Communicating climate change and energy in rural Africa: A case analysis to explain how participatory communication can support transition to renewables and adoption of solar technologies in rural Africa

Comunicar as alterações climáticas e a energia na África rural: Análise de um caso para explicar como a comunicação participativa pode apoiar a transição para as energias renováveis e a adoção de tecnologias solares na África rural

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DOI: 10.33167/2184-0644.CPP2021.VVIIN2/pp.183-200

ABSTRACT

Over the last two decades, numerous initiatives have attempted to solve the problem of access to electricity in Africa by massively deploying renewable solar solutions to rural areas. In doing so, they are helping to redress the problem, yet struggling to convince rural stakeholders to accept and integrate solar systems. This article explores how energy initiatives can strategically employ communication models to ease transition, acceptance, and integration of renewable energy in rural Africa. Qualitative and quantitative research methods and

Artigo recebido a 13/10/2020 e aprovado para publicação pelo Conselho Editorial a 15/01/2021.

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tools such as surveys, in-depth interviews, and field observation, were used. These were collected and feedback analyzed from rural stakeholders on how communication shaped their understanding, acceptance, and integration of renewable solar energy in their local area. The results showed that the attitudes rural stakeholders generally show towards renewable solar technologies depend on the communication approach used to engage them. The results also revealed a range of symbiotic factors that can change public perception and acceptance of solar energy. One of them is including rural voices in the process of developing and delivering communication. The research results demonstrate that public engagement in energy initiatives is a very important way of encouraging acceptance. The results recommend energy communication scholarship use inclusive methods to try to understand what makes rural stakeholders shift their attitudes and beliefs. Finally, it is argued that grassroots innovations and community led renewable approaches are socially acceptable and inclusive and development projects and initiatives need to find better ways to offer rural stakeholders the ability to shape their own communications.

Keywords: participatory communication, energy transition, inclusion, rural Africa

RESUMO

Ao longo das últimas duas décadas, numerosas iniciativas visaram resolver o problema do acesso à eletricidade em África através da implantação maciça de soluções solares renováveis nas zonas rurais. Quem o faz está a ajudar a resolver o problema, mas luta para convencer os intervenientes rurais a aceitar e integrar os sistemas solares. Este documento explora como as iniciativas energéticas podem empregar estrategicamente modelos de comunicação para facilitar a transição, aceitação e integração das energias renováveis na África rural. Utilizando métodos e ferramentas de investigação qualitativa e quantitativa, tais como inquéritos, entrevistas em profundidade e observação de campo, recolheu-se e analisou-se o *feedback* dos intervenientes rurais sobre a forma como a comunicação moldou a sua compreensão, aceitação e integração da energia solar renovável na sua área local. Constata-se que as atitudes que os intervenientes rurais geralmente demonstram em relação às tecnologias solares renováveis dependem da abordagem de comunicação utilizada para os envolver. Também se encontra uma série de fatores simbióticos que podem mudar a perceção e aceitação pública da energia solar. Um deles é a inclusão de vozes rurais no processo de desenvolvimento e de comunicação. Os resultados da investigação demonstram que o envolvimento público em iniciativas energéticas é uma forma muito importante de encorajar a aceitação. Recomenda-se a concessão de bolsas de estudo em comunicação energética para utilizar métodos inclusivos para tentar compreender o que faz com que os intervenientes rurais mudem as suas atitudes e crenças. Finalmente, argumenta-se que as inovações de base e as abordagens renováveis lideradas pela comunidade são socialmente aceitáveis e inclusivas e os projetos e iniciativas de desenvolvimento precisam de encontrar melhores formas de oferecer aos intervenientes rurais a capacidade de moldar as suas próprias comunicações.

Palavras-chave: comunicação participativa, transição energética, inclusão, África rural

1. Introduction

Since the 2015 Paris Climate Agreement, there is a growing interest in renewable energy for Africa. The goal for the African Renewable Energy Initiative is 300 gigawatts of power for electricity capacity, by 2030. This is supported by the African Union's set for the continent (Africa Renewable Energy Initiative, 2016; IEA, 2014). With global investments increasing five-fold in the last 15 years (Beate Antonich, 2019), power projects are being erected in small towns and villages across Africa, by non-governmental organizations (Marteka, et al., p.17) and other private actors. In rural areas, off-grid and mini-grid power generation companies are taking advantage of the mobile boom in Africa, to supply power to households. Off-grid mobile pay-as-you-go home solar power is the name given to customized solutions for rural and semi-urban households (Andrew Burger, 2019). Between 2009 and 2014, companies involved in renewable energy sold around 17.4 million mini-grid solar lights in Africa (Harrison et al., 2016, p.6). Around 600 million people in Sub-Saharan Africa lack access to power, with roughly 80% of them living in rural areas. Until recently, most relied on kerosene lamps and firewood for lighting. Across Kenya, Tanzania, and Uganda, for example, a Solar Aid research found that roughly 69% of households use kerosene (Harrison et al., 2016, p.9). In Kenya, Malawi, Uganda, and Zambia, research found that while many rural households easily accept transition from kerosene to solar light, many resist calls to adopt solar energy. Is this resistance a result of lack of information as research suggests (Painuly, 2001, p.82-83) or does the answer lie in the inability of initiatives and projects to include local values, customs, and traditions in communication (Sosa-Nunez, G. & Atkins, 2016, p.185-186)?

Either way, the peak of interest in solar energy in rural Africa brings with it technological and societal transformation, which implies significant changes with the way people live. It requires communication to support how people embed the new energy ideas and, consequently, change their attitudes. Though solar power is discussed more and more in the African policy space and is increasingly making its way to rural areas, research interests around the role communication plays to smooth its adoption and integration in rural Africa have been marginal. This article focuses on communication about renewable energy in rural Africa. The aims are, firstly, to establish the role of participatory communication in bringing about change to human behavior in rural areas; and, secondly, to determine how this inclusive communication model assisted rural stakeholders to shift away from climate hostile sources of energy, like wood and kerosene, to adopt green sources like solar energy. The article draws on existing literature and research in energy communication and studies that examined people's attitudes towards specific energy technologies, and attempts to develop insights on how energy communication

eases transition from one energy system to another. To investigate the phenomenon, qualitative and quantitative research methods and tools are used to collect and analyze feedback from rural stakeholders. In order to better encourage the adoption and integration of solar power in villages, the project maps dynamics and evolution of public awareness by analyzing a case of rural stakeholders in Kenya who have been targeted by customer education messages from solar power initiatives. The focus is West Pokot, a case which has been a beneficiary of various solar power projects in the last twenty years. To develop a deeper understanding of the case, the research analyzes communication approaches about renewable products adopted by the Lighting Kenya project and supported by the World Bank in this area. The aim is to understand whether communication around these products facilitated transition, adoption, and integration in West Pokot or not. Investigating the case enables the research to include a broad understanding of renewable energy communication, and to provide insights on energy transition. Findings from the research should fill research gaps on rural public relations and more broadly enable a better understanding on how technology transfer can be managed and how to trigger transition and adoption of energy systems in rural areas.

2. Understanding participatory approaches as energy communication strategies

In the field of development, communication is often employed to bring about social change. Since change theory defines how humans interact within their environment and beyond, a precondition to achieve this is that people need to adjust their behavior and cultures. Behavior change is a process where people or groups transition, over time, to a new set of rules, values, and practices. It is during this process that communication theorists argue participatory communication should apply. The participatory communication model, in contrast to diffusion, is not a vertical process of exchange, but rather a horizontal system where parties can interact at the same level. Another key difference is that the model is people-focused rather than technology-focused (Morris, 2003, p.226-230; Van de Fliert, 2010, p.92-96). Servaes and Malikhao (2005) reason that for behavior change to happen, there is need to build trust, which occurs when people are able to listen to one another and share information with ease. Advocates of the approach stress the use of dialogue to empower communities and promote debates. This model has been adopted by the United Nations and other development bodies to make decisions on almost every subject for over two decades (Morris, 2003). For example, before the Paris Agreement was signed, the United Nations (UN) and lobby groups empowered several horizontal debates at grassroots levels to ensure that more voices were heard, and concerns were included in the final agreement. Another argument

made by promoters of this approach is that enabling communities to diagnose the problems they face helps them make informed decisions and take responsibility for their own actions. In the field of energy, the concept of energy democracy promotes participation (Thomas and Mefalopulos, 2009). One of the most recognizable arguments is that communicating energy transformation needs to speak more to people's values and not the media (P. Middleton, 2018, p.1017). Corner et al. (2018) agree, and argue that the one-way communication no longer has its place in modern day science communication. For them, science communication must go beyond diffusion to use methods of engagement that social science research has pointed out as effective in increasing public understanding of science. Fouché and Brent (2019) add that participatory processes play a crucial role in development. Investigating how the government of South Africa integrated renewable energy in its strategy, Fouché and Brent (2019) used the participatory model to question if it was a strategy implemented by the government or not. Though there is strong academic interest in this approach in recent years, unfortunately, participation at grassroots level has received the least attention in PR and communication studies.

3. Energy democracy as an inclusive communications model

Energy democracy is a nascent term in science communication used to describe pressure movements that advocate for transition to renewable energy and for increased public participation in energy administrations (Burke and Stephens, 2017). These movements advocate democratic friendly norms as an approach to reform energy processes. They draw inspiration from political science, sociology, and economics to build arguments on how to transition from fossil fuels to renewable energy (Szulecki, 2018; Burke and Stephens, 2017; Burke, 2018). Energy democracy is a good example of how activists in the United States (US) and Europe use rhetoric to frame debates on renewable energy and transition. Burke and Stephens (2017) argue that energy democracy was born in the context of climate change (emergency). Climate emergency is increasingly gaining popularity in the mainstream and is used to describe climate change by environmental activists. In early 2019, the term became widespread in debates around energy and climate change across western democracies thanks to massive global demonstrations. It even led to the Guardian newspaper in the United Kingdom (UK) (Damian Carrington, 2019) changing its style guide to include the term, after parliaments in the UK, France, Canada, and Ireland declared climate emergency. Movements that argue for energy decentralization, as well as decarbonization, deliberative, just, and equitable energy systems are often regrouped under the umbrella term, 'energy democracy'. Discussing energy transition narratives, Burke and Stephens (2017) conceptualize that energy democracy is influenced by the enthusiasm to promote environmental

sustainability and to drive participatory approaches to decision making. Burke (2018) adds that this approach aims not only to influence technological change but to transform how social relationships are constructed.

Rooted in what Burke and Stephens (2017) call sociotechnical transition theory, the energy democracy movement presents an ideal pathway to ensure energy transition. The term, sociotechnical transition, is attracting scholarly curiosity, especially as debates about sustainability are in the mainstream. The term draws inspiration from the theory of technological transitions, which describes how technological inventions integrate into societies. While the technological transitions theory seems to show a strong interest in technologies, the sociotechnical theory is more concerned with how the society as a system shifts the way it accesses energy and how it organizes transport and agriculture to save biodiversity and the environment. This line of thinking has given rise to movements that recommend a participatory approach that includes the building of trust, the co-construction of truth, and a bottom-up approach, a system that puts participation and empowerment at the heart of rural development (Burke, 2018; Stephens et al., 2018).

One emerging focus of this movement for energy transition is the development of tailor-made approaches and community ownership of transition processes. Delina (2018), questioning whether energy democracy could thrive in undemocratic systems, found that community buy-in is needed for energy transition processes to succeed. Stephens et al. (2018), examining Vermont's energy transition approach, found that communities rejected numerous renewable energy projects in the US because of lack of ownership. Burke and Stephens (2017) and McKasy and Yeo (2018) hold similar views on public engagement. Over the past few decades, public and community engagement in policy initiatives through dialogue has emerged as a code of good practice in governance. Debates articulated by academics on the concept of energy democracy are closely linked to popular discussions on the use of dialogic democracy in communication scholarship. Critics of energy democracy attack its emotional activism and its lack of focus on resisting fossil fuel and the difficulty involved in getting communities of stakeholders to agree on a singular approach. Nevertheless, it is arguably by far the most thorough strategic advocacy approach to ensure that, while smooth understanding of renewable energy technologies exists, there is co-construction of meaning in the development of policies and local solutions.

Energy democracy as a communicative strategy for energy transition allows for the diversification of debates and anchoring of community concerns in the narrative about energy systems. These principles are enshrined in what is popularly known as participatory democracy, increasingly popular in PR scholarship (Pieczka and Escobar, 2013, p.3). There are two possible reasons to explain this heightened interest. The first is that science communication is increasingly tilt-

ing towards solving human induced problems to ecosystems and environmental threats (McKasy and Yeo, 2018; Gill et al., 2008). In addition, amplified advocacy and lobbying from pressure groups seem to have increased public awareness about these subjects (Nyoh Israel Bionyi, 2019, p.2-6). Similarly, there is the rise of environmental movements and lobby groups that try to influence policy and change by campaigning for the health of the planet (Fredriksson, et al., p. 5-9). Christopher Rootes (2014, p.1-5), in his research on youth environmental advocacy, finds that many young people in today's world are more likely to become part of environmental movements than before. Because of the importance attached to advocacy by environmental networks like the World Wildlife Fund for Nature (WWF), the National Geographic Society, the International Union for Conservation of Nature, the United Nations Environment Program, the Fauna and Flora International and the Convention on Biological Diversity and more, it is becoming fashionable to be referred to as an 'environmental champion', or an 'environmental folk hero'. In rural areas, where communication often takes different forms, there is need for a thorough and pragmatic approach. Communicating transition in rural settings often requires more than just using the media, civil society or science. It commands a strong understanding of the society, its history, and transformation, and works on existing systems to build their capacity to develop strong arguments about the future of energy in their locality. That is why PR research needs to look more than at energy transition narratives and counter narratives at national, regional, and global levels as it has done thus far. PR research needs to investigate the different communication strategies that are being deployed to promote energy transition, adoption, and integration in rural contexts.

4. Methodology

In media and public relations scholarship, interviews, surveys, observation, and ethnography (Hansen and Machin, 2013; Fouché and Brent, 2019) are often used. Hansen and Machin (2013) would recommend them as suitable methods for investigating issues around people. The current study focuses on development and social behavior change communication. Therefore, the study used surveys and focused interviews to understand how solar technology is deployed in rural Africa. Field observations are also used to empirically discover what is happening on the ground. According to Jamshed (2014, p.87) field observation is a qualitative method to collect data as it unfolds naturally. This method can reveal occurring behavior of people in their natural settings as well as other social actions.

There are two sections to this case study. The first section aims at understanding what communication strategies are being used by solar energy companies and projects to encourage transition to solar power. The second focuses on examining

the work that solar projects have been doing, more specifically, what the Lighting Africa (Kenya) project has been doing to ensure that households can transition from sources such as kerosene and bush lamps to solar. Since 2007, Lighting Africa has been implementing different projects in Kenya. Its Off-Grid Solar Access Project for Underserved Counties (KOSAP) supported by the World Bank and the Government of Kenya is being implemented in fourteen counties, including West Pokot. To enable people to transition from kerosene to renewable sources of energy, the project led consumer education campaigns in the country and across counties between 2013 and 2019. This research aimed at establishing if the communications approach applied to promote renewable technologies in rural Kenya helped to foster transition, integration, and adoption.

The research targeted audiences in West Pokot county, which, in 2018, had an estimated population of 777,180 persons. Households recruited for the study came from the small units (sub-branches) of Sebit and Amia, found in the Batei Ward of the administrative district of South Pokot. Batei Ward has an estimated population of 30,773. This study targeted audiences in West Pokot for two main reasons.

Firstly, only about 2% of people in West Pokot have access to electricity, and kerosene and other primitive sources of energy are still being used to light homes. Secondly, several projects and companies have targeted West Pokot recently and are working to ensure that families transition from their old methods of accessing energy to solar power and other renewable sources, yet there is little academic interest in how their approach influences behavior change in the local context. This study involved a questionnaire followed by semi-structured interviews and field observations. 35 families in West Pokot took the survey. Informed by the results of the survey, five families were selected for a semi-structured interview. The study also involved desk reviews on energy and climate change communication debates that targeted rural behavior change.

5. Results

The survey shows that, between 2010 and 2019, 63% (22) of families transitioned to using solar, but 37% (13) did not. 73% of families who transitioned did so between 2016 and 2019. While a majority of households seem to have transitioned to renewable sources, wood fire remains an option even for families who transitioned. Solar energy (57%) and kerosene bush lamps (43%) are the main sources of energy in use for lighting as indicated by the survey. Before transition, for 5 to 12+ years, the major sources of energy for lighting included wood, used by 14%, and kerosene, used by 60%.

Respondents identified two main reasons why they transitioned. These are economic and communication stimuli.

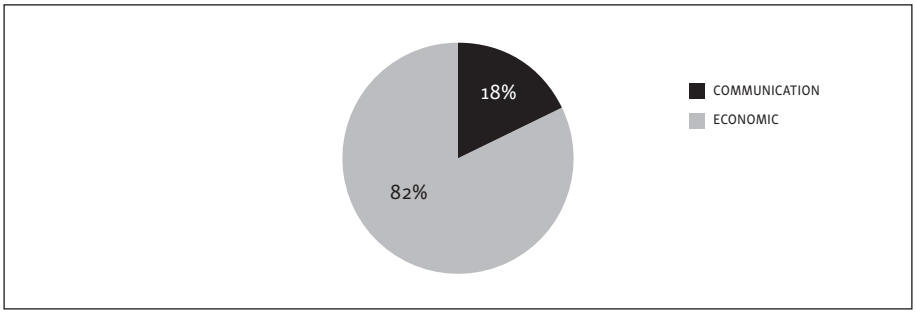

FIGURE 1. Rural stakeholders' feedback on why they transitioned

The pie chart above (Figure 1) shows the influences on decision-making by village stakeholders who transitioned and adopted solar energy. While 82% attribute their decision to economic factors such as cheapness of solar, 18% identified communication strategies, such as consumer education and broadcasting of the technologies on media channels, as playing a role in helping them make the transition.

6. Economic motivation

As discussed above, economics is the dominant motivation for transition in the area. Though the bigger influence for stakeholders is the price, the economic argument in the discourse on solar energy plays a role. As will be seen in the next sub-section, mentioning in the messaging that solar products are less expensive enhances their attractiveness. If economics can be the most important determinant for transition, it can also be a barrier. 46% of participants, who did not transition, gave the reasons why as lack of money and not being able to provide basic needs. A deeper analysis of the economic dynamic is discussed in the next section (see other dynamics).

7. How inclusive communication influenced transition

As seen in the pie chart above, 18% of respondents who transitioned referred to communication as a contributing factor to the decision they made. Their feedback sheds light on communication strategies that influenced their decision-making. Since this article focuses on inclusive communications models, table 1 below summarizes findings on how inclusive communication models were used as strategies to influence rural stakeholders in West Pokot.

TABLE 1. How participatory approaches are used in West Pokot including stakeholder feedback

PARTICIPATORY MODEL	1. Discursive dialogic approach
	2. Horizontal communication happens in village and community meetings
	3. Participants provide feedback on the spot
	4. Favors inclusion of local voices to improve understanding
	5. Highly desired method of communication by locals

8. How participatory models influenced behavior change towards solar energy in West Pokot

The participants of the inclusive communication model identified direct exchange with projects and company representatives via consultations, face to face meetings, and exchanges, as influencing their perception of solar energy. This model has a participatory character and enables multiple flows of communication at the same time. From the survey result, it is clear that actors and interventions did not often use this method to communicate solar energy. 74% of participants of the survey reported they were not consulted on solar energy in their area.

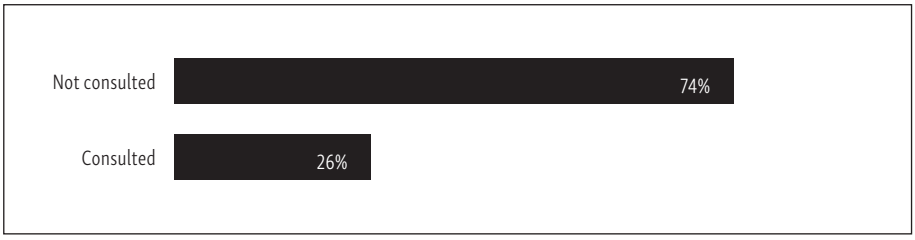

FIGURE 2. Level of participation in projects and solar initiatives

A promising finding was that horizontal communication did occur, mainly during projects and at points of sales. The communication here was interactive, educational, and explanatory. It mainly happens during community consultations, village market days, at local shops, and even at people's homes, where knowledge is shared and questions on areas of concern answered. The biggest concern about solar in this area is to understand the technology, its uses, and how it fits into society. Another interesting discovery is that participants identified the inclusion of local voices in communication as playing a role in their understanding of the technology. This approach seems both to improve understanding and empower people to form opinions around the technology.

Although participatory communication and dialogic democratic approaches were not used often to communicate with stakeholders involved in the study, they remain by far the most cherished approach. All stakeholders fancy participatory communication and have varied reasons for this desired method. As seen in table 2 below, while 52% of participants see participation as an opportunity to include their views in the messaging, 48% want the opportunity to shape the global collective communication and to be included in the process.

TABLE 2. Why participants believe participatory communication is a desired method to inform about solar energy in their area

WHY PARTICIPATORY COMMUNICATION?	FREQUENCY
Participation could help shape the collective message	8
Being part of the process increases inclusion	9
Listen to messages that share views	18

9. Case study on participatory communication approaches used in KOSAP

The Kenya Off-Grid Solar Access Project (KOSAP) works to increase access to modern energy services in underserved counties of Kenya. The project provides electricity and modern cooking solutions to households, businesses, and community and public facilities in fourteen underserved counties in Kenya, including West Pokot. Regarding electricity, it focuses on providing stakeholders access using mini-grid and off-grid solar devices. To convince stakeholders to adopt the solar technologies it is bringing, the project launched mass media sensitization campaigns, and held stakeholder engagement meetings to discuss and interact with stakeholders. Because the project is applying the participatory model, this research examined how its communication was operationalized in West Pokot.

9.1 Participatory model for KOSAP

Public participation is at the heart of Kenya's 2010 constitution, and the country has put a lot of effort into promoting this core value in rural areas. However, in recent times, participants in this survey do not feel there was enough consultation around solar projects and initiatives. As seen in the sub section above, only 26% of respondents admit they were consulted on solar projects and initiatives in the area. Though KOSAP held community consultations in 2017 throughout the fourteen targeted counties in Kenya, there was no evidence that participants of

this study were reached either before or during project implementation (Kenya Power- KOSAP, 2017). There is a possible explanation for this outcome. Firstly, KOSAP's consultation targeted mainly leaders (administrative authorities, religious and political leaders, youth and women leaders, teachers and the disabled) and consultation took place in offices and public gatherings. In contrast, over 90% of participants from the current study are local (farmers and cattle keepers) and were visited at their homes or businesses. Secondly, this study did not talk to participants from the whole of West Pokot, and it may be possible that there were people who attended the KOSAP consultations but live outside the chosen area of study.

9.2 Other dynamics that influence transition

An important way of developing deeper insights into a social phenomenon is via interviews and interaction with stakeholders. This research conducted interviews with five participant families who completed the survey. The deductive themes that emerged from the interviews are presented below. The themes were deducted using the thematic analysis approach.

As seen above, only 18% of respondents of the survey who transitioned to solar energy identified communication as the reason why they did so, while 82% attribute their decision to economic factors. However, the interviews show people's perceptions of solar energy change due to more than just economics and communication. From the results, this research can deduce that in addition to communication, there are market (cost), geographic, and social dynamics to energy transition in West Pokot.

9.3 Market dynamics: Cost of solar vs kerosene

As seen in results on energy sources above, when asked in the survey which energy sources were used in West Pokot, respondents mentioned solar energy and kerosene. However, families practice energy mix and have multiple ways to access energy. Four out of five families interviewed acknowledged having more than one method of accessing energy. For example, a family of traders use electricity from the national grid during the day in their shop at the center of the village (Sebit) to light and access television, while solar is used for lighting at home (Amia). Another family uses a mix of solar torch and wood to light up their home. A possible explanation for this mixture of energy sources, which emerged during interviews, is that solar energy is expensive, even though it has benefits for health, children's education, and access to information.

9.5 Social dynamics of transition

Another interesting view expressed by participants of the interview is influence by members of society to adopt solar power. Collated answers on this reveal a solid relationship between stakeholder perception and adoption of solar energy and network effects. As seen in the literature, people exist in social circles and depend on each other to build attitudes and opinions. Because of this dependence, there is a tendency toward peer pressure, a phenomenon where present users of a good product, or beneficiaries of a particular project, influence other network members in some way to adopt the goods or services, or embrace principles of the initiative.

Respondents of the interview revealed that they were pressured by peers to change to solar. It appears people are considered civilized or not based on whether they adopted the technology. A possible reason for this is that with solar, people have access to TV and radio, and, therefore, information, which is considered a product of civilization. From the feedback, it is possible to deduce two levels of influence in the locality. The first is within the community, where one family's lifestyle influences other members of the network. Those who have adopted solar are seen as important and are respected, particularly during village gatherings, while those, who have not, are not recognized. The second level is within the household. Two interviewees, who acquired solar, stated that they were pressured by partners to acquire the technology. While one family, who is yet to transition, is enticed by the spouse to get the solar kit, the other is increasingly persuaded by their children to adopt the new technology.

9.6 Geographical dynamics of transition

The geographical dynamics of transition is the last dynamic deduced from the interview. Firstly, all participants who transitioned mentioned geographical reasons as to why they transitioned. Factors that eased the decision-making process from the survey include proximity of solar technology at village market days (91% of responses), shops available at the village square, and door to door marketing (9% of responses).

One way to understand the reason for this finding is to understand the geography of the place. From field observation of how participants live in their environment, the choice for proximity of the technology to the market and not to the home became apparent. Families in the target area live in fragmented and scattered settlements and grow vegetables and keep cattle for their livelihood. To get money to purchase solar items, they must sell either or both of their own agricultural products in the village market, which happens once every week. With the cash, they are then able to purchase solar technology. This is not possible if they are targeted at home.

10. Conclusion

The aim of this research was to find out if participatory models can explain transition to renewable (solar) energy in rural Africa. The most important discovery of this study is that participatory and inclusive communication models contribute, to a certain degree, to the development and expansion of stakeholder's knowledge on solar technologies and its application. This finding complements previous findings of studies held in rural South Africa (Fouché & Brent, 2019), which indicate that what stakeholders know and how they know it is vital to their adoption of solar systems. Fouché & Brent (2019) looked at how Hessequa Municipality, a rural authority situated in the Western Cape Province of South Africa embedded renewable energy in its strategy and how it used participatory approaches in the process, a case it recommends as a good practice for stakeholder engagement. While the findings on participatory communication from this study add to the research held in South Africa by Fouché and Brent, it also contributes to the global argument that participatory approaches are useful for development processes. Though this approach is often challenged for its inability to overcome bureaucracy and power struggles, it remains the preferred method of communication by locals (Mubita et al., 2017, p. 238). This research classifies participation in the conceptualization and delivery of communication as essential to overcome drawbacks of diffusion, as the most employed approach to discuss solar energy transition in Africa.

The surprising outcome of this research, which differs slightly from the study in South Africa (Fouché & Brent, 2019), is that though participatory communication seems to be the least in use, it remains the most preferred option by locals. While Fouché and Brent (2019) did not discuss the participatory communication model as an approach of preference by locals for rural energy transition, they found evidence in their work that it contributed to building consumer trust and willingness to accept and adopt solar energy. Instead of receiving communication about solar from mediated channels, participants of this study prefer to be involved in the conception of the energy framework as well as the message that is to be shared with them. This finding of participation in communication creation is an essential addition to the arguments of energy democracy proponents (Burke and Stephens, 2017; Burke, 2018; McKasy and Yeo, 2018; Stephens, et al., 2018) who posit that community engagement via dialogues and community exchanges at all levels is essential for smooth energy transition. As seen above, the participatory process has a democratic character, a model which wants actors to develop energy ideas from the grassroots level. It feeds to the concept of citizen or community-led energy, which demands a bottom-up approach to energy transition. It allows for locals to design their own energy futures, choose varied technologies, and decide how it can fit into the existing social structure. The participatory process is, unfor-

tunately, opposed by the notion of imposition on citizens from those in positions of power.

Interestingly, the main cluster of findings reveals the importance of a strong bond that exists between adoption and economic and social influences on transition. Rogers (Hall 2004) classified them among internal and external factors that could accelerate or slow the adoption process. It is encouraging to note that many contemporary studies have included economics, mainly cost, as a key factor that influences the decision of local stakeholders to adopt solar technologies. However, this approach needs to include research on the accompanying socioeconomic factors that determine energy transition. For example, rural economy is often social and functions differently from classic economies. Recent research on solar energy in Africa (Donn Tice, 2016; Marshall, et al., 2018; Harrison, et al., 2016) include the cost of acquiring solar technology but fails to discuss how rural stakeholders are able to access capital in their environment. As this research demonstrates, households are usually targeted in their homes with solar energy solutions, but, with the social nature of rural areas, liquid capital is never kept at home. Essential revenue generated by villagers is often shared in self-help groups and little is taken home for daily subsistence. As seen in this research, after village market days, it is difficult to find households with capital at home. Therefore, providing the technology at the time and place when villagers possess cash makes the adoption decision easier. This brings a different explanation to the argument of lack of capital. As Eder et al. (2015), find in their study, how people pay for solar is also important to its adoption. Solar companies have resorted to solar loans and mobile payment schemes to encourage adoptions. The operationalization of such schemes needs to take into account existing social structures that enable rural stakeholders to gain possession of capital.

Lastly, another outcome of this research is showing how communicators can effectively engage rural stakeholders in energy development processes. In many development initiatives that target Africa, rural perspectives rarely feature in energy projects, especially in the conception phase. Most initiatives are thought of and imposed on rural stakeholders and their views are only collected in the later stages of rural development ideas. As demonstrated by findings of this research, this approach stifles rural stakeholders' ability to decide their own future and does not treat people with respect. This study has shown that rural stakeholders prefer inclusive models, be it in the design of energy projects or in preparing communication around it. This implies that for communicators and policy makers to be effective in engaging rural stakeholders, they need to adopt participatory approaches. They need to adopt the concept of community driven energy discussed

in the literature, which empowers rural stakeholders to design how local energy is produced, consumed, governed, and communicated.

This study documented the relevance of communication approaches on engaging households to transition to renewable energy from other sources for lighting. The findings hold implications for academics, development practitioners, and policy makers in Africa who work to ensure access to clean energy, and are at the heart of political and climate change discourse, and who frame arguments behind approaches. Future projects could learn from this research in two ways: the importance of developing insights about local expectations on energy and participation; and to explore approaches and experiences on how to develop projects with genuine participation principles and standards. This approach could also be applied in research. Often, local people are atomized and marginalized in research. Academic inquiries conducted in rural Africa sometimes do not offer enough opportunities for local people to share their views. Locals are considered instead as subjects or objects of research and not active participants. Academics can learn to choose research methods such as focused groups, interviews, or ethnography, which offers the opportunity to develop better understanding of people as opposed to surveys and other methods, which offer no level of interaction with the people. Finally, this article emphasizes crucial stakeholder participation in the process of collecting, reporting, analyzing and disseminating content, and, therefore, contributes to the theory of participatory culture.

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