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Reaching hard-to-reach communities: using WhatsApp to give conflict-affected audiences a voice

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ABSTRACT

This article provides an original and timely contribution to current cutting-edge methodological debates by discussing the ongoing need to ensure communities in zones which are inaccessible through war, conflict or disease still have a voice and are not side-lined. As seen during Covid-19, traditional methods of gaining opinions from these communities, such as face-to-face interviews and focus groups, may be restricted and even impossible. Instead, remote methods using WhatsApp provide many additional benefits, providing qualitative and quantitative data (not always simultaneously provided by surveys or interviews), and allowing voice and text messages to be used. This article draws out the generic implications for the methodology using the substantive findings of a study conducted in the Sahel in 2019–20. Whilst also providing 'how to' discussions on this novel approach, the article critically reflects on the advantages and disadvantages of using WhatsApp as it relates to conducting social research in general.

Introduction

This article provides an original and timely contribution to current methodological debates by discussing the ongoing need to ensure communities in conflict- and pandemic-affected zones have a voice and are not side-lined. Whilst face-to-face focus group discussions (FGDs) may be preferred when seeking audience feedback given their rich qualitative data, sometimes they are not an option. In conflict zones, for example, remote communities are often isolated from other local communities and main centres because of disruption to access routes rendering in-person consultations impossible. Similarly, in times of pandemics, such as Covid-19, traditional face-to-face methods of gaining opinions from communities may be restricted, even impossible. Instead, using remote mobile phone-based methods such WhatsApp to collect data has many benefits, providing qualitative and quantitative data (not always simultaneously provided by surveys or interviews). By allowing voice and text messages to be used they broaden the possibilities for communities to speak out. Remote responses are therefore not restricted to those who are literate and able to read and respond via written messages.

This article demonstrates how online WhatsApp surveys can be used to ensure isolated communities have a voice and can contribute to shaping the very services that have been designed for them. Using digital innovation and data to address humanitarian problems has been criticised for their extractive nature, a practice coined as 'data colonialism' (Couldry & Mejias, 2019 p2) which 'combines the predatory extractive practices of historical colonialism with the abstract

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quantification methods of computing'. The limitations of these digital methods include a bias towards quantitative data collection and extractive models that benefit humanitarian agencies over vulnerable populations. In contrast, the methodology discussed here favours qualitative methods of collecting feedback from radio audiences using WhatsApp broadcast lists which encourage participation and representation of vulnerable groups in civil society more broadly.

Contributing to methodological research in communication and audience studies, African studies, and humanitarian and development studies, the article draws on data collected to assess the impact of radio on women's and youth empowerment in 2019–20 in Mali, Niger, and Burkina Faso through listener feedback, and to provide an analysis of this feedback to radio studios to modify their programming where appropriate. Listeners would thus have a direct influence over the information they receive. The article assesses the generic implications for the methodology, rather than the resulting data. Providing 'how to' discussions on this novel approach, the article also critically reflects on the advantages and disadvantages of using WhatsApp as a qualitative and quantitative data collection tool, providing rich and contextual data, for application in social research generally.

Research context

This article uses data from a larger research project, assessing radio's impact on women and youth in Niger, Mali and Burkina Faso, in collaboration with the Swiss-based media development NGO, Fondation Hirondelle, which provides 'information to populations faced with crises, empowering them in their daily lives and as citizens' (Fondation Hirondelle, 2020). Fondation Hirondelle runs radio studios in eight countries, including Niger, Mali and Burkina Faso – the focus of this project – broadcasting daily information programmes via satellite to community radio partners throughout the corresponding country. Programmes are aired in national languages and French to optimise inclusivity and the reach of the broadcasts.[1] Youth and gender[2] are of particular interest to Fondation Hirondelle, and the three chosen studios have programmes dedicated to these groups. In conflict-affected areas, radio is often the main source of information and including gender issues in broadcasts can be particularly impactful on women's empowerment (Heywood, 2020). In Niger, Mali and Burkina Faso, gender inequality is extensive with high child marriage rates (UNICEF, 2018) low literacy rates particularly amongst women (Save the Children, 2016), extensive gender-based violence, and widespread polygamy (UNWomen, 2016). Fondation Hirondelle also 'seeks to ensure that its programming meets the needs and interests of young audiences'.[3] Giving youth a voice is essential in a region where the median age of the population is 16, and where considerable economic and social challenges prevail as a result (Çonkar, 2020). The vulnerability of this deprived and rebellious demographic group means they are exposed to violent extremist groups luring them into their activities with offers of money and possible stability (Subedi, 2017). Both women and youth are adversely affected by the deteriorating security situation in the Sahel (Thurston, 2020). The impact on communities, education, and economies is extreme and has resulted in extensive forced internal displacement affecting 1.7 million in February 2021 (Burkina Faso (1.1 million), Mali (333,000), and Niger (298,000; Reliefweb, 2021)). Covid-19 and political change exacerbated the situation faced by many already suffering extreme poverty, food insecurity and other structurally-caused difficulties such as underdevelopment, poor governance and climate change (UNHCR, 2021).

Given the importance of information in these contexts, and particularly of radio, gaining listener feedback is essential to ensure that audience's needs align with the radio studio's editorial priorities (Heywood, 2020). Phone-ins and live studio audiences are an integral part of radio production and involve listeners in broadcasts (Agosta, 2001; Heywood, 2020), especially in these countries. The chosen studios interact with listeners online and collect feedback through face-to-face surveys, interviews and FGDs. However, obtaining this feedback is rendered complex, even impossible, during conflict, and recently because of Ebola and Covid-19. Audiences in conflict areas are often

excluded from mainstream programming because their specific requirements are not fully considered and because they do not have the opportunity to voice their needs.

Literature review

Much has been written about methodological approaches for feedback collection. A main one being in-person focus groups because they are cheap, logistically straightforward, and provide. They are widely found within commercial (Hartman, 2004) and development practices (Elahi et al., 2015; Heywood et al., 2021) . Whilst beneficial in consulting a plurality of voices, FGDs present disadvantages such as the intersectional nature of the group's composition (Merryweather, 2010), dominant voices driving conversations (Stokes & Bergin, 2006) and social desirability bias (Nederhof, 1985). The principal disadvantage, which led to this online methodology, was the inaccessibility of respondents located in conflict- and pandemic-affected areas, and therefore the inability to conduct face-to-face discussions.

Mobile phone use has been researched in relation to development, and health (Aker & Mbiti, 2010; Kaplan, 2006) and is extensive across many African countries (Silver & Johnson, 2018), despite the high purchase and credit costs given low income levels. In 2020, mobile phone subscribers represented 101.89% of the population in Mali, 101.5% in Burkina Faso and 47% in Niger, suggesting in the former two that subscribers have multiple connections (Datareportal, 2020). Mobile phones have been used for data collection across various African countries, for example, Malawi, South Sudan, South Africa, Tanzania (Berman et al., 2017; Demombynes et al., 2013; Hoogeveen et al., 2014; Pattniak et al., 2020; Tomlinson et al., 2009) as they can reach large populations quickly in isolated locations. Organisations such as The World Bank (2017) and UNICEF (n.d.) have conducted mobile phone-based research in their respective Listening to Africa and Ureports projects, and open-source applications are widely used,[4] yet questions can be delivered 'top down' from external researchers or organisations to fieldworkers administering the surveys without on-the-ground collaboration. Other projects have used approaches including direct responses to mobile phones using interactive voice responses (IVR), direct interviews or SMS messages (Firchow & MacGinty, 2020). SMS text messages were used for survey data collection in 2014 during the Ebola crisis (Berman et al., 2017). Whilst this approach proved effective in collecting data in an emergency context, it demanded that the respondents were literate. This disadvantage is overcome in this study through the use of WhatsApp voice messages.

Web-based qualitative surveys represent an alternative to traditional face-to-face field work and mobile phone-based data collection (Lefever et al., 2007). Their ability to reach large, diverse and global populations and collect potentially huge amounts of data is emphasised, and to a lesser extent in fragile and conflict-affected areas where they reveal the complexity of local research environments, access constraints and collaboration challenges (Woodward et al., 2017). Research also discusses mobile phone-based messaging including WhatsApp chat groups, which have been characterised as a 'unique semi-hybrid between spoken and written communication – bridging the spontaneity and informality of everyday conversation and the more edited, permanent nature of written text' (Chen & Neo, 2019, p. 9). Using WhatsApp to collect qualitative data amongst Syrian refugees in Lebanon has also been discussed (Ullrich, 2018), and in Malawi (Singer et al., 2020) where it was found that, when discussing sensitive topics, WhatsApp could increase response levels during anonymised FGDs, compared with in-person FGDs. However, these FGDs were live rather than asynchronous. Moore et al. (2015) highlight the advantages of online qualitative data collection methods in longer-term studies crossing time and space, yet have implications for the depth and insight of the knowledge produced. Abrams et al. (2015) explore emotional and affective encounters formed during Skype interviews and suggest the data are not as rich as in-person interviews and Stewart and Williams (2005) question the extent to which online focus groups can even be considered part of focus group methodology.

Whilst Chen and Neo (2019) investigated WhatsApp chat groups when respondents interact with one another, little has been researched into the benefits of WhatsApp broadcast lists as a data collection tool in which respondents' anonymity can be maintained and their responses cannot be influenced by other group members. This has also not been examined for hard-to-reach populations, in conflict zones or in zones isolated by pandemics. WhatsApp, as a tool, may also be advantageous in distancing and anonymising moderators, and reducing their influence on group dynamics encountered in our previous projects (Heywood et al., 2021). Research also does not highlight the importance of WhatsApp's voice message facility and its relevance to many respondents with low literacy levels. This assumes greater importance in our context where the G5 Sahel female literacy is 27.4%, compared to the global average of 83% in 2020 (World Bank 2021). There is also little emphasis on how, as a mobile application, WhatsApp reaches remote and isolated communities enabling their voices to be heard but also helps prevent any perpetuation of Chambers (1983) 'main road bias' – an aim of the overarching project – which restricts data collection to accessible centres or capitals side-lining marginalised or isolated voices. Research also does not show how WhatsApp can help avoid logistical challenges of protecting moderators or interviewers in conflict or pandemic situations as they would no longer need to be present onsite for the data collection.

Using online messaging platforms such as WhatsApp therefore has the potential to overcome some of the challenges of existing field-based data collection in areas of insecurity. Yet, its use to collect data in a culturally different context from that in which the research team is primarily based requires additional aspects to the technical processes to be considered, such as adopting a participatory or collective approach; a contextualised understanding of digital usage and the digital divide; approaches used to circumnavigate contextual impediments by respondents and research teams; and limitations or advantages of the methodology in the context of hard-to-reach communities.

Whilst digital divides can emerge in regions where smart phones are uncommon or amongst those who are not digital natives, this divide is not restricted to access or economic factors (Ragnedda, 2019) and user agency plays an influential role, requiring a 'level of contextual sensitivity that challenges a mostly Western perception that continues to gloss over local contingencies and the importance of integrating differences and socio-cultural specificities' (Mabweazara, 2021, p. 346). Thus, essentialising the divide into the binary *haves* and *have nots* ignores contextual variations which can impede the full exploitation of digital platforms. Such impediments can range from poor connectivity, government censorship, mandatory SIM card registration allowing mass surveillance of populations (GSMA, 2019), societal censorship, data costs, to low literacy skills. Nonetheless, as Mabweazara (2021) states when discussing African journalism, users have developed multiple means of counter navigating impediments and have adapted mobile phone use to their specific context. One example is 'single-owner-multiple-user' (Nyamnjoh, 2004) allowing those who cannot afford a phone or credit to phone share. Methodology design must therefore consider the local cultural challenges in using the technology rather than examining it through a western lens focusing just on accessibility (Ragnedda, 2019).

A participatory, or collective, approach to research can contribute here (Cottrell and Parpart, 2006) and leads to discussions on the positionality of researchers vis-a-vis the researched in the Global South (Chabal, 2012; Fischer, 2007), and the responsibility of researchers to reduce Global North/South imbalances. When discussing the multilingual aspect of the overarching project, Heywood et al. (2021) examined the need for in-country research assistants to take a greater role in the design and implementation of the project to ensure that questions asked of respondents were appropriate, both culturally and linguistically, and advocated a team rather than top-down approach avoiding researchers in the North imposing research themes on those in the South.

This article critically reflects on these points and discusses the advantages and disadvantages of WhatsApp use. It asks:

(1) To what extent is WhatsApp a useful tool to give isolated communities a voice, and particularly those in conflict and pandemic-affected areas?
(2) What are the challenges in using this approach in these environments and to what extent can they be overcome?
(3) To what extent can this approach be useful in obtaining qualitative and quantitative data?

The method

The project's aim was to assess radio's impact on women and youth empowerment. This would be achieved by asking selected respondents a series of targeted open and closed questions allowing them to answer quickly to the latter and provide longer reflective responses to the former. The project comparatively analysed twelve months of radio programmes broadcast by one radio studio[5] in each of the countries to partner community radio stations. During this period, feedback was collected from radio studio listeners and fed back to each corresponding studio to modify programmes where appropriate. The article focuses on the collection of this feedback. It discusses the generic implications for the methodology, rather than the resulting data, in a context which has been affected by Covid-19 and the worsening security situation in the Sahel. As the project was longitudinal, observations, modifications and improvements to the methodology were possible at various stages. The methodology is transferable to other conflict or pandemic-affected environments with hard-to-reach populations.

The project team comprised the UK-based research team, writing questions and analysing responses; a team of translators in each country; and an assistant in each country, who organised the translations, communicated with the respondents, and uploaded the responses to Google Drive for analysis. Despite the remote nature of the data collection, the in-country presence of the assistants proved essential and they were an integral part of the project team. Regular meetings were organised for the whole research team to discuss improvements, issues, contextual obstacles, and so on. This ensured all members were able to take ownership of their part of the project and provide relevant advice to others.

Feedback was collected from listeners using WhatsApp surveys. WhatsApp is used increasingly in the three countries, alongside other platforms such as Facebook. Access to smartphones is widespread, even if individuals do not own one themselves resulting in the 'single-owner-multiple-user' (Nyamnjoh, 2004) approach discussed above. The surveys enabled high numbers of individuals to participate over large areas – some being conflict-affected and not reachable by researchers – and at very low costs, which could not be achieved through in-person individual or group interviews. Such surveys allow for voiced questions and responses promoting greater inclusivity amongst populations with high illiteracy rates (Ullrich, 2018). Listeners were recruited by partner community radios and were allocated to analysis groups each comprising five respondents. Respondents were chosen using specific variables: gender, age, marital status, education, and location (rural/urban, conflict/non-conflict) to form representative samples of the various communities. Responses from analysis groups were then compared. Many communities included those with low education levels and therefore who had even less of a voice. Educational differences were important as they foregrounded the advantage of WhatsApp's voice message feature and allowed those with low literacy levels to be included in the study, regardless of their education. Respondents with mobile phones and the technical skills to use WhatsApp were recruited. However, it is acknowledged that this has the disadvantage of excluding the poorest and potentially most vulnerable. There were 36 groups in Mali, 20 in Niger and 14 in Burkina Faso totalling 350 respondents in all. Once recruited, the respondents were asked demographic questions (age, education, position in family, number of children, job, listening habits etc.). Questions and answers were sent and received via WhatsApp as detailed below. Oral or signed consent forms were obtained at this point.

The process

Respondents were asked nine questions over the course of a week in batches of three questions – two closed and one open – on separate days, and four times over the course of 12 months. The questions focused on respondents' opinions of the radio programmes, their knowledge of a given subject, and feedback. Assistants were each provided with an android phone to send and receive data from the respondents (Heywood & Harding, 2022). Android phones were more user-friendly to export data than iPhones and had a specific link to 'export data'. Questions were initiated by the UK research team then discussed for their relevance and operationability with the local assistants. The latter then sent the finalised questions to local translators for translation into national languages, and then sent the translated questions, checked via a back translation process, to respondents via WhatsApp voice and text message. The respondents returned their answers by voice or text message, at their choosing, in their preferred language. WhatsApp broadcast lists[6] were used to send the questions. They enable bulk quantities of messages to be sent (up to 256) and, unlike group chat messages, respondents reply directly to the sender and are not party to other people's responses thus giving them privacy to speak without the influence of group members. Additionally, the platform allows asynchronous communication and therefore overcomes the disadvantage of in-person FGDs, surveys and telephone interviews because group meetings, associated room hire and so on, need not be arranged. This empowers the respondents allowing them to decide where and when to participate and allows cultural specificities to be respected. The responses were anonymised in the data analysis stages, but the use of WhatsApp broadcast lists further anonymises and protects respondents' involvement. In principle, this allows them to speak freely without fear of censure or penalty.

On receipt of the respondents' messages, the assistant uploaded them to Google Drive using the WhatsApp 'export' function, then organised the translation of the messages into French, the project's working language. The translated data was analysed using Excel spreadsheets for quantitative data and NVivo for qualitative data. The ease of saving, manipulating and forwarding data using WhatsApp is advantageous in comparison with in-person FGDs, when it would be necessary to record, transcribe recordings and then upload data (Sparks et al., 2016). The data was subsequently linked to the content analysis of the radio programmes conducted in parallel, but not included in this article's scope, which was instrumental in designing the next batch of questions.

Respondents were paid remotely to participate via their mobile phones using Orange Money and given phone credit. Data was fully anonymised, and identifying data were removed. The respondents were given the corresponding assistant's phone number, but their own name was saved as a code on the assistant's mobile.

The questions

Correct question design was fundamental to optimise the quantity and quality of responses. Three variables influenced the question design: events taking place in each country (conflict, Covid-19, political change); broadcasting by each Studio in each country; previous answers provided by the respondents. The questions had to interest the respondents and be in an understandable format for them to answer. The questions' complexity and depth were limited by the format of the questions. As stated, three questions per day on the same theme were chosen; two closed questions to obtain quantitative data, and a third open one to obtain qualitative data. General questions on the given theme were asked on the first day of each phase, enabling respondents to grasp the topic, then more specific questions followed on subsequent days. Clear instructions and reminders were provided for each phase by the assistants using voice messages in the various languages.

Multiple choice questions with three, or four, options proved the most effective way of collecting quantitative data. This went beyond simple yes/no closed questions, providing additional options. Likert-style questions, or more than three or four options proved too complex for the respondents

first to consider and then to remember in order to respond. Clearly numbering the questions and answers helped. As the Burkina Faso assistant stated, 'I started numbering [the answers] because the participants often mix them up or they don't answer all of them. Presented as I have suggested, these errors could be avoided' (Burkina Faso assistant December 2020). This proved useful as most respondents, having low literacy skills, relied on voiced questions and therefore could not refer to the visual cues of a list of questions in a text message. The role of the assistants was essential at this point, foregrounding the need for a 'collective' approach and we systematically drew on their experiences of questioning the respondents and the difficulties encountered to be able to reformulate subsequent questions (see Table 1 for examples of questions)

Table 1. Example of questions asked in Mali in round 2, day 3 (two closed, one open-ended question).

Draft (before discussions with local assistant)	Final version illustrating clear numbering, and required level of simplicity to optimise data collection
1. In the last few months, do you think that women are sufficiently represented on Studio Tamani's radio broadcasts in their reporting on the current political crisis and coronavirus? • Since the political crisis, women are more represented in Studio Tamani's broadcasts. • Since the political crisis, women are less represented in Studio Tamani's radio broadcasts. • Since the political crisis, women are sufficiently represented by Studio Tamani's broadcasts. **2. What do you expect from the media in relation to the fight against discrimination against women? [Several possible answers]** • More information from the mainstream media on the representation of women in Malian politics • More information on women's health, maternal and neonatal health • More information from women's NGOs • More women interviewed on the radio • More advice on marriage, family and children • More information on women's legal rights • Other (please specify) **3. In your opinion, is it important to put women at the centre of reporting on the political crisis and the coronavirus? Why/why not?**	**1. Over the last few months, do you think Studio Tamani has talked a lot about women in its programmes on the current political crisis and the coronavirus?** (1) Women are more represented by Studio Tamani's radio broadcasts (2) Women are less represented in Studio Tamani's radio broadcasts. (3) Women are adequately represented by Studio Tamani's radio broadcasts. **2. What do you expect from the media in the fight against women's discrimination? [Several possible answers]** (1) More information from the mainstream media on the representation of women in Malian politics (2) More information on women's legal rights (3) Other (please specify) **3. In your opinion, is it important for women to express themselves in programmes about the political crisis and the coronavirus? Why is it important? Why not?**

The terms used in the questions proved important and had to be appropriate for the targeted audience to ensure they were instantly understandable. As stated, the project's aim was to assess radio's impact on women's empowerment. The meaning of the word 'empowerment' is blurred at best (Cornwall & Eade, 2010) and can be understood differently depending on the context. Given that this term, as an example, would be translated into national languages with potential translation losses,[7] we decided to explain concepts rather than assume that terms would be unambiguous. This was crucial because there was no opportunity for instant clarification using this method as there would be with a face-to-face or live equivalent. The question (round 4, Mali) 'In your opinion, what is the best definition of women's empowerment?' was considered too complex by the Mali assistant given the respondents' education levels and too difficult to translate accurately and consistently across the national languages. Instead, it was explained: 'In your opinion, what needs to be done so that women are no longer dependent on men to provide for themselves and their families?'. Respondents were then offered options which addressed broad understandings of empowerment. The accuracy of the cultural and linguistic translation was therefore crucial in shaping the resultant data.

The various restrictions on the question length, style and structure limited the depth into which topics could be examined. Regarding Covid-19 or the elections, for example, we were restricted to our three daily questions and deeper questions possibly providing broader information were less possible. We relied on the open questions to gain this information having encouraged the respondents in the initial instructions to reply as fully as possible. Nonetheless, we found it was possible to 'probe' respondents, as in-person FGDs, by adapting the questions planned for subsequent days. The methodology therefore includes similar flexibility to in-person FGDs if fully exploited. After each phase (4 per country), the research team collectively evaluated the responses and designed the next phase of questions according to the three factors mentioned above.

Other advantages of the methodology were the respondents' anonymity, and the confidentiality of their responses which significantly increased their readiness to participate. They could speak freely without fear of others in their communities or families hearing or influencing them, a limitation widely found in in-person interviews and FGDs. Gaining respondents' prior consent, a research ethics requirement, was also well-received and, according to the Mali assistant, respondents felt valued and were not just statistics to be exploited.

Advantages and limitations

Data collected

The volume of data collected demonstrated high and consistent engagement amongst respondents. WhatsApp, a familiar online messaging platform, provided a data gathering environment which was perceived to be safe and easy-to-use. However, as in any long-term longitudinal study, a key challenge was the levels of response (Hoogeveen et al., 2014). Attrition (respondent stops participating) increased, as did non-response rates (respondents participate in only some rounds). In Burkina Faso and Mali, the attrition rate fell to 77% and 82% respectively whilst it fell to 50% in Niger. Nonetheless, substantial quantitative and qualitative data were obtained, demonstrating the effectiveness of the methodology and of the associated collective approach. As Demombynes et al. (2013) found, prepaid calling credit did not necessarily act as an encouragement to participate but, if paid after responding, acted as a notable incentive.

The results were influenced by global (Covid-19) but also national events foregrounding the need to consider hard-to-reach communities with culturally specific contexts at the project design stage. In Niger, neither the elections in 2020/21 nor the severe floods in summer 2020 significantly affected the respondents' ability to participate but the country's increasing levels of insecurity meant that respondents in the Diffa region, notably N'Guiguimi and Kabléwa, were affected as telephone companies disconnected the internet. Similarly in Burkina Faso, the security situation led to many people fleeing their homes and abandoning their possessions including their phones. They then could not contact us, and some respondents were lost. Regarding Wi-Fi, Malian respondents' capacity to participate was affected by Covid-19; because schools closed, students returned to their villages where connection was uncertain or non-existent and curfews prevented many from moving at night to get a connection. Wi-Fi connection was interrupted in Mali during the elections, coup d'état and transition in 2020. However, Mali's ongoing insecurity situation in the country did not affect the project suggesting the methodology can be effective in extreme contexts but one-off events affecting Wi-Fi connection must be considered in the project's risk management.

The quantity of data collected was significant and allowed both quantitative and qualitative analyses (15,431 responses in total (8339 for Mali; 3157 in Niger; and 3935 in Burkina Faso) with 10,787 quantitative responses and 4644 qualitative responses). The data reflects the question design which aimed to incorporate two closed questions and one open questions per day. 32% of the total data was qualitative obtained from open questions and 68% was quantitative from closed questions.

In all three countries and over the four phases, the respondents used both text and voice messages. In Niger, a higher percentage of men opted to send voiced responses and for both men

and women voice messages were significantly more popular than texts. In contrast, text messages were more popular in Burkina Faso than voice messages, with men using them slightly more than women, reflecting the men's higher education levels. Additionally, respondents, both men and women aged over 45 living in rural areas and specifically the North of Burkina Faso, preferred using voice messages for their responses. In Mali, almost all the responses were voice messages. The few text messages were from men with only one woman responding consistently by text. In phase 1, most responses were texts with 39 women texting at least one question in phase 1. The other phases saw fewer texted responses, especially from women. These findings may reflect the literacy levels of the respondents but also the ease of using voice messages, benefiting the study as fuller and richer data was gathered.

National languages, inclusivity, and voice messages

WhatsApp's voice message facility allowed us to fulfil our objective to communicate with respondents in national languages and to respect cultural and contextual specificities. As the radio programmes are multilingual, it was important to ask for feedback in national languages. Restricting the data collection to French would perpetuate colonial narratives and ways of thinking and would impede the gathering of knowledge expressed through national languages. It would also counter the benefits intrinsic to the WhatsApp method; it would exclude non-francophone respondents[8] and, for those who could answer in French, they might not be comfortable responding in a language which was not their mother tongue. Encouraging respondents to respond in their preferred language facilitated fuller responses to the qualitative questions. Moreover, the range and combination of languages used, often in the same set of questions, revealed the extent of multilingualism in these communities, and because multiple languages were offered, respondents obtained broader opportunities to actively participate. In Mali, texts were always in French, again reflecting education levels, and were short and precise; the voiced answers were in national languages with the majority in Bambara. Respondents were offered 5 languages for their responses in Mali: French and 4 national languages – Bambara, Peulh, Songhoï, and Tamasheq. No one responded in Tamasheq. Each respondent used at least two languages – French plus one national language – and some used three languages: French, Songhoï and Peulh. In Niger, Hausa was the dominant language used for the responses (70%), then Zarma (27%), and French, as in Mali, was just for texts (3%). There were no responses in Tamashek or Peulh. In Burkina Faso, responses combined Dioula, Moore, Fulfulde, Gourmatchéma and French; only one respondent replied in just one language which was French, all other respondents replied in at least two languages, some three.

The ability to respond orally enabled respondents to speak freely rather than being inhibited by the inconvenient process of typing texts which is also problematic for those with low literacy rates. This flexibility was particularly relevant in regions where oral traditions prevail, where communities speak several national languages, and where switching between those languages is commonplace. Recognising this aspect of language use underpins the methodological design; if communities are to be given a voice, they must be able to express that voice in the most convenient manner. It also demonstrates the success of this approach in obtaining rich, unstructured qualitative data, challenging statements that responses in online FGDs may prove superficial (Brüggen & Willems, 2009). We encouraged respondents to limit their voiced answers to three minutes, however, many disregarded this. Categorising answers as 'short' (1–2 minutes), 'average' (three minutes), and 'long' (over three minutes) we found that in all countries, respondents gave average and long responses taking advantage of the oral platform. In Mali and Burkina Faso, the phase 4 answers were shorter than in previous phases, suggesting initial enthusiasm amongst respondents waned and highlighting the role of the local assistant in maintaining motivation. In Mali and Burkina Faso, there was little difference between men and women in their response length but in Niger men consistently provided more long answers than women.

The platform

Unlike in-person interviews, the WhatsApp surveys were free from logistical complications; there was no need to arrange meeting rooms, times, or travel reducing respondents' time commitments. Contextual impediments were considered, and messages were sent between assistants and respondents asynchronously at a time and location convenient to both. Members of geographically remote communities who were technologically restricted in their immediate place of residence were able to gain a voice within their locality. However, respondents had to display skills to circumnavigate contextual impediments to internet access by walking to areas with strong connectivity when convenient to them or by manipulating networks at times of shutdowns (Mabweazara, 2021). In Mali, the assistant reported

> From Mopti the connection isn't stable. In the northern regions (Gao, Timbuktu, Kidal) you need connection to both the country's networks since one can be down for over a week. People then turn to the other network if that's working. Internet access isn't easy for the participants. In some areas, they've had to move from one point to another to get an acceptable connection (Mali Assistant 2021).

In Niger, the situation was similar:

> At the start, many participants had access to the internet except those in the most remote areas (Diffa and Agadez), but gradually, internet problems became recurrent and spread to all regions (Niger Assistant 2021)

Because of contextual restrictions, we set deadlines, considered reasonable by all, for respondents to answer the questions. Three batches of three questions were sent on alternate days over the course of a week and we asked each batch to be returned before the next one was sent. Although we might upload the message for analysis later, by opening the message and thus sending a read receipt via WhatsApp's blue ticks,[9] respondents knew we had received their message, and that it was worth them continuing. As many respondents had to travel for connectivity, these deadlines were considered demanding, and we needed to plan sufficient time between administering sets of questions to give respondents time in their schedules to walk to areas with sufficient reception. The need to travel on foot for network access was also a limitation for many women respondents whose independent mobility was restricted by time and domestic obligations. The Burkina Faso assistant suggested the following, which was then implemented,

> The questions for Days 1-3 be sent simultaneously and specifically at the weekend. We could collect the answers the following weekend. Those in the city could use the weekend (their free time) to answer the questions, and those in rural areas could limit their travel.

Technical knowledge amongst respondents is a prerequisite for this method. Because they used their own phones and because WhatsApp was familiar to them, the respondents already possessed the necessary skills to receive and send messages by voice or text messages. Explaining the project and the depth in which to respond was less straightforward and the assistants' communication skills were essential in ensuring the instructions were understood (for details, see, Heywood & Harding, 2022). Additional reassurance regarding correctly completing the task was often needed in side-conversations with the assistants, whilst maintaining the respondents' anonymity. As the Mali assistant remarked,

> The first phase was the most complicated. I had to explain several times so that they could answer. The other phases were less laborious, but there were always explanations. This is perhaps due to the level of education [amongst the respondents].

Additional time and phone credit was needed during the initial weeks for this. Simply sending out vocalised instructions, however informal, as recommended by Ullrich (2018), proved insufficient. This was exacerbated by the fact that the respondents were working independently and, unlike in-person FGDs, were unable to imitate other group members, or discuss the process with them as there was no group interaction.

Similarly, the absence of peers, whilst allowing us to obtain influence-free responses, meant that maintaining respondents' momentum fell to the assistants. They compensated for the lack of physical cues by using jokes, punctuation marks, and emojis in messages to encourage responses. Respondents were therefore more at ease and able to ask clarifying questions. Whilst coproduction of the questions was part of the project design, this additional intervention by assistants was not sufficiently considered yet proved necessary as not all the respondents responded autonomously.

A noteworthy legacy of the methodology now exists in Mali. Radio listeners, especially those in hard-to-reach locations, stated that they had wanted a communication channel with their studio prior to the research project starting to voice their opinions on past and future broadcasts. The Mali WhatsApp groups which, like those in the other countries, had been recruited around partner radio stations, continue to exist and have formed listening clubs. Respondents now provide the radio studio with ongoing feedback either as individuals or representing their communities. Training in the methodology has been extended to other studios run by Fondation Hirondelle and has been applied to separate projects in the DRC and amongst internally displaced persons in Burkina Faso, which the UN OCHA representative in Burkina Faso described, in her workshop feedback (02/2022), as 'ground-breaking and a major boost in reaching remote and vulnerable communities'.

Conclusion

This article has provided an original and timely contribution to current methodological debates by discussing the application of an asynchronous data collection process, using WhatsApp, to enable communities isolated by conflict and/or pandemic to have a voice and not be side-lined. The methodology allowed radio listeners to express their opinions about broadcasts targeted at them. 350 respondents in Mali, Niger and Burkina Faso were included.

It has many advantages including voice-messaging, remote engagement with isolated communities, reduced risks to those administering the questions, the ability to deliver questions and receive responses in multiple national languages, and quick, easy, and cheap logistical arrangements. The uploading of responses received to online platforms such as Google Drive also proved straightforward. The methodology has provided rich data, both quantitative and qualitative, bringing together many quantitative advantages of surveys and qualitative advantages of interviews and FDGs, online or in person.

The ethically sound process which anonymised participants throughout and also excluded interaction with others, empowered respondents and resulted in greater openness in their responses. However, recording voice messages on sensitive topics may reduce the willingness of some respondents to participate (those affected by violent extremism, or domestic violence, for example). Using WhatsApp broadcast lists to circulate the questions also meant that respondents did not interact and peer influence, frequently encountered in in-person FGDs or live online chat groups, was avoided.

The methodology faced numerous limitations, but many were circumnavigated by respondents, foregrounding the need for a contextualised interpretation of 'digital divide' going beyond simple *haves* and *have nots*. Respondents often had to walk to obtain good connectivity and future projects should allow sufficient time between the administration of questions for this. The questions themselves needed careful designing to be of interest to respondents, to be easily understood, to remove ambiguities, to consider local contexts, and to be accurately and appropriately translated. Many of these points are equally applicable to traditional data collection formats. Motivating respondents over lengthy periods of time also proved complex given the need to compensate for the lack of physical cues and group interaction.

The local assistant's role was crucial for several reasons. First, they facilitated the practical administration of the questions. Second, they facilitated the cultural and linguistic translation, and thus the coproduction, of the questions either through their own multilingualism or by liaising with translators. Finally, they encouraged the participative involvement of radio audiences in the project by liaising with respondents at an interpersonal level. The importance of integrating the assistants' extensive local knowledge into the question design, especially when conducting a project

remotely, cannot be underestimated and should be considered at even earlier stages. Similarly, local research assistants' involvement in the project findings and data analysis, whilst only partially exploited on this project, would also be a significant contribution to shifts from Western epistemology.

Whilst this data collection methodology using WhatsApp does not claim to have all the advantages of traditional in-person approaches, it has enabled online qualitative research with isolated digitally fluent respondents. It proved useful in the restricted context of Mali, Niger and Burkina Faso where the worsening security situation was exacerbated by Covid-19. By participating in the data collection process, respondents gained access to new networks of influence via WhatsApp and in turn, the collaborative process benefited the NGO, who gained accountability, the studios, who gained feedback from previously side-lined listeners, and the research team by not implementing top-down imposed solutions. The methodology has already been transferred to projects in Burkina Faso and the DRC and could be transferred to other severely restricted areas more widely. The advantages of this new methodology, which focuses on asynchronous delivery of survey questions, with the option of responding in a choice of languages orally or by text, outweigh the disadvantages, contributing to ensuring that previously side-lined communities in war-affected or pandemic-affected communities have a voice.

Notes

1. The languages broadcasts in the three countries are: Mali – Bambara, Songhoï, Tamasheq, Peulh and French; Burkina Faso – Dioula, Moore, Fulfulde and French; Niger – Hausa, Zarma, Tamashek, Peulh and French.
2. https://www.hirondelle.org/en/women-s-empowerment
3. https://www.hirondelle.org/en/youth-participation
4. https://www.kobotoolbox.org
5. The three radio studios were: Studio Tamani in Mali (https://www.studiotamani.org/); Studio Kalangou in Niger (https://www.studiokalangou.org/); and Studio Yafa in Burkina Faso (https://www.studioyafa.org/)
6. See https://faq.whatsapp.com/general/requirements-for-broadcasting-a-message/?lang=fb
7. Back translation was an essential part of the methodology. Whilst discussions of this process go beyond this article's scope, back translations should be conducted to ensure both a linguistically and culturally accurate translation, particularly as there is no opportunity to rephrase questions as in in-person FGDs.
8. French is the language of instruction in schools. Those not at school or who leave school early have limited, if any, knowledge of French. 13%, 17% and 24% of the population in Niger, Mali and Burkina Faso respectively speak French (Fall, 2018).
9. See: https://faq.whatsapp.com/android/security-and-privacy/how-to-check-read-receipts/?lang=en

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