internet has previously been lauded as a 'force multiplier for democracy and an expense multiplier for dictators' (Morsov, 2011). The power of the Internet has been noted by leaders and led to restrictions on Internet usage in some instances. In the 2016 Ugandan elections the government shut down social media, claiming it was to 'avert lies' and 'prevent the incitement of violence' (Democracy Works, 2016). On voting day many citizens could not use Facebook or tweet (Democracy Works, 2016). During the 2011 polls, even more than in recent elections, 'Ugandans extensively used social media to debate issues and mobilise opposition to the government. Many used the hashtag #1986pictures to tweet pictures taken 30 years ago, comparing it to the current situation, to show "in 30 years, everything has changed

in Uganda except the president'" (Democracy Works, 2016).

In 2016 the Nigerian government 'withdrew its Cybercrime Act of 2015, after strong civil society complaints that it undermined freedom of expression' (Democracy Works, 2016). More work still needs to be done to prevent and deter the censorship of governments against any opposition. Whilst censorship isn't the focus here it is another interconnected area that must be resolved if the benefits of energy for democratic engagement, and indeed democratic governance itself, are to be realised.

Online means of communication are important for building and maintaining trust in government and social institutions. In Malaysia, Warren et al also found in a survey of 502 citizens that 'using social media for civic engagement has a significant positive impact on trust propensity and that this trust had led to an increase in trust towards institutions' (Warren et al, 2014). Civic publications via social media were also found to 'intensify the urge of citizens for civic action to address social issues' (Warren et al, 2014). Interviews also suggested that 'institutions, in their effort to promote a meaningful and trusting citizen engagement, need to enhance trust among the public by fostering social capital via online civic engagement and closing the public–police disengagement gap' (Warren et al, 2014).

Case Study:

> *'Women of Uganda Network (WOUGNET), through its project aimed at empowering local communities to monitor services delivery in Northern Uganda, has increasingly built the capacity of rural people in the districts of Apac, Kole, Oyam, Gulu and Amuru to fight corruption, demand for better service delivery and hold their leaders accountable.'*
>
> *'The Voluntary Social Accountability Committees, which are composed of 15 members per parish of whom 11 and 4 are female and male respectively, were trained and equipped with ICT skills and tools, especially mobile phones, digital cameras and the web-based platform Ushahidi to monitor, report and disseminate their findings on the status of service delivery and corruption within their respective communities.'*
>
> *'The committees were also trained on good governance as well as their rights, roles and responsibilities as citizens. Emphasis was placed on the importance of citizens getting involved in monitoring service delivery. This has empowered them to fight corruption and improve services delivery within their respective communities through exposure, naming and shaming. The bad governance issues identified in the community during monitoring are generated and compiled into a report and disseminated to the different stakeholders using different avenues such as district engagement meetings, face-to-face meetings, radio talk shows, WOUGNET's website, Facebook and Twitter pages and the Ushahidi platform.'*
>
> *(Spider, 2013)*

It is worth bearing in mind that transparency is a complex issue, and whilst secrecy is an issue for democracy 'uncontrolled access to information coupled with excessive publicity might be equally damaging to the public welfare' (Ward and Vedel, 2006). Furthermore, 'transparency can be used in tactical way to hamper the information of citizens, when for instance so much information is supplied that the receivers cannot digest it. Or it can be used in an opposite way to the one expected: not to have governments become more transparent to citizens but instead to control the citizens more closely by exposing them to increasing measures of electronic tracking, data mining and other challenges to personal privacy' (Ward and Vedel, 2006).

2.5 Rights Education:

'In both new and long established democracies, there is a growing emphasis on education for democratic citizenship'; human rights and citizenship education are being seen as more vital to securing peace and human rights across the world (Osler and Starkey, 2005). Technology can also facilitate this. Amnesty International and edX recently developed a 'Massive Online Open Course' (MOOC) for human rights education where anyone, 'regardless of social status, income…' can sign up and participate in the course (Amnesty International, 2015). The course is available to anyone with access to the Internet (Amnesty International, 2015). As we have seen, a key resource for rights education as well as service delivery is also governmental web pages. In Senegal, an administrative procedures website was set up in 2006. 'It directs users to services (home pages of public organizations, online services, information services, listings of resources etc.) that enable users to find out more about their duties, exercise their rights and complete procedures' (The Panos Institute and UNDP, 2009).

In 2011 in Kenya the Human Rights Networks (HURINETs) and the Kenya Human Rights Commission (KHRC) 'introduced the idea of ICT4D, especially the idea of using social media platforms for human rights work' (Spider, 2013):

> *'The participants were a mixed group of people with wide age, education and social status ranges. At the time, there was as much excitement as there was skepticism among the HURINETs, with a number of the older ones doubting their ability to learn and grasp the new technologies. Most of them had never used a computer before and were afraid of it. However, some of them took the challenge and opened up to learning new things' (Spider, 2013).*
>
> *'Two years down the line, through training and other informal step-by-step interactions, individual members of the HURINETs are able to use varied ICT platforms to articulate their advocacy issues'.*

These have included areas such as education for girls and election monitoring (Spider, 2013).

2.6 Mobiles:

Mobile applications have the 'potential to improve living conditions of the poorest in important ways' by connecting them to key lines of communication with the government as well as engaging them in other forms of participation (UN, 2016). The importance of mobile apps may become even more evident with the 'expected increase in the availability and affordability of mobiles', particularly those with e-mail (a key means of communication for governments) (UN, 2016). Governments have been using mobile applications and social media channels to 'reach out and provide timely services to remote and vulnerable groups' (UN, 2016).

The mobile phone and particularly SMS has played a 'fundamental role in the growing e-participation seen in West Africa' (The Panos Institute and UNDP, 2009). For example, it has been utilised for socio-political mobilisation in Senegal and Nigeria, and for accessing administrative information in Cape Verde (The Panos Institute and UNDP, 2009). We have also seen in previous sections the use of mobile phones to encourage transparency and the integrity of elections. Further examples of more advanced mobile phone use to contribute to participation and accountability include:

- In Nigeria, the 'Enough is Enough' movement has made use of apps and SMS to encourage voter registration and participation (Pasquier, 2014). The movement uses mobile marketing in the top local social mobile apps, and an SMS platform called 'Shine your Eye' allows 'anyone to send a free SMS with the name of its candidate or representative and have as an answer its basic track record' (Pasquier,

2014). In addition, an app called Revoda 2.0 aims to empower citizens and notify them regarding power cuts, riots, and other events that may disrupt voting, as well as the use of a social media tracking platform to 'scan all the mentions on the elections and provide fact-checking and information on what's happening' (Pasquier, 2014).

- In South Africa a consultancy aiming to increase registration and turnout through the use of collaborative platforms and social media utilised digital tools to report protests, intimidation and corruption, using various means such as Twitter, Google Talk, SMS, and a dedicated app (Pasquier, 2014).
  In India, Myneta.info 'has been designed to improve political transparency by giving voters' information on parties and candidates (Pasquier, 2014). The app 'is designed to provide an aggregation of data on one elected official or candidate, with, in one SMS only, a wrap-up of its criminal case, education, assets and liability' (Pasquier, 2014). Notably, this information is also available orally due to the high illiteracy rate (Pasquier, 2014). During the five weeks of elections there were more than five million searches (Pasquier, 2014).

2.7 Social Media, Protests and Wider Participation

> *"Social media' refers to "web-based tools and services that allow users to create, share, rate and search for content and information without having to log in to any specific portal site or portal destination. These tools become 'social' in the sense that they are created in ways that enable users to share and communicate with one another"… This includes social networking sites, blogs, microblogs, video blogs, discussion forums and others' (Browne, 2015).*

This section will have a specific focus on social media and group mobilisation.

New digital tools and social networks can be tapped into to connect cultural interests to politics, express perspectives, and to protest and exert influence in multiple areas of public concern (Kahne et al, 2016).

Skoric et al, in a meta-analysis of research from 2007-2013, find that 'social media use generally has a positive relationship with engagement and its three sub-categories, that is, social capital, civic engagement, and political participation' (Skoric et al, 2016). Research in general was found not to support more critical views that may suggest social media to have a toxic impact on engagement, yet the solid proof of the impact of social media being 'revolutionary' is also rare ('beyond occasional anecdotal evidence') (Skoric et al, 2016). 'The most robust' finding in the study by Skoric et al 'concerns the relationship between informational uses of social media and participation, which was found to be positive and significant across all studies and which yielded a moderate average correlation size' (Skoric et al, 2016). This highlights the information and participation link that has been noted previously in this report.

In a special edition of New Media and Society, the articles in the journal showed a 'mixed but tentatively positive picture of how social media contributes to citizen engagement with civic and political life' (Koc-Michalska et al, 2016). However, the effects as noted by Skoric et al are 'medium rather than strong' (Koc-Michalska et al, 2016). A study by Warren et al also found that 'online civic behaviour is present and that social media (as a civic communication channel) enables citizens to be included in civic participatory activities' (Warren et al 2014). However, the data regarding social media and public engagement is not yet conclusive (Wihbey, 2015).

In terms of the argument that online participation may reinforce existing patterns of engagement, 'Facebook is expected to facilitate more equal participation in civic engagement across genders and countries' (Brandtzaeg, 2016). When

considering the insights of studies from the 2012 elections (US) Koc-Michalska et al suggest that 'there are some indications that usage of social media has enhanced political participation for those who previously would not have engaged' (Koc-Michalska, 2016). In a 2016 Pew Research survey, despite a 'negative view of the tone of political conversations on social media, some users view social media in a relatively positive light when it comes to facilitating engagement and involvement with political issues' (Duggan and Smith, 2016). Eight out of 10 social media users feel these platforms facilitate their involvement with issues that matter to them either 'very' (22%) or 'somewhat' (57%) (Duggan and Smith, 2016). In terms of mobilisation, 'a similar share feels that social media have helped bring new voices into the political discussion very (21%) or somewhat (53%) well' (Duggan and Smith, 2016).

There is also potential for social media-enabled participation to have a knock-on effect on the political sphere and the 'real world':

> *'Our studies also show that some forms of participation offer a sense of empowerment, within communities as well as the potential to impact upon the mainstream media agenda and perhaps informing and impacting on decision makers' thinking and deliberation when deciding on political responses to issues of the day. These data suggest social media is not simply a contained environment, but that these platforms are monitored and are able to have 'real-world' impact when a critical mass of users are involved in concerted action' (Koc-Michalska, 2016).*

As noted in the introduction, 'there are a range of intervening variables which impact upon the effects' (Koc-Michalska et al, 2016). Further research is needed in this field using a range of methods of enquiry; indeed, 'the effects and their intervening variables may well change across nations, demographics and over time as further innovations impact on the forms and styles of citizen engagement in politics' (Koc-Michalska, 2016).

One concern with social media and e-participation more broadly is that 'online anonymous discussions can be polarizing' (Epstein et al, 2012). The Pew Research Center found that 'many users view social media as places where people say things they would never say in person, while a smaller share view these platforms as places where people are afraid to speak their minds for fear of criticism' (Duggan and Smith, 2016). 'Fully 84% of social media users feel that the statement, "People say things when discussing politics on social media that they would never say in person" describes these sites either very (40%) or somewhat (44%) well' (Duggan and Smith, 2016).

Social media is also taking a prominent place in making political campaigns more interactive. 'The US election campaigns of 2008 and 2012, and Barack Obama's engagement with interactive communication and empowerment of citizens through his campaigning strategy, has led to new thinking around how political communication can be performed' (Koc-Michalska et al, 2016). Obama's campaign occurred against a backdrop of activism among 'Internet-mediated issue generalists': 'citizens who populate forums, contribute to blogs and initiate petitions' (Koc-Michalska et al, 2016). In the 2008 presidential election 'communication technology permitted media outlets, such as YouTube, ABC, and CNN, to create an electronic gathering place for citizens—a digital agora—both as created online and through related news and mediated events' (Kirk and Shill, 2011). Web and media channels were transformed from mouthpieces and magnifiers to participatory spaces (Kirk and Shill, 2011).

Case Study: Ghanian Social Media Index 2016

> *'This index has shown that Ghanaian politicians, political parties and some election management bodies have adopted social*

media as a new method of reaching out to electorates with their messages. Ahead of the 2016 elections, active social media engagement and advertising continue even though political campaign season is yet to reach full throttle. Contesting candidates are broadcasting most of their engagements on Facebook, Twitter, and YouTube. This will allow them to better explain their policies in order to sway potential voters to their camp. With over 3 million Ghanaians Facebook (which only allows adults of 18 years and over to use the platform) users, the political parties who campaign online will no doubt have some great results' (PenPlusBytes, 2016).

2.7.1 Group Mobilisation

Technology enables group mobilisation by facilitating communication: 'An interactive online community built around a shared interest is claimed to have clear potential to enhance democratization processes… and may have a significant impact on the self-efficacy of citizens' (Koc-Michalska, 2016).

In Africa, many governments have monopolised old forms of media, with many autocrats manipulating the flow of information with propaganda on state-owned media or withholding crucial information (Democracy Works, 2016). The emergence of cell phones has presented an opportunity outside of such media. Of course, as there is greater awareness of the power of the Internet and social media, censorship has been brought in (Democracy Works, 2016). Some African governments have even been identified by Democracy Works as monitoring and intercepting emails and internet communications to 'prevent opposition views from spreading' (Democracy Works, 2016).

In the modern day, social media are often used to form or sustain online political groups (Boulianne, 2015). 'People who belong to more organizations are more likely to volunteer because these memberships increase the chance of being asked to volunteer' (Boulianne, 2015). In addition, 'being tied to organizations facilitates bloc recruitment, which can be a very effective way to mobilize large numbers of people' (Boulianne, 2015). When thinking about ICT more broadly, it can help to strengthen communication amongst the organisation itself, as well as perhaps ties with other organisations. As Norris argues, 'The main democratic potential of digital information and communication technologies lies in strengthening organizational linkages and networking capacities in civic society' (Norris, 2001). 'Strengthening these bonds…has the capacity to produce sudden disruptions to politics as usual, especially for flash coalitions mobilizing suddenly like a guerrilla army then dissolving again' (Norris, 2001). However, issues such as engaging those not already prone to activism or political participation are still relevant.

The results of a study by the Pew Research Center in 2011, which linked 'internet use and civic engagement', found that 'social media users, as a group, are even more likely to be joiners of civic efforts than general internet users, with 82% of social network users and 85% of Twitter users, citing their participation in groups. In a similar vein, another study found that youth involved in online communities were more likely to volunteer, do charity work, and get involved in community issues' (Warren et al, 2014). In Mexico alone, 54 million Mexican citizens 'collaborate via online communities more avidly than those in some developed countries' (Hopf, 2016). Hopf argues that the increase in social media activity has 'increased civic awareness, broadened collective action, and strengthened political activism in Mexico' (Hopf, 2016).

'Participation has a strong impact on self-efficacy, underlining the importance of community 'spirit, actions and impact' for encouraging collective (connective) action. Local online social networks, even if not building as strong ties as interpersonal offline relations, provide the feeling of connectedness and belonging to the

local community' (Koc-Michalska, 2016). These findings are limited to users of the MySociety network, but 'the data shows the factors that enhance engagement are recognition from the other community members as well as from the authorities suggesting broader applicability in understanding the role of civic organisations in empowering citizens and enhancing their potential for political participation' (Koc-Michalska, 2016).

A study by Cantijoch et al notes that the use of new civic action sites 'operated by non-governmental actors provide a new pathway into wider community engagement' (Cantijoch et al, 2016). The study suggests that involvement in 'collective rather than individual approaches to resolve problems is most likely to further increase individuals' levels of community engagement' (Cantijoch et al, 2016). Although site users are more aware and engaged, these tools are integrated into their own existing 'repertoire of engagement and this reinforces their feeling that they can have an impact on their wider communities' (Cantijoch et al, 2016).

The Internet and social media in mobilising and connecting groups, organisations and communities are therefore important to facilitate engagement in general. Furthermore, due to the role of recognition in enhancing such engagement it could facilitate further participation once groups are mobilised.

Social media has played a key role in facilitating opposition to existing state legislature. The use of social media to criticise the government, as seen in the transparency section, has sparked retaliation from some government leaders. In April 2016 the governing party in Egypt proposed new laws to 'contain the dangers of facebook', making the claim that critical comments against the government 'threatened national security' (Democracy Works, 2016). The Egyptian government has arrested numerous activists for their comments on social media (Democracy Works, 2016). In addition, in 2016 'the Egyptian government arrested two activists for managing Facebook pages to celebrate the fifth anniversary of Egypt's Arab Spring uprisings, claiming they were "inciting" protests against the state.' (Democracy Works, 2016). In 2016 President Mugabe of Zimbabwe accused the opposition of abusing social media and the Internet in order to 'undermine the government' (Democracy Works, 2016). The point here is that where voices are repressed in other potentially state-owned media, social media can provide a powerful potential outlet for opposition and group mobilisation.

Social media is playing more and more of a role in mobilising major political movements. For example, in the United States both the Black Lives Matter and DREAMer movements use social media 'to circulate information and perspectives, mobilize others to get involved, apply pressure to elected officials, and change the conversation about fundamental social issues' (Kahne et al, 2016). The hashtag #BlackLivesMatter 'has become the message of a national movement demanding justice and equality for Black people' (Kahne et al, 2016).

At the state level, digital media can also be used to mobilise groups around election campaigns. The 2008 Obama campaign used 'online media and new technology in new ways to organize volunteers, to inform and inspire voters, to counter negative campaign messages in the media, and to turn out supporters in caucuses, primaries, and general elections' (McGrath, 2011).

In addition, technology can enable resource-poor organisations: 'Insurgent organizations traditionally have fewer political assets, fewer traditional advantages, but also fewer inhibitions about adapting flexibly to the opportunities for information and communication via the Internet' (Norris, 2001). Digital politics may then have most impact:

> *'in levelling the playing field, not completely but at least partially, for a diverse range of*

challengers, such as transnational advocacy networks, alternative social movements, protest organizations and minor parties, such as those concerned with environmentalism, globalizations, human rights, world trade, conflict resolution, and single-issue causes from all shades of the political spectrum, ranging from genetically modified food and anti fuel taxes to animal rights and anti-sweat shops' (Norris, 2001).

2.7.2 Protests:

'The battle to bring democracy, inclusive development and peace to Africa will be increasingly waged on cellphones, the internet and social media. Autocratic African regimes have fallen due to opposition waged by ordinary citizens through these platforms. It is not surprising, therefore, autocrats would want to restrict them' (Democracy Works, 2016).

'In recent years, high-profile protest movements have erupted in several emerging and developing countries roiling, and sometimes overturning, the political status quo in Tunisia, Egypt, Turkey, Ukraine, Brazil, Thailand and other nations' (Pew Research Center, 2014). Millions have participated in demonstrations and 'activists have pioneered new forms of online engagement' (Pew Research Center, 2014). The benefits of such technology (particularly for the young) may be particularly acute in post-conflict societies: 'In countries emerging from conflicts, UNDP recognizes that young people can engage in peace-building, leading non-violent revolutions, using new technologies to mobilize societies to bring about change' (UN, no date).

The North African 'Arab Spring' protests in 2011 and 2012, used social media 'to organise protests and support movements to make their voices heard in ways not possible before, when they were barred from official state media' (Democracy Works, 2016). The Ethiopian government 'has regularly blocked social media to prevent it being used to co-ordinate anti-government protests' (Democracy Works, 2016). The fear that governments can display against these types of media and its organising potential further demonstrates its power as a tool in the democratic process. Even simple technologies can also have a mobilising effect. In Cape Verde a number of NGOs joined forces 'and began organizing demonstrations' against an electricity and water company for ill-timed power cuts (The Panos Institute and UNDP, 2009). The organisers used SMS to spread the messages rapidly and contributed to the 3500 people at the demonstration (Ibid).

However, when it comes to participation in protests and other action, the measurement approaches in many studies make it difficult to isolate the relationship between social media use and protest participation (Boulianne, 2015). Yet, 'the few studies that isolate protest-type activities (marches, demonstrations, petitions and boycotts) suggest that social media plays a positive role in citizens' participation' (Boulianne, 2015).

The key here is that organisation adds weight to the voices of citizens, and enables organised pressure on politicians to be representative and accountable, with the Internet helping to enable organisation, mobilisation and expression (Norris, 2001).

In terms of effectiveness, Pew Research found that: 'Roughly four-in-ten across the 32 nations surveyed believe participating in organized protests (42%), being an active member of a political organization (40%), participating in labor strikes (38%) and phoning a live radio or TV show to express an opinion (38%) are effective means of political participation. Africans and Middle Easterners are generally more likely to consider these useful ways to affect political change' (Pew Research Center, 2014). Therefore the perceived effectiveness of what could be seen as a traditional form of engagement, but now perhaps enabled by modern means, is relatively high.

2.7.3 Blogging:

> *'The popularization of weblogs…has led to the rise of an online commentariat who use a range of participatory spaces to have their say, gain feedback and, again potentially, to impact on other citizens' attitudes as well as on media and political elites. Such spaces can replace traditional, mainstream media outlets as sources of political information. The online commentariat can create a range of forms of 'viewer-created' content, not just text in comments, conversations or weblog posts but also more sophisticated content utilizing file sharing sites for videos, YouTube, or picture uploaded to Flickr, Instagram and curated on Pinterest' (Koc-Michalska, 2016).*

The impact of blogs on political participation has had varied results. Ferguson and Griffiths had previously found in the UK that in blogging's initial phases; although 'blogging may be intriguing to the media, academic and technologists, but it was failing to excite the body politic more generally' (Ferguson and Griffiths, 2006). However, a slightly later study noted that blog use has emerged as an 'important predictor of political engagement in the online domain' (Zúñiga et al, 2009). Zúñiga et al found that expressive (active use posting comments on others' blogs as well as one's own) blog use is 'directly related to political participation' online and offline (Zúñiga et al, 2013). However, consumptive use (reading entries and comments) was not directly related to political participation (Zúñiga et al, 2013).

Blogging has been used in Cote D'Ivoire to discuss a variety of concerns including socio-political and current affairs, with the Ivoire-blog representing a community of bloggers (created in 2007) (The Panos Institute and UNDP, 2009). Such ways of voicing concerns may not directly influence politicians but can play a role in working against media bias to contribute to a better-informed citizenship:

> *Israël Yoroba Guebo is a multimedia Ivoirian journalist, aged 26, who has been blogging about her country for over a year at Le blog de Yoro, http:// leblogdeyoro.ivoire-blog.com. Her work has recently received various awards (the Best of Blogs prize, the prestigious international prize for blogs organized each year by Deutsche Welle, and the Prix Waxal for the best blogs, organized by PIWA.*
>
> *'My blog provides all the information that is important to Ivoirians (both here and abroad), to anyone who is interested in the Côte d'Ivoire and even to people who would like to learn more about this country. Above all, I provide information which the press does not always publish. I also often give my opinions on particular topics and the readers respond'*
>
> *(The Panos Institute and UNDP, 2009)*

Having access to such Internet-based means of participation for rural communities can allow concerns to be voiced regarding the political environment, as well as provide alternative sources of news to potentially state-biased newspapers or television. The benefits are not for the blogger alone, but also the wider community who may not be inclined to engage in blogging or other activities themselves, but would be inclined to read—whether this results in participation or simply taking on more information.

2.7.4 Online News:

Interestingly, Boulianne found that the 'effects of Internet use on engagement seem to increase nonmonotonically across time, and the effects are larger when online news is used to measure Internet use, compared to other measures' (Boulianne, 2009). In line with Boulianne to some extent, Zúñiga et al (2010) found that online news use was the only 'media use predictor for online expressive participation' (Zúñiga et al, 2010). The same study highlighted the importance of political talk and online messaging (discussion on- and off-line) for

the facilitation of political participation (Zúñiga et al, 2010). Even comparatively 'simple' aspects in the form of online news have the propensity to encourage engagement. Indeed, the connection between information and participation has been a repeated theme during this report.

2.7.5 Radio:

Radio can provide a key form of communication between government institutions and citizens in a more informal setting than the e-democracy approaches discussed earlier. In Ghana, Joy Radio broadcasts public policy dialogues concerning governance problems; 'Members of parliament, CSOs and the public participate in these debates, often using ICT to do so' (The Panos Institute and UNDP, 2009). A Nigerian radio programme called 'Police Diary' aims to strengthen connections between police and the public: 'the police are interviewed and respond to questions from the public (who can submit these via telephone, SMS or email)' (Ibid). The additional benefits of radio include its ability to be accessed by those who may be illiterate, as well as its relative cost benefits compared to more advanced technologies.

2.8 Concluding Remarks Chapter Two:

In a smart village, energy, modern information and communication technologies and Internet access can act as enablers of democratic engagement by allowing multiple lines of communication not only between citizens and government (to influence policy and service delivery) but amongst citizens themselves, allowing greater and more varied information access and, crucially, the mobilisation and organisation of groups to challenge the status quo and to hold governments to account. Not only this, but, as the form of modern democracy evolves and technology and the Internet become more central (particularly as the Internet and its use expands further), energy access may become a pre-requisite to enjoy the full extent of democratic participation. The benefits technology may contribute in increased transparency, rights education, election integrity and monitoring corruption are also key. The rural community and vulnerable groups should not be left out of modern discourse.

However, as stated at the beginning of this paper, technology alone is 'an enabler not the solution' and there still needs to be integration with traditional tools 'for access to information, consultation and public participation in policy-making' in order to 'make the most of ICTs' (OECD, 2003). The approach needs to be multi-faceted and still take into account tools such as face-to-face forums or focus groups. The intention should not be to entirely replace existing means of democratic engagement, but to complement them so that such engagement can be extended and access made more pervasive. As Norris argues, 'Reduced information and communication costs lower some, although not all, of the barriers to civic engagement'; encouraging engagement and political organisation is a more complex problem (Norris, 2001). Issues such as political disengagement cannot be solved purely by technology, which is one tool to be leveraged by government, NGOs and other stakeholders as part of efforts to engage citizens more readily in politics. The evidence in terms of linking ICTs to increased political knowledge and increased participation is also somewhat inconclusive at present, despite its heralded 'revolutionary' potential.

The success of leveraging technology for political initiatives is contingent on other intervening factors (depending on the specific case):

> *'the "2% and More Women in Politics" coalition led by Mexico's National Institute for Women (INMUJERES) used a social media campaign and an online petition to call successfully for reforms that would allocate two percent of political party funding for women's leadership training. Technology helped the activists reach a wider audience, but women from the different*

political parties who made up the coalition might not have come together without NDI's role as a neutral convener' (NDI, 2014).

In terms of e-democracy and e-governance, in order to make full use of technology's potential, there needs to be a focus on 'non-technological areas such as political organizing, leadership skills and political analysis' (NDI, 2014). In addition, as we have discussed, 'there are many commentators concerned that the use of new technologies will simply reinforce existing patterns of political participation with hard-to-reach groups further marginalised by new technology' (Smith, 2005). More work needs to be done in outreach and awareness raising as well as developing core ICT skills.

Yet, whilst we have identified some examples of success in breaking part of this pattern of inequality throughout this paper, another element of this concern needs to be broken down by extending energy and Internet access to rural areas (underlining its importance). For online democratic participation 'to truly contribute to improving people's lives, it is vital to increase public access to the Internet and promote digital literacy' (UN, 2016). Otherwise these technological advancements will inevitably lead to further marginalisation of these groups as modern democracy adapts and reacts to changes in communication technology. It is important for rural people to be given the opportunity to participate in these new forums in the same way other citizens do, with energy and the Internet acting as a democratic equaliser in the modern day.

Whilst many people are using online mediums to participate in politics there is still much room for improvement. In Nigeria, 22% of people in a Pew survey said they had posted comments about political issues online; this figure was 19% in South Africa and 13% in Kenya (Pew Research Center, 2016).

'Despite its technically democratic nature, the reality of the Internet still faces major challenges in fulfilling the promises of its first visionaries' (Ward and Vedel, 2006).

Hitching a ride to vote
While voting stations were within walking distances, some preferred to hitch rides.
Photo by Ranjit Bhaskar for Al Jazeera English

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Appendix

The Role of Smart Villages in Rural Migration and its Role in Voter Turnout

Smart Villages aims to make rural and remote areas not only places where quality of life can be high but also where there are real opportunities for income-generating activities and economic development. Part of the potential knock-on effect of these advancements is that it could help to decrease rural-urban migration by making rural communities places where people can prosper.

> *'We live in an era of unprecedented human mobility that has been markedly urban, as migrants, both internal and international, move to cities and urban areas, bring diversity and connect communities within and across borders to create new linkages among localities' (IOM, 2014).*

There are an estimated 740 million internal migrants in the world, the prevailing trend being that of urbanisation (IOM, 2014). This is particularly relevant for regions in the developing world where high population growth is predicted. In Africa the urban population 'has been growing at a historically unprecedented rate for decades': 'In 1960, Johannesburg was the only city in sub-Saharan Africa with a population of over a million; by 1970, there were four (Cape Town, Johannesburg, Kinshasa and Lagos) and, by 2010, there were 33' (IOM, 2014). In addition, 'Every day an estimated 120,000 people migrate to cities in the Asia-Pacific region and, by 2050, the proportion of people living in urban areas is likely to rise to 63 per cent' (IOM, 2014).

In 2005 there were 113.5 million internal migrants in Africa, 282.1 million in Asia, and 100.2 million in Latin America and the Caribbean (Lucas, 2015).

In terms of voter registration and turnout, the problem is simple. The argument is that rural-urban migration (seasonal or not) can impact turnout directly as migrants (unregistered in one location) may not return to their constituency or legal address to cast their vote (Correspondence with a Commonwealth Electoral Commission, 2016). When people move from rural to urban areas, many may reside in informal settlements and as such lack a legal address (Tacoli et al, 2014). Migrants who lack a legal address 'may not be able to access state entitlements or get on the voter's register' (Tacoli et al, 2014). A study into urban slums in Bangalore in India found that residents may lack identity papers and not be registered as voters, which in turn impacts their ability to 'attract political patronage and official support' (Tacoli et al, 2014). Being unregistered as a voter/citizen then does not only hinder democratic engagement at voting time, but also the ability to exercise broader rights of citizenship and access state benefits.

The way in which smart villages may aid urban migration is based predominantly on the argument that energy can act as an enabler to economic activities. It can allow this by facilitating enterprises (and enterprise expansion/improved efficiency), only made possible with energy access, creating new opportunities as well as enterprise growth (Practical Action, 2014). In addition, energy provision itself can open up employment opportunities (Practical Action, 2014). Energy's role in the agricultural production chain and its potential to improve existing earnings has also been highlighted (Practical Action, 2014). In terms of migration to cities, 'Most often people who move are attracted by improved income opportunities' (DIW Berlin, 2014).

> *'The evidence on rural-urban migration points fairly unanimously to the differences in earning opportunities between village and town as an important factor driving relocation. Most of this evidence is confined to differences in earnings or rates of pay, though occasionally the likelihood of finding employment is also represented' (Lucas, 2015).*

In addition, data gathered by Young (for 65 countries) also found that: 'One out of every four or five individuals raised in rural areas moves to urban areas as a young adult, where they earn much higher incomes than non-migrant rural permanent residents' (Lucas, 2015).

Whilst claims relating to energy and income generation have been made by numerous organisations, it has also been found that the empirical evidence to justify such claims is 'surprisingly scarce' (Attigah and Mayer-Tasch, 2013). Despite some inconclusive evidence, due to the role of unreliable methodologies, and the positive impact at the macro level, we should still not underestimate the potential of energy contributing to income generating activities and thus migration. However, there are also other motivations for migration that tie into energy access.

In terms of agriculture, 'the objective of reducing risk may also drive internal migration' (DIW Berlin, 2014). Issues such as 'droughts, pests, and flooding are common in rural areas of developing countries', in locations where there is limited access to investment in new agricultural technologies (as well as access to agricultural information), which may mitigate such risks (DIW Berlin, 2014). Therefore, in parallel with enabling income generation, energy access can also enable the use of innovative technology to help mitigate agricultural risk. Furthermore, one of the ways agricultural families may insure against failure is by sending family members to different areas 'so that they are subject to different economic opportunities and shocks' (DIW Berlin, 2014). Therefore, contributing to reduced agricultural risk overall could further reduce the need for migration.

Another possible incentive to stay in rural areas is improved amenities in the sense that these may attract 'industry or permit agricultural expansion' (Lucas, 2015). 'To the extent that this results in employment expansion or higher wages, out-migration may be discouraged and in-migration encouraged' (Lucas, 2015). Energy is a critical enabler of key amenities such as water and sanitation, health, education, and communication technologies (WEO, no date). Although there is little evidence linking amenities and migration in developing countries, a study in Ghana found that: 'The probability of migration is higher for younger and more educated individuals, but communities with higher levels of literacy, higher rates of subsidized medical care, and better access to water and sanitation are less likely to produce migrants' (Lucas, 2015).

Energy's role in improving the quality of healthcare, education, water and sanitation, amongst other amenities, could therefore make a further contribution to discouraging out-migration. However, other elements such as improved transport or increasing levels of education could act in opposition to this (Lucas, 2015). For example, education of individuals is positively correlated with the propensity to move into an urban area, where returns may be greater (Lucas, 2015). This is where energy for creating economic opportunities comes into play; to help counteract this there need to be skilled jobs and opportunities available that can complement higher levels of education.

The concept of internal migration and the incentives or reasoning involved in the move to urban areas are complex. Yet the purpose here has been to demonstrate the multiple potential influences that creating a smart village could have on reducing the patterns of urban migration. Of course, this is not to say it can counter the pattern of urbanisation entirely; there are still many aspects of city life that could not be replicated at a small rural level. However, energy access has a chance to make a tangible contribution to internal migration and, potentially, voter turnout and registration.

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Cover:

Voting ends
Voting has come to an end in India's month-long national election.
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SMART VILLAGES

New thinking for off-grid communities worldwide

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