

“Fact-checks are for the Top 0.1%”: Examining Reach, Awareness, and Relevance of Fact-Checking in Rural India

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Social media platforms have witnessed an unprecedented growth in users from rural communities in India. Many of these users are new to online information environments and are highly susceptible to misinformation. Fact-checking has the potential to reduce the proliferation and impact of misinformation; however, little is known about how fact-checking organizations in India serve rural users. To fill this gap, we conducted interviews with 12 prominent fact-checking organizations in India to understand their current practices and challenges in providing their services to rural users and the associated human and technological infrastructure they use. We discovered several measures that fact-checking organizations take to increase the reach, awareness, and relevance of fact-checked content for rural users, such as engaging with stringer networks and utilizing vernacular languages. However, fact-checking organizations also face severe challenges that limit both the scale of their work and engagement from rural users. Drawing on these findings, we provide design and policy recommendations to improve the reach, awareness, and relevance of fact-checked content for social media users in rural areas.

CCS Concepts: • **Human-centered computing** → **Empirical studies in HCI**.

Additional Key Words and Phrases: Fact-checking, Misinformation, India, ICTD, HCI4D

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1 INTRODUCTION

India is the largest and fastest growing market for social media platforms with more than 531.46 million active WhatsApp users and 492.70 million Facebook users as of 2023 [9]. With the falling costs of smartphones and Internet access, social media platforms have witnessed an unprecedented growth of users based in rural regions of India. According to the Nielsen India Internet Report [15], rural India has 425 million Internet users, 44% more than urban India. Many of these users are new

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to online information environments [86] and lack sufficient understanding of the risks and harms of misinformation [26, 85]. In this environment, misinformation has contributed to mob lynchings [94], political polarization [18], and belief in pseudoscience [52].

To reduce the harms of misinformation, professional fact-checking organizations have emerged to fact-check viral content online and improve access to factual content. These organizations play a prominent role in reducing false beliefs, promoting accountability, and fostering media literacy [31, 56, 77]. Given the critical work they do to reduce the spread of misinformation, a large body of CSCW and HCI scholarship has examined the human and technological infrastructure behind fact-checking [51], users' perceptions and engagement with fact-checking [21, 37, 82], barriers to fact-checking [43, 51], and the effectiveness of interventions to scale fact-checking [20, 57, 81]. However, most of the existing work to date has focused on fact-checking organizations based in the West that target misinformation spreading in Western countries and contexts.

With increasing concerns around the generalizability of findings from Western contexts, a small but growing body of scholarly work has started to focus on fact-checking in non-Western contexts comprising socially and culturally diverse populations living in a media-repressive environment with resource-constrained newsrooms [43, 44, 90]. However, much of this work focuses on general fact-checking approaches used by fact-checkers and journalists, and little is known about the measures fact-checking organizations take to tackle misinformation targeted at social media users in rural areas and the underlying human and technological infrastructure that these fact-checking organizations leverage. To fill this critical gap, we conducted a qualitative study with 12 prominent fact-checking organizations in India to examine:

RQ1: How do fact-checking organizations in India target social media users in rural areas?

RQ2: What human and technological infrastructure do they use to do this work?

Through thematic analysis of semi-structured interviews with editors, fact-checkers, and founders of these fact-checking organizations, we found several challenges that fact-checking organizations face in targeting rural users who are new to social media. Our participants noted that their services are currently beneficial to small groups of educated urban populations that have the knowledge and agency to utilize fact-checking services, and the vast majority of people, mostly from rural areas, still have little information on the existence of such services and the processes involved in fact-checking. Despite facing multiple hurdles that limit the reach, awareness, and relevance of fact-checking in India, we found that some organizations used dedicated networks, partnerships, and approaches to target rural users and disseminate fact-checked content in rural areas. These organizations used new and traditional forms of media and produced content in multiple languages and modalities to increase the reach and geographic spread of fact-checked content. In addition, they partnered with various stakeholders, such as governments, local and regional celebrities, and nonprofits on the ground to increase awareness of rural users around fact-checking. The organizations also maintained complex internal operations consisting of internal and external fact-checkers as well as stringers to find stories relevant to rural users and fact-check hyperlocal misinformation coming from and about small, well-defined communities. They also used local sociocultural and linguistic norms to make the fact-checked content more relevant. In doing so, organizations struggled to handle the large influx of misinformation targeting rural users and faced several hurdles such as financial hardships, limited manpower, challenges in identifying and fact-checking hyperlocal misinformation, difficulties in sustaining long-term partnerships, and lack of appropriate computing technologies.

Drawing on these findings, we discuss a two-pronged strategy to increase the reach, awareness, and relevance of fact-checking for rural users in India. The first is to design, build, and scale automated tools that help fact-checkers deal with the large influx of misinformation and establish

new communication channels for citizen journalists to share hyperlocal misinformation with fact-checking organizations. The second is to design and build educational tools that aim to improve media literacy and inculcate healthy information behaviors for users in rural regions of India, along with appropriate policy recommendations to further support and scale the use of such tools. We provide design recommendations for these tools using a localized and socioculturally aware approach and discuss how the business model of fact-checking organizations undermines their desire to make their content more appealing to rural users. In sum, this work makes the following contributions to HCI4D and CSCW literature focusing on fact-checking and misinformation:

- (1) A qualitative study that provides a comprehensive understanding of the current practices and challenges fact-checking organizations in India face when increasing the reach, awareness, and relevance of fact-checked information for social media users in rural areas.
- (2) Design and policy recommendations to combat hyperlocal misinformation and improve media literacy for social media users in rural areas.

2 RELATED WORK

We first situate our research in the body of work focusing on human and technological infrastructures of fact-checking, as well as current approaches fact-checking organizations use to scale their impact. Given our focus on rural users in India, we then present the scholarship that examines the work of fact-checking organizations in the Global South in order to understand the research needed in this area.

2.1 Human and Technological Infrastructures of Fact-Checking

The widespread prevalence of misinformation has led to an explosion of research from HCI and CSCW scholars to examine the role of fact-checking in combating misinformation. Fact-checking refers to the process of verifying the accuracy of claims on various topics, including politics, health, and the economy. Typically, fact-checking involves three stages: (1) identifying the stories (or claims) to fact-check, (2) gathering factual data and verifying stories, and (3) disseminating fact-checked content while issuing corrections [39]. Beyond professional fact checkers, journalists, news media outlets, social media platforms, and volunteers also fact-check content.

Several HCI and CSCW scholars have studied the human and technological infrastructure behind fact-checking [51, 68]. For example, Juneja and Mitra [51] conducted a multi-continental study to investigate the human infrastructure involved in fact-checking and found fact-checking to be a collaborative effort between many different stakeholders. They found that current tools that automate the fact-checking process do not take into account the needs of various stakeholders and issued a call for further research to understand the human and technological infrastructure of fact-checking organizations based in the Global South. There are further studies that show fact-checking is a laborious and manual process that still needs technological innovation. For example, Beers et al. [28] interviewed 12 journalists who report on misinformation and found that many still use basic tools like Google Sheets and Excel as a database for analysis and manually monitor social media websites for misinformation. In addition to a lack of technical infrastructure, Haughey et al. [48] also found that journalists who use social media to investigate stories are under pressure to portray the platforms in a positive light to prevent their access to social media data from getting revoked. Beyond access and retrieval of data, there is also the problem of sifting through the sheer size of stories that need to be fact-checked. Given the high volume of misinformation, several researchers have designed tools to automate fact-checking [46, 96]. For example, Konstantinovskiy et al. [55] examined the use of a model trained on a labeled dataset with sentences from UK political TV shows to detect whether a piece of political information is fact or false. Hassan et al. [47] created a tool

called ClaimBuster which utilizes natural language processing and supervised machine learning to automate the process of checking political claims in the US. Several researchers have also explored the role of crowd-sourcing to aid fact-checking [20, 81], demonstrating that the collective wisdom of everyday users can help identify misinformation at scale [54].

In addition to creating tools that support fact checkers, several scholars have studied people's engagement with fact-checked content [21, 37, 82] and approaches to effectively disseminate such content. Nieminen and Rapeli [70] found that, in the United States, videos and images actually spread fact-checked information more effectively over long-form text-based info-graphics. In addition to studying the impact of different modalities, several scholars also examined other factors that impacted the efficacy of fact-checked content. For example, Ecker et al. [34] studied the effectiveness of short-format refutation-based fact-checks and found them more effective than longer retractions. In addition, Brashier et al. [29] demonstrated that timing matters when correcting fake news. Through a study with 2,683 participants, they showed that providing fact-checks after headlines improves subsequent truth discernment more than providing the same information during or before exposure.

An increasing amount of research focuses on understanding how misinformation affects vulnerable populations and extending the scope of fact-checking to include them. For example, Sakhnini and Chattopadhyay [82] conducted a review of smartphone-based fact-checking applications and reported non-use among older adults, indicating the need to design new tools that cater to the needs of older adults. Carey et al. [30] studied the use of fact-checking by groups who were most vulnerable to health misinformation and found that these groups would benefit the most from fact-checks. Trauthig and Woolley [92] found that South Asian Americans in North Carolina were given false information about voting rules during the elections which sowed distrust and discouraged voting, showing the urgent need to provide credible content to underrepresented minorities.

While these studies advance knowledge on the problems and current innovations surrounding the underlying human and technological infrastructures of fact-checking, the work discussed so far focuses exclusively on fact-checking in Western contexts that are socially, culturally, politically, and technologically different from rural India. Concerns around the extent to which the findings from Western contexts generalize to such non-Western contexts have grown steadily [1, 61, 66, 75], prompting a growing body of scholarly work that investigates fact-checking in non-Western contexts, which we discuss next.

2.2 Fact-Checking in Non-Western Contexts

Many fact-checking organizations around the world prominently use social media platforms like Twitter and Facebook to disseminate fact-checked content. Among social media platforms, one that stands out the most is WhatsApp, which fact-checkers in the Global South prominently use to send newsletters with relevant fact-checked information [24], to receive fact-checking requests from the public [51], and to monitor fake news spreading on public groups on the platform [67]. In addition to social media, several fact-checking organizations in the Global South, such as Africa Check [95], UYCheck [69], and Ecuador Chequea [69] also use traditional forms of media, such as newspapers, radio, and television, to spread corrections more broadly. Some organizations also use different approaches to increase user engagement with fact-checked content. For example, Lu and Shen [62] found that in China, fact-checking videos contain audiovisual and persuasive features including humor, authoritative words, and storytelling animations. Several other factors also impact what content users trust more and how they approach fact-checked content. For example, Lu et al. [64] and Lu et al. [63] found that social media users in China often exhibit pro-censorship attitudes, consuming more posts from government-sponsored media than journalists.

Fact-checking organizations in the Global South face numerous challenges in verifying and disseminating fact-checked content. For example, due to a lack of resources, many of them struggle with the overwhelming number of local languages in which fact-checked information must be made available. Slijepčević et al. [88] report that most organizations tend to fact-check content either in their country's official language or in English, an example being *AFP Fact Check Asia* in Indonesia. However, some organizations like Africa Check also target content in local languages to increase the linguistic diversity of their fact-checked content [95]. In addition to linguistic diversity, fact-checking organizations also need to identify new approaches to make content more appealing to users with limited literacy skills. For example, Pasquetto et al. [71] conducted a study with low-literate users in Nigeria, India, and Pakistan, and found that low-literate users tend to pay more attention to voice-based corrections than to text-based and image-based corrections.

Several scholars have examined the fact-checking practices of journalists and professional fact checkers in non-Western contexts. For example, Bailla and Yachouli [25] studied the motivations and practices of three fact checkers in Morocco and found that the fact checkers use interactive and communicative approaches to engage the public. Haque et al. [43] examined fact-checking related attitudes and expectations of journalists and fact checkers in Bangladesh and found that most people expected news journalists to verify the authenticity of online information, while journalists believed fact-checking to be the responsibility of professional fact checkers who themselves reported facing various difficulties in verifying online news due to limited resources, limited infrastructure support, and political pressure. Similar challenges were identified in the work of Haque et al. [44] which examined fact-checking initiatives of six organizations in Bangladesh, India, and Nepal, however, the specifics of these challenges differed in each country.

Research has also focused on strategies that users in the Global South adopt to assess information credibility. For example, Varanasi et al. [93] showed that social media users in rural and urban communities in India used different ways to verify information they perceived as dubious. While urban users relied mainly on online resources and gate-watchers (such as domain experts like doctors and police officials) to distinguish misinformation from authentic information, rural users cared more about hyperlocal misinformation and relied on in-person deliberations in social gatherings instead of online resources. Similarly, work from Chandra and Pal [32] found that different stakeholders in a technology goods marketplace in India leveraged their collective knowledge and intuition to interpret rumors spreading offline and online. Sultana and Fussell [90] showed that religious faith, local beliefs, and myths significantly shaped fact-checking practices of rural communities in Bangladesh. They found that online fact-checking techniques were less accessible to rural users who mostly trusted in-person collaborative decision-making of a rural group of experts.

While these findings suggest that socio-cultural values, local beliefs, and informal offline networks play a critical role in shaping fact-checking practices of users in rural areas, little is known about the measures fact-checking organizations take to tackle misinformation targeted at social media users in rural, non-Western contexts. Instead of choosing to conduct a general survey study on different countries in the Global South, we decided to focus on India due to its rapidly growing social media user base [9]. Our study contributes to the growing body of scholarship on fact-checking practices in the Global South by examining: **(1) How do fact-checking organizations in India target social media users in rural areas?** and **(2) What human and technological infrastructure do they use to support this work?**

3 METHODOLOGY

To answer our research question, we conducted an IRB-approved study comprising semi-structured interviews with representatives of 12 prominent fact-checking organizations in India.

Participant Recruitment. To gain an in-depth understanding of the processes, infrastructure, and challenges surrounding fact-checking for rural users, we interviewed different stakeholders, including (1) fact-checkers to understand their approach to short-term, claim-centric fact-checking, (2) editors who are involved in long-term, advocacy-centric fact-checking, and (3) founders who have an in-depth understanding of the operational realities of their organizations. We first identified and compiled a list of India-based fact-checking organizations from Poynter's International Fact-Checking Network (IFCN) website and Duke Reporter's Lab. We then contacted the individual editors, founders, and fact-checkers from the compiled list of organizations through their official email addresses or professional social media platforms such as LinkedIn. We also recruited by snowball sampling and asked the participants who had already been interviewed to refer us to their counterparts at other organizations. In total, ten organizations responded to our original email and two of them referred us to two additional organizations which were Logically and Newchecker. In total, of the 19 IFCN-certified organizations in India [8], we were able to interview 12 of them representing diverse geographies and domains in which they fact-check content.

Expert Interviews. Once we received confirmation from the interested participants, we shared a brief description of the research goals along with an informed consent form with them. Once a participant consented, we conducted a semi-structured interview with them. Most of the interviews were conducted in English and some in both Hindi and English following the preferences of the participants. We created an interview protocol (Appendix A) that guided our conversations with the participants. We developed the protocol so that it provides enough flexibility to explore important and unexpected topics that arose during the interviews. Given the exploratory nature of our study, we kept the questions on the template open-ended to gather as much detail about the processes and challenges of fact-checking for rural users and allow the interviewees to express themselves to the fullest. We asked follow-up questions based on their responses so that the questions fit better with their fact-checking experiences.

Each interview began with a brief discussion about the motivation of the study, an introduction of the interviewers, and the verbal reconfirmation of the informed consent form. We first inquired about their current roles and responsibilities in their organization and their motivations and objectives to work in the fact-checking industry in India. We then asked questions to understand their current initiatives targeted at social media users in rural areas, the human and technological infrastructure they currently use to support their work, and the challenges they perceive in making fact-checking services available and approachable for rural users. We also encouraged participants to elaborate on specific aspects whenever necessary. After each interview, we revised our questions to add new probes, stopping when the participants' responses reached theoretical saturation [83]. After initial analysis, we also conducted additional follow-up interviews to better understand the topics that needed more clarity.

We did not compensate participants as many of them could not accept donations or compensation from a research team with foreign ties and were concerned that receiving any funds, even if small, could lead to questions on their integrity by regulatory bodies and their critics. In addition to these hesitations from fact-checkers, we also wanted to prevent ethical issues arising from compensation, such as coercion, which are well documented in the HCI literature [72].

Four authors were involved in conducting interviews with the participants. Two authors attended each interview: one led the interview and the other took notes and asked follow-up questions.

Table 1. Details of the fact-checking organizations that participated in our study.

Organization	IFCN Certification	Founded	Staff Size	Language
Alt News	Verified, Expired	2017	12 [#]	Hindi, English
BOOM Live	Verified, Active	2014	23 [#]	English, Hindi, Bangla, Gujarati
DataLEADS	Verified, Renewal	-	32 [#]	primarily English
FactChecker	Verified, Active	2014	6 [#]	English
FactCrescendo	Verified, Active	2018	26 [*]	English, Hindi, Tamil, Telugu, Kannada, Malayalam, Oriya, Assamese, Punjabi, Bengali, Marathi, Gujarati, Burmese, Sinhala, Khmer, Thai, Persian and Urdu
Factly	Verified, Active	2016	22 [*]	English, Telugu
India Today	Verified, Active	-	6 [#]	English
Logically	Verified, Active	2017	-	primarily English
Newschecker	Verified, Active	2019	18 [#]	Hindi, English, Bangla, Gujarati, Marathi, Malayalam, Tamil, Punjabi, Bhojpuri, Assamese, Urdu, Kannada
Newsometer	Verified, Active	2019	14 [#]	English, Tamil, Kannada, Malayalam, Urdu
The Logical Indian	Verified, Active	2019	13 [#]	English
THIP	Verified, Active	2019	14 [*]	English, Hindi, Bangla, Punjabi, Gujarati, Nepali

Staff size source, # : company website, * : LinkedIn

Given the ongoing COVID-19 pandemic, interviews were conducted remotely via video conference. We requested the participant's permission to record the interview for further data analysis and future reference. The interviews lasted an average of 45 minutes, and the longest interview was 75 minutes.

Data Collection and Analysis. We transcribed the interviews into English and coded them using inductive thematic analysis [41]. We took multiple passes on the transcribed data to perform open coding. We avoided using any presupposed codes and instead let the codes emerge freely from the data. The coders first coded two interviews together, discussing discrepancies and duplicate codes and creating a preliminary codebook (Appendix B) using an open-source qualitative coding

Table 2. Summary of the participant demographics.

Number of participants	12
Gender	Male: 10 , Female: 2
Role in organization	Editor: 7 , Fact-checker: 2, Founder: 3
Experience in journalism/fact-checking	Range: 3-28 years, Mean: 11.04 years, SD: 8.31 years

software called Taguette. The coders then coded the rest of the interviews separately, meeting regularly to discuss emerging codes, develop a preliminary codebook, review and update codes, resolve disagreements through peer debriefing [33], and develop categories and themes. Prolonged engagement with the data helped us establish credibility. After multiple iterations through the data, our collaborative analysis produced 68 codes. Some example of codes include: "build capacity for stringers to tackle hyperlocal misinformation", "social media platforms are not accessible to everyone", and "form government partnerships". The codes were further condensed into three high-level themes around the current practices and challenges in increasing (1) reach (getting fact-checked information to people) (2) relevance (making fact-checked content relevant to people), and (3) awareness (making people aware of misinformation and fact-checking).

Participating Fact-checking Organizations. Table 1 lists the details of the fact-checking organizations that participated in our study. All organizations were part of the International Fact-Checking Network (IFCN) at Poynter, an initiative to bring together the growing community of fact-checkers around the world and enable them through networking, capacity building, and collaboration. We extracted details such as IFCN certification and the year in which the organizations were founded from the organizations' websites or social media handles and the IFCN website [8].

Most of the organizations were founded in the last five years, demonstrating an increasing growth of fact-checking in India. On average, the organizations in our sample employed 16.91 people (S.D.=8.17), which shows that these organizations are small in size. Although the overarching goal of these organizations remains the same—i.e., to debunk and limit the spread of misinformation in society—they have different focus areas and expertise. For example, **Alt News** focuses primarily on political claims shared on social media and mainstream media [3] and **THIP media** works exclusively to provide fact-checked information related to health and well-being [17]. In contrast, **BOOM Live** focuses on a wide range of topics, including "social, political, communal and health and medicine to services and products and even history" [4]. **Factchecker**, the first initiative for fact-checking in India, provides fact-checked content on various topics by examining data from the public domain and statements made by individuals in public life [6]. **DataLeads** aims to improve people's media literacy and works on a wide range of fact-checking initiatives, ranging from training journalists to running data visualization projects with various media partners in multiple countries [5]. DataLEADS also runs HealthLEADS, a data-driven health news and information platform that builds collaboration between journalists, physicians, and technologists to provide evidence-based health information. **Factly**, **Factcrescendo**, **Logically**, **India Today**, **Newsmeter**, **Logical Indian**, and **Newschecker** work in multiple domains and in multiple states in India to debunk misinformation [7, 10, 11, 13, 14]. At the time of this writing, all organizations were verified by IFCN and had a status that was active, expired, or in renewal.

Participant Demographics. Table 2 lists the demographic information of our participants. We had 12 participants, one representing each organization. Two participants identified themselves as female and the rest identified as male. Our sample had a mix of editors, fact-checkers, and founders. We had seven editors in our sample. Two of them had over 13 years of television journalism

experience. One of the editors went to a journalism school and has been working as a managing editor of their fact-checking organization for over six years. Another editor worked at a prominent news organization as an editor for more than a decade and moved to the field of fact-checking for the last three years. Three editors had a technology background, which many participants deemed essential to perform fact-checking, and started in fact-checking and editorial positions with their organization. They gained an in-depth understanding of the journalism and fact-checking process by involving themselves in various roles thereby giving a holistic understanding of fact-checking both from the perspectives of fact-checkers and editors. The editors were actively involved in everyday fact-checking and occasionally also served as a fact-checker on individual stories. We had two fact-checkers in our sample. One of them started their career as a fact-checker and had over four years of experience. The other had a technology background and worked as a fact-checker for three years. We had three founders in our sample. Two of them had more than seven years of experience in the field of fact-checking, overseeing high-level operations of their organizations. The third founder had prior experience in the field of marketing and three years of experience in fact-checking at the time of the study. Two of the founders also served as editors of their organization.

The rich diversity in our sample as well as access to founders, editors, and fact-checkers helped us understand both organizational approaches as well as on-the-ground challenges they experience in increasing the reach, awareness, and relevance of fact-checked content in rural regions.

4 FINDINGS

Our analysis revealed that prominent fact-checking organizations in India use several human and technological infrastructures to increase the reach, awareness, and relevance of fact-checked information for emerging social media users in rural areas, many of whom have low literacy. A few fact-checking organizations highlighted that they do not recognize a difference in urban and rural populations while publishing fact-checks online primarily because they do not usually have a way to identify rural from non-rural users precisely, making it difficult to understand what they can do differently to serve various user groups. Some of them also explained that populations that are well-educated, affluent, or already acquainted with the process are the ones fact-checking usually serves. The participant from The Logical Indian explained,

“Fact-checks are for the top 0.1% and primarily serve journalists. Almost all the people I have talked to, there are very few people, educated ones only, who say that they know about fact-checking platforms [...] Educated and the urban population[s] at least have the know-how and agency to use fact-checking services when they want to but people in rural India do not even have that agency to start with.”

In contrast, some fact-checking organizations had initiatives, partnerships, and strategies to gain traction in remote and rural regions of India, recognizing the massive growth in users based in these regions. In the subsequent sections, we elaborate on these approaches along with the associated challenges fact-checking organizations experience as they attempt to augment the reach, awareness, and relevance of fact-checking in rural areas. To preserve the anonymity of our participants, we used gender-neutral pronouns when describing them in the findings.

4.1 Increasing Reach

Many participants expressed that their organizations were keen to increase the geographic reach of fact-checked information, particularly among social media users in rural regions. They emphasized how social media platforms saw massive growth in users based in low-income communities. They explained that many low-income users lack advanced digital skills and tend to place a high trust in the information available online. They also noted that these users are at increased risk of

harms emanating from misinformation and cited examples of how misinformation fueled riots and lynchings in rural regions. In order to make fact-checked content available to these users, organizations used a number of approaches, including leveraging traditional and social media platforms to distribute fact-checked content (Section 4.1.1), making the fact-checked content more engaging (Section 4.1.2), and using vernacular languages to make the content accessible to non-English speakers (Section 4.1.3). These methods are not solely used to reach all people, organizations highlighted several unique ways in which they can reach rural populations who are often new to social media. Below we elaborate on these approaches and the challenges that come with them.

4.1.1 Leveraging Social and Traditional Media. Given the high prevalence of social media in India with about 500 million Facebook and WhatsApp users, our participants noted that outreach through social media and traditional media such as television, newspapers, podcasts, and community radio stations, is a core strategy their organizations use to increase the reach of fact-checked content to rural populations.

Leveraging media to receive claims and disseminate information to rural users. The participants explained that fact-checking organizations routinely receive claims, which is defined as content that needs to be fact-checked, from users through messaging applications, such as WhatsApp and Telegram. India Today, Alt News, BOOM Live, and FactCrescendo maintain tip-line numbers for social media users to report information and request fact-checks. Not only do fact-checking organizations publicize these tip-lines online, but they also publicize them through traditional media outlets to reach new users in rural regions. The participant from Factly mentioned how they partnered with All India Radio and the Telangana Government to reach the remotest regions during the COVID-19 pandemic. THIP also described how the organization publicizes its WhatsApp tip lines on community radio stations:

“We have a lot of community radio station penetration in India that reaches rural regions. We work with community radios to spread awareness about our WhatsApp tip-line, where people can ask questions or send claims to get them verified. Community radio stations are a powerful marketing tool for reaching out to those in underserved areas.”

The participants emphasized that receiving claims and fact-checking them is an important first step. The next critical step is to disseminate the outcome of fact-checking more broadly. The organizations often turned to social and traditional media platforms to do so. The participant from India Today described that the organization frequently shares fact-checked content with the target audience through a variety of channels, including WhatsApp, Instagram, Facebook accounts, postcards, and radio podcasts. In line with previous work exploring the role of community radio stations during the COVID-19 pandemic in India [60], the participants described how sometimes these stations are also used as a vehicle to dispel myths and provide fact-checked content to rural audiences. However, among all the ways to share fact-checked content, participants perceived dissemination through social media platforms to be the most popular and effective way to increase geographic reach and spread of fact-checked content. The participant from The Logical Indian noted,

“During Covid we also had an active tipline facility [...] People who reached out to us were mostly from tier-3 cities and villages. How do I know that? We could see their profile images [containing rural background] and when they communicated with us sharing their location and asking us to fact-check content from their regions..”

The other avenues, such as radio channels and printed materials, were perceived to be costly, difficult to scale, and less engaging.

Lack of Reach to Under-connected Populations. Although many participants explained that social media platforms are the primary medium to relay fact-checked information to their audiences, the participants from Newschecker and FactCrescendo expressed concerns that many people in rural areas who are the most vulnerable to misinformation are often not on social media themselves. Instead, they receive misinformation through word of mouth from those surrounding them who have access to social media platforms. The participant elaborated:

“People might not have access because the primary mediums of amplification of our fact-checks are through social media, and not everybody is on social media right now. Even though we have a WhatsApp tip-line, not everybody has WhatsApp or access to that.”

The participant from FactCrescendo also noted that the lack of access to fact-checked information through social media and messaging platforms is not just limited to people in rural regions, but also in cities where substantial rural residents migrated in search of better economic prospects. Another group that participants noted to be underconnected and more vulnerable to misinformation was women living in strongly patriarchal systems. Participants said that there are high gender gaps in Internet access in rural areas [40] and perceived that fewer women are able to interact with social media platforms that disseminate fact-checked information. Furthermore, they noted that several factors, including online harassment and surveillance by male family members, impact how women in rural and urban communities engage with the online information environment. For example, the participant from FactCrescendo noted that female members often received inappropriate messages and calls from unknown people who got access to their contact information on WhatsApp groups, which is also where they get fact-checked information. Since WhatsApp does not obfuscate the phone numbers and profile information of group participants from other group members, FactCrescendo eventually migrated their communications to Telegram groups to provide group members with the flexibility to hide their profile information from others. Although FactCrescendo switched to Telegram to protect its female user base, other organizations still used WhatsApp to spread fact-checked content at the time of this study. In addition, the participant from The Logical Indian also noted how their media literacy programs mainly have male participants:

“The groups that I can interact in my own village and the training that I carry out have only men. There are no women in these groups. For the men, they have been consuming fake information for so long that certain narratives have been firmly set in their minds which they impose on their family members.”

The participant perceived this to be a key reason why women in rural areas know little about the harms of misinformation and place high trust in the information that their husbands and sons deem credible, as also described by the participant from Logically.

Whether it is women or populations that lack Internet access or mobile phones, there are a significant number of people in rural areas who receive fake news through word of mouth that fact-checking organizations cannot reach with their resources. Neither FactCrescendo, The Logical Indian nor Logically had interventions to increase the reach of fact-checked content primarily for secondary social media users and women, but the organizations made it abundantly clear that misinformation affects all people equally, both *on* as well as *off* social media.

4.1.2 Making Engaging Multi-Modal Content. Our participants emphasized the importance of creating engaging content in different modalities to extend the reach of fact-checked content among users in rural areas and beyond.

Video and Audio Content. When we asked participants the methods they use to reach out to rural users, many noted that sharing fact-checked content in the form of videos allows their organizations

to better capture user attention and increase user engagement, especially with low-literate users. The participant from Logically emphasized that YouTube is often the first application that new users in rural areas use, and it has enormous penetration in rural areas, especially among users with low literacy. In addition to producing fact checking videos, some organizations used humor to expand viewership. The participant from Newsmeter explained how fact-checked messages complimented by comedy in Telugu language receive a lot of response from users in rural areas indicating a high demand for such vernacular content.

In addition to videos, participants from India Today, FactCrescendo, and THIP noted the merits of disseminating fact-checked content through audio to reach users with low literacy and digital skills. They received claims through WhatsApp tip lines where many users with low literacy dropped audio messages to report claims and to assess information credibility. THIP often responded with fact-checked information in the form of audio files to maintain users' preferred means of communication.

The participant from BOOM Live also expressed a strong interest in using audio as a modality to allow more users to engage with the fact-checked content. They described that the organization was planning to partner with an NGO that specialized in creating voice-based interfaces accessible through phone calls to let users in rural regions submit claims and listen to the fact-checked responses on WhatsApp. However, this collaboration did not materialize due to a lack of funding from a grant they wrote together. The participant described:

“It was a resource-intensive plan. It is not as easy as publishing a story on the Internet and allowing distribution to take care of it. You have to work with local NGO’s and work with partners who can evangelize the work you do.”

These findings show that while organizations are interested in and working to provide fact-checked content in audio and video formats to reach low-literate users, the increased cost of running such initiatives acts as a key deterrent in starting and scaling these approaches.

Engaging content utilizing local influential individuals. Fact-checking organizations also partnered with local and widely-known influential personalities and celebrities to increase engagement with fact-checked content. For example, BOOM Live did a video campaign in which they hired an influencer to create a video series on vaccine misinformation. The participant from BOOM Live explained that the use of influencer was an effective strategy as rural users engaged more with the content and trusted local influencers more than an outside organization they had never heard of. The participant from THIP also mentioned using local celebrities to build trust. They explained:

“When we go to a village, people trusting us is a very big issue. If they do not trust us, no matter what fact-checking we do, whatever we tell them, it all goes down the drain. So we build many branding campaigns along with the awareness campaign to build trust. That is where local celebrities come into play. We work with local television celebrities, who people look up to on a daily soap or daily web series, and have them talk about our work. We saw an increase in acceptance among people on the ground for our work.”

The participant from Factly also mentioned how they experimented with creators and influencers on YouTube who are more appealing to rural audiences. Although these strategies were perceived to be effective in increasing reach and relevance, participants noted that their organizations were deterred by the cost, and THIP and Factly were unable to continue this approach in the long run.

Paper-based Pamphlets and Cards. Beyond the digital realm, the participant from FactCrescendo explained how physical content was effective in sharing debunked fake news in some rural pockets. The participant noted the importance of taking into account the varying levels of textual and digital literacy among rural users when disseminating fact-checked information to them. They described

how rural people in Kerala, a state with high literacy levels, could read their media resources on their website; however, people in Uttar Pradesh, with lower literacy on average [84], would steer away from long-form website articles. Thus, FactCrescendo used an alternative approach to increase its reach to rural people in Uttar Pradesh. They created and distributed physical cards printed with factual details around health-related viral posts through a partnership with local non-profits in rural areas. Although some organizations viewed paper-based content as useful, THIP noted with an analogy on how such content could also be unhelpful if it is shared without the aid of a trusted local organization or individual:

“Distributing a leaflet or a pamphlet handed over by an outside organization is faceless to them. They tend to believe their local doctor, who most of the time is not even a doctor, but a quack. Because they get to see him daily, they have more faith in them.”

The participant also noted how sociocultural norms and other factors impact their outreach work. One primary example they gave was of some disgruntled quack doctors who opposed THIP’s work because they worried that their businesses would be hurt if THIP shared physical cards with fact-checked information to bust COVID-related myths. The quacks are individuals with no formal training in allopathy or government-recognized traditional systems of medicine [23]. Most of these individuals work as unaffiliated and unlicensed healthcare providers in rural areas where there is a lack of access to medical facilities and have been reported to pose a serious threat to the communities they serve [22].

4.1.3 Making Content in Multiple Languages. Beyond creating multimodal content, our participants understood language accessibility to play an important role in increasing the reach of fact-checked information given the language diversity in India. Eight fact-checking organizations in our sample provided fact-checked information in multiple languages to reach users in new geographic locations, especially rural areas. The participant from FactChecker described that people not only trust the fact-checking organization more but also engage more with the content when it is presented in the local language.

Participants noted that users who do not know English have fewer means to fact-check claims themselves online, and thus require more support from fact-checking organizations to get access to credible information. The participant from THIP expressed that non-English speakers can rarely find trusted health information online that is available in the vernacular languages and websites like WebMD or Healthline that are accessible through Google search are only available to English speakers. This served as a key motivation for THIP to provide fact-check content in more languages, starting selectively with popular vernacular languages like Hindi, Bengali, Punjabi, Gujarati, and Telugu, to amplify their reach in rural regions. Other participants also reported that their organizations are constantly increasing the number of languages they support. For example, Newsmeter expanded from supporting two to four Indian languages, Factcrescendo expanded from four to eight languages, and Newchecker grew to support fourteen languages.

Lack of Technological Infrastructures for Vernacular Languages. Although the participants deemed language accessibility as a key step in increasing the reach of their services, they faced several challenges when working with content in local languages and expressed the need for better natural language technologies for vernacular languages in India. The participant from THIP, an organization that fact-checks health-related content, described several key difficulties in translating technical content. They shared that current language translation models and tools did not fare well with technical content in the domain of medicine and science. For more context, the Indian government recognizes six systems of medicine, namely Ayurveda, Yoga, Unani, Siddha and

Homeopathy abbreviated as AYUSH along with conventional Allopathy. When inspecting health-related claims, the participant noted that they would need to consult with doctors who specialized in all six systems to provide accurate fact-checked information. Furthermore, they explained that this becomes more challenging when claims are received in multiple languages. Because most domain experts, such as doctors, are only conversant in English, THIP needs to translate these claims into English before giving them to domain experts. They also have to translate information fact-checked by domain experts back to the vernacular languages. Drawn-out back-and-forth translations and existing translation tools usually incorrectly translate technical content, hence THIP chooses to do translation tasks manually to ensure that original meanings are retained through their translation pipeline.

In response to the lack of reliable language technologies, several organizations hired fact-checkers proficient in vernacular languages to create content in multiple languages, which strained the limited resources of many of these organizations. However, the participant from India Today explained the importance of doing so:

“Language is a big barrier, which divides urban population from rural audiences. Suppose there is a hyperlocal thing going viral about a small town in Uttar Pradesh. We will not do a fact check in English. We do it in Hindi so that it reaches the right kind of audience.”

4.2 Increasing Awareness

Multiple organizations in our sample pursued initiatives to increase awareness about fact-checking and building fact-checking skills among users in rural regions. To do so, they organized educational outreach programs in rural areas (Section 4.2.1) and leveraged partnerships with other organizations, such as government entities and NGOs, to educate rural areas about misinformation and fact-checking techniques (Section 4.2.2). We now present these initiatives in detail and outline the challenges organizations faced in scaling these initiatives beyond a pilot.

4.2.1 Educational Outreach Programs. Many fact-checking organizations developed educational outreach programs in rural areas to help people understand strategies to fact-check on their own. The participant from FactCrescendo noted the importance of educating *“rural users on quick and easy ways to fact-check information.”* They mentioned that many people whom their organization targets do not even know how to look up information on Google. Other participants also opined that *“knowing how to do a simple search”* could result in a massive decrease in the propagation of misinformation.

Participants from several organizations discussed the effectiveness of education through synchronous outreach programs. Several organizations had outreach programs in rural villages. As an example, the participant from FactCrescendo described that their colleague who is a fact-checker recently visited four villages, met with elected village officials and school teachers and conducted workshops to improve awareness about fact-checking. In workshops and small-group sessions, they discussed why misinformation is harmful and provided rural residents with simple tips that they could follow to spot misinformation, look for more resources, and fact-check content.

The organizations often used a tiered approach to gain the trust of local leaders before conducting these sessions with the general public. For example, the participant from THIP explained how their team traveled to various villages to increase awareness of health misinformation. First, they educated the elected village officials and other leaders on how to fact-check information. Once they were able to gain the trust of the leaders, they spoke with community members about the dangers of health misinformation and discussed basic fact-checking techniques with contextually relevant examples. The participant described that *“THIP conducted various sessions in multiple villages over the course of 4 years impacting an estimated total of 60,000 to 70,000 people.”*

Participants also emphasized the need to be aware of local cultural norms and sociopolitical sensitivities when designing and conducting training programs. Often, when demonstrating examples of fake news, they stirred away from posts containing religious or politically sensitive content out of the fear of alienating some people who might lose trust when content ascribing to their religious or political ideologies is challenged and then never come back to other fact-checked content that the organization puts out. The participant from Logically emphasized the importance of cautiously *“describing fake news to rural people using misinformation events familiar to them.”*

The participant from THIP found a stronger reception and openness to learning among young people than among older people in the educational outreach work THIP did. The participant from Alt News also agreed with this sentiment stating, *“it is more important to educate the youth about fact-checking if there is a need to prioritize a demographic.”* They expanded upon this idea and proposed creating a school curriculum for the youth in the future. Furthermore, the participant from Newschecker described that the reason it is easier to target young people is through partnerships with schools, but doing something similar for the elderly is a challenge.

Although outreach programs were perceived to be effective in introducing fact-checking to rural users, our participants described a number of challenges that prevented them from scaling these programs. They noted how labor-intensive and cost-intensive these programs are. Given the limited resources these organizations had, it was difficult to prioritize educational outreach. Several participants also noted how challenging it is to create an effective curriculum and find physical spaces to teach basic fact-checking skills to the general public:

“The effective misinformation-awareness education requires demonstrations of fact-checking practices through in-person training, which require physical space, rather than providing resources for independent learning.”

4.2.2 Leveraging Partnerships to Increase Awareness. To scale initiatives and embed local sensibilities into outreach programs, the fact-checking organizations that we talked to partnered with various governmental and non-governmental organizations to augment their human infrastructure. We now describe the opportunities and challenges in leveraging these external partnerships.

Government Partnerships. Several participants emphasized the instrumental role state governments can play in increasing awareness about misinformation. They often cited examples of state-sponsored community health outreach programs that have been shown to positively impact health outcomes, including reducing neonatal mortality rates [27] and positively changing behavior [59] in South Asia. For example, the participant from FactCrescendo explained how the Indian government was able to distribute the polio vaccine to rural areas by employing community health workers who are recruited from the local communities and are given a few weeks of training to provide essential health services in their communities. Our participants suggested that governments design a similar program to provide last-mile interventions to make people in rural areas more *information-aware*.

The participant from THIP mentioned how they interact and partner with the Panchayat (the local government in India), and their elected leaders to sensitize people of the dangers of misinformation and to disseminate fact-checked information. Several participants also mentioned how the police have been successful in implementing initiatives to dispel misinformation in remote rural regions. Although such initiatives were not initiated or implemented by fact checking organizations themselves, participants recognized the effectiveness of such programs. For example, the participant from BOOM Live described an instance when a police officer implemented an initiative to teach basic fact-checking skills to people under their jurisdiction:

“An IPS officer [high-ranking official] in Kerala adopted an entire curriculum in their district to teach school students about false and misleading information and how to engage with information that they receive on their WhatsApp groups and on social media. The program was highly successful and received a lot of attention. It became a model.”

The participant from FactCrescendo also mentioned that as a part of their work, they have to occasionally interact with police officials who are interested in learning about the fact-checking process because of the unrest resulting from the high volume of hyperlocal misinformation in their areas. When the staff of FactCrescendo visited villages for outreach programs, the local policemen would inquire if they could also be educated on how to spot misinformation to share it with their community. Given the interest, FactCrescendo considered developing a strategy where they would partner with police officials to help educate people in hard-to-reach rural communities. The participant elaborated:

“Actually, we would be more than happy to collaborate with them and go to places to educate people. When we work, we have to get in touch with the police. So, the police had also told us a lot of times whether it would be possible for us to teach the officers about this as well.”

The participant from BOOM Live also emphasized that partnering with local police might help them understand, prioritize, and debunk misinformation circulating in rural areas.

The participants also noted several challenges when working with local police, one of them being the police’s relationship with locals. The participant from BOOM Live gave an example of a District Superintendent of Police (DSP) who proactively monitored people in their district to identify why people were unsafely sleeping outside their homes. Upon investigating, they found that there was a rumor of child kidnappers on WhatsApp and that the villagers were sleeping outside to guard their homes. The DSP found it extremely difficult to convince the villagers that the rumor was fake because people were reluctant to trust the police. The participant also expressed concerns about the ability of police officials to identify the source of misinformation in an increasingly online information environment:

“There used to be informers who would notify misinformation to the police in the tapris (small tea shops where people gather to mingle). The police would also be undercover there to listen to what is happening in their jurisdiction. However, after people started using messaging applications such as WhatsApp and Telegram, it is difficult to penetrate the groups on these platforms.”

Several participants noted the importance of cautiously identifying places and areas where government intervention could help. For example, some participants expressed hesitations around the proposal of the Government of India to create a government-approved certification of fact-checking organizations. Although the proposal is still in its nascent stages, with various stakeholders debating over the need for such a unit as well as its jurisdictions, the idea of government intervention has raised concerns of misusing its powers to shut off dissenting views and prompted fears of censorship. Some of the participants we spoke to also shared similar concerns and highlighted the need for the separation of state actors and fact-checking practices to retain freedom of speech.

Local NGO Partnerships. Another way organizations found ways into rural villages was through partnerships with NGOs on the ground as was the case for The Logical Indian, Newschecker, THIP, Boom Live, and DataLEADS. The participant from THIP explained their partnerships with NGOs and village panchayats in organizing media literacy campaigns. The NGOs established physical areas for the campaign and advocated for THIP in local villages, which increased visibility and credibility:

“There is always a challenge in building trust when we visit a new village. So working with an NGO which has credibility and social capital in an area, and allowing the NGO to explain the importance of fact-checkers in their ecosystem helps develop trust and acceptance at the grassroots.”

In another case, the participant from DataLEADS, a data-driven journalistic organization, described how they led an initiative in which they partnered with Google News to give workshops on media literacy and fact-checking. They formed partnerships with NGOs and university professors to provide them with the necessary fact-checking skills. The trained partners, in turn, conducted workshops to educate people in their social and professional circles. DataLEADS, through this initiative, has trained over 7,000 trainers throughout India.

Although NGO partnerships are essential, the participant from Newschecker also made it clear that some NGOs do political work and that fact-checking must be unbiased. They warned that in order to prevent educational initiatives from becoming political, organizations must carefully deliberate on which NGOs would prevent their work from being politicized before bringing them on as partners.

Partnerships with Other Fact-checking Organizations. Some participants emphasized the opportunity for fact-checking organizations to collaborate with each other. For example, the founder of Newschecker also co-founded the Misinformation Combat Alliance, a collaborative effort that allows fact-checking organizations to share their advocacy and outreach work with each other. They described that the alliance is a combined effort of multiple fact-checking organizations in India to reach every Internet user and make people media literate. Furthermore, the alliance educates users to deliberate before sharing misinformation and aims to build a vibrant community of truth seekers through advocacy and outreach.

The participant from Newsmeter spoke about EKTA, which is an umbrella organization in which fact-checking organizations gather to collaboratively debunk fake news. However, this platform is only used during special occasions like during COVID-19 and parliamentary elections when there is a huge influx of misinformation. As seen on their website, it currently consists of eleven member organizations each with its tipline and posts updates throughout the year [35]. A few organizations also hinted at developing these alliances into a regional version of IFCN which can act on topics concerning India and surrounding geographies. Although such collaborations seem to have good potential, most participants highlighted that these initiatives are still in their nascent stages with member organizations struggling to find common ground and they are not focusing on rural communities. Some participant mentioned that they are successful in achieving greater reach and providing better services when working together, but such collaborations do not last long as organizations have different agendas they would like to focus on. Although increasing media literacy and awareness in rural areas is not a priority under such alliances, the participants highlighted that these platforms could potentially be used to improve media literacy and reach of fact-checked content in rural areas once a stable framework is devised and adopted.

4.3 Increasing Relevance

Because most fact-checking organizations used virality as the main criteria for selecting claims to be debunked, most fact-checked claims were less relevant to rural residents who were more interested in hyperlocal news. The participant from FactCrescendo gave the example of the Russo-Ukraine war, stating that *“the facts around the war are routinely fact-checked, but are of poor relevance for people in rural areas.”* This exemplifies that improving the relevance of fact-checked content for rural users requires fact-checking hyperlocal claims rather than viral claims.

The participants from FactCrescendo, BOOM Live, and FactChecker emphasized the importance of identifying and verifying hyperlocal information. They expressed that misinformation has more substantial real-life consequences in rural areas and has, in the past, led to devastating consequences, such as mob attacks and lynchings. A participant noted:

“I think the fact what made it worse in rural environments and this is something that we discussed with police people as well at that time was just that law enforcement was too far away [to dispel rumors]. It’s all about reaching out to people at the right time.”

As a result, some organizations prioritized hyperlocal misinformation fact check and used a wide range of strategies, such as increasing their physical presence in rural areas (Section 4.3.1), understanding language and cultural nuances and making use of technology to tackle the huge influx of hyperlocal misinformation (Section 4.3.2), to make them more relevant to users in rural areas (Section 4.3.3).

4.3.1 Increasing Physical Presence in Rural Areas. One approach to hyperlocal misinformation fact check is to have fact checkers stay and work in rural areas where such misinformation might arise. The FactChecker participant noted that doing so allows them to quickly interact with local authorities and verify on-the-ground realities of any particular event, making the process more accurate and efficient. For example, two participants mentioned their fact-checkers who fact-check content in a regional language and worked from the regional office.

Although *in situ* reporting was perceived to be an effective strategy for tackling hyperlocal fake news, most organizations lacked the financial and human resources to implement the plan on a large scale. Instead, they formed partnerships with stringers and freelance journalists working in remote rural and peri-urban regions throughout India. Stringers are grass-roots level reporters who are on-call workers or “*informal journalists*” with limited journalism and digital skills [79]. These partnerships allowed fact-checking organizations to augment their human infrastructure through a spider network in many regions that were previously unreachable to them. Moreover, these partnerships also allowed them to target misinformation in vernacular languages and identify locally relevant posts that need verification quickly in time before misinformation spirals out of control. For example, the participant from India Today claimed that their organization “*has the biggest network of stringers in India*” which has enabled India Today to receive claims from the furthest corners of the country. The participant from Newschecker also spoke about their plans to set up a similar network.

4.3.2 Understanding Language and Cultural Nuances. Another method organizations used to increase relevance was to be strategic about the language and method used to disseminate hyperlocal fact-checks. The participant from India Today, which has significant coverage and grassroots presence in India, mentioned that the chosen language and publishing platform for fact-checking is based on the audience:

“Hyperlocal misinformation going viral in a small town in Uttar Pradesh will be fact-checked in Hindi because people who consume such posts are typically Hindi-speaking. Also, the article will be published and promoted more on Facebook rather than Instagram or Twitter as we know people from that region predominantly use Facebook. But if a claim is political in nature, then the fact-checked information is published in English and promoted more on platforms such as Twitter.”

Although participants stressed the use of such nuances to effectively improve relevance for people in rural areas, they faced a number of challenges in implementing this in practice. For example, the participant from Newschecker mentioned their struggles in recruiting fact-checkers who can read and write content in multiple languages. They gave the example that they cannot

provide fact-checking services in Assamese because they do not have fact-checkers who have the ability to read, understand, and write Assamese.

The organizations also carefully considered the nuances in publishing fact-checked hyperlocal information. For example, the participant from India Today described that the organization debunks claims in multiple languages from all parts of India. However, they consciously avoid publishing fact-checked misinformation on all their channels. The participant gave the example that misinformation going viral in the Bengali language in Malda, in the state of West Bengal, is fact-checked and published in Bengali and shared only through their Bengali social media handles. They explained that the process of publishing fact-checked information also means sharing the misinformation itself, which could risk unrest:

“When debunking, we definitely need to tell people that this is what is being circulated as misinformation, and this is the fact. But in this process, we need to tell them the fake news that was circulating. Sometimes it backfired. Something that was going on in a very small group, India Today debunking it meant that it got a much bigger platform and it reached millions of people. Sometimes debunking does more harm than leaving it and ignoring it”

Participants also noted the importance of taking inspiration from prevalent sociocultural norms in local regions to convey information about fact-checking. For example, the participant from BOOM Live gave an example where a local police officer in Telangana used folk stories, local dance forms, and street plays to communicate with locals to dispel child kidnapping rumors propagating on WhatsApp groups in their area.

4.3.3 Using Technology to Increase Relevance. Another challenge organizations faced in fact-checking hyperlocal information was the lack of fact-checkers due to the sheer number of claims they receive each day. Organizations struggled to decide which claims to prioritize and had a limited amount of time to make that decision. The participant from India Today noted this urgency, *“A fact-checker deals with 200 news at a time and gets just 30 seconds to decide when to put this on hold.”* The participant mentioned the need for having a system that could judge the severity of an article, prioritize claims, and respond with fact-checked information so that fact-checkers do not need to spend time deciding *what* to fact-check and *how* to disseminate it. In such a time-constrained environment, organizations made decisions usually based on the claim’s potential of creating unrest in society. This means that hyperlocal misinformation is more likely to be put on hold due to the smaller scale and fewer people that it impacts.

Some organizations were able to bypass this challenge because they had access to technological infrastructure that aid in tackling the large volume of misinformation. The participant from THIP mentioned that they receive approximately 8,000 to 10,000 messages a month, and fact-checking is done mainly manually. However, they use a tool that groups similar claims together and sends fact-checked content to all users who request verification of that content. This meant that the corresponding fact-checking process had to be done only once for the same piece of claim.

5 DISCUSSION AND IMPLICATIONS

Based on interviews we conducted, we discovered several measures that prominent fact-checking organizations in India take to increase the reach, awareness, and relevance of fact-checking services to social media users in rural communities in India. We also discovered the underlying human and technological infrastructures that help fact-checking organizations do this work. To increase the geographic reach and spread of fact-checked content in rural areas, the organizations created engaging, multi-modal content in multiple languages and distributed them using various new and traditional forms of media. To increase awareness of fact-checking in rural areas, the organizations had strong partnerships that they leveraged to run outreach programs focusing on improving media

literacy. To increase the relevance of fact-checking for rural audiences, the organizations relied on a spider network of local journalists across India to identify and fact-check hyperlocal stories. They tailored fact-checked information to respect sociocultural norms and linguistic preferences of users in rural regions. In doing so, the organizations faced several challenges, including lack of access to human and financial resources, challenges in identifying and fact-checking hyperlocal misinformation, and lack of appropriate tools that work cooperatively with fact-checkers to identify harmful misinformation in vernacular languages. Drawing on these findings, we synthesize key takeaways for technologists and discuss tools and strategies that can be leveraged to fact-check hyperlocal misinformation and improve media literacy and misinformation education for rural social media users.

5.1 Combating Hyperlocal Misinformation

Organizations consistently expressed they wanted to find and debunk hyperlocal misinformation to increase the relevance of fact-checked content for rural users, also as reported in previous work [93], resulting in greater engagement with content. Also, hyperlocal misinformation ends up being the most harmful to rural users, as it is more likely to instigate beliefs in pseudoscience and dangerous mob lynchings due to the remoteness of rural areas. However, from the findings, we discovered that one of the biggest limitations facing fact-checking organizations was the large amount of hyperlocal information to fact-check. Many organizations in our sample tried to fact-check content in rural areas and broaden the scope of their services to include rural users; however, they faced immense challenges in doing so effectively and at scale, especially in light of the limited financial and human resources they had. They had difficulties prioritizing what to fact-check and required intensive in-person investigations to gather factual data, especially since many tools they generally used to fact-check viral content on social media (such as Google Reverse Image Search) did not work for harmful hyperlocal content containing misinformation in vernacular languages. As a result, fact-checking content that targets rural audiences often comes at a cost of time and resources, that some organizations argue need to be spent on fact-checking viral mainstream content, like political claims.

Despite the challenges of fact-checking hyperlocal misinformation, many organizations recognized the importance and *urgency* of targeting social media users in rural areas by setting up elaborate human and technological infrastructures to support this work. For example, FactChecker shared that they have journalists on the ground who speak local languages, are connected to local authorities and non-governmental organizations, and can more effectively monitor events and claims of local interest. Living in the same area also meant that these fact-checkers understood the surrounding cultural and political context of the region.

Building on these insights and drawing on the CSCW and HCI scholarship, we now discuss ways in which technology can be used to fact-check hyperlocal misinformation.

Role of Automation in Detecting and Verifying Hyperlocal Claims. Given the difficulties that human fact checkers face in keeping up with the rapid spread of misinformation, a large body of work has focused on creating tools to automate fact-checking to help human fact-checkers [39, 42, 45, 46, 96, 97]. Although real-world tools to automate fact-checking are developing rapidly and organizations are showing a need for them, the early evaluation of these tools has shown mixed results at best. For example, Twitter banned *Fátima*—the AOS Fatos fact-checker bot that categorizes online claims into several categories, including true, inaccurate, exaggerated, and false, among others—for violations of its spam rules [36].

Several challenges limit the operational utility of these tools to fact-check hyperlocal claims in rural regions. First and foremost, current automated tools for fact-checking do not support vernacular languages in rural India that are severely underrepresented in current NLP advances

and have exceptionally limited resources [50]. As a result, these tools have limited abilities to effectively understand the sociocultural, sociopolitical, and linguistic nuances of rural regions. Moreover, these tools are incapable of working with code mixed content that contains frequent alteration between two or more languages [80], making it difficult for the tools to produce an accurate interpretation of multi-modal and multilingual complexities [42]. Beyond specific use cases, there are also many other complexities in using NLP techniques to identify hyperlocal misinformation. For one, it is often difficult to accurately label claims into binaries of true and false, as many fall in between. The other problem is that models may carry biases when trained on data sets that capture journalists' decisions about which claims to fact-check and which to ignore [42]. Recent advances in NLP methods for fact-checking have shown multiple challenges in automating the process of fact-checking some of which include the choice of labels, sources, and subjectivity of information, models fitting on artifacts, and biases in datasets rather than grounded facts [42]. In order to develop NLP models, fact-checking organizations would have to curate their own datasets by gathering claims and labeling data appropriately to authentically represent rural contexts, which is a monumental task given the rich sociocultural diversity in India.

Current automation tools often rely on matching statements against a library of already fact-checked claims or verifying claims against the sources that human fact-checkers use [39]. While fact-checking organizations have shown a willingness to collaborate with each other to create shared repositories of fact-checked content [2], more work is needed to build datasets containing hyperlocal misinformation primarily targeted at rural social media users. Additionally, beyond the claim itself, there is no existing detection system for identifying trustworthy sources [42], especially for collecting factual information in rural areas.

Once we have such datasets and NLP technologies for vernacular languages, a more feasible area of automation would be to group similar claims together. THIP uses a similar approach to "*club similar claims together*", making it easier for them to sort through 8,000 claims they have received on their WhatsApp-based tip-line. However, organizations like THIP are an exception and not rule. Most other organizations do not possess the necessary resources and skills and need external support. Clustering information together would also still allow human fact-checkers to check the information itself to ensure that the system has not made any critical errors.

Another important consideration to have when developing these tools is that current automation tools are not understandable to end-users (i.e., fact-checkers), most of whom have low AI knowledge. The lack of knowledge of how AI works impacts the trust fact-checkers can place in nebulous AI-powered tools. In fact, in our interviews, participants were skeptical of the efficacy of the current tools and expected that these tools would make many mistakes. To cooperatively work with these AI-powered tools, we recommend the development of models that can provide reasoning for their outputs rather than solely showing results, so that fact checkers have more confidence in why they discard or investigate a claim.

While we presented the most feasible path to look into when introducing automation to fact-checking organizations in India, it is important to shift the focus from "automation" to "human-AI collaboration" when developing AI-powered tools to support fact-checking in rural contexts.

Collaboration with Stringers and Citizen Journalists. Our findings demonstrated the vital role rural journalists and stringers play in identifying and verifying hyperlocal misinformation. However, we also found several challenges that hinder effective collaboration between fact-checking organizations and stringers. For one, fact-checking organizations struggle to maintain a spider network of stringers even when organizations, like India Today, have numerous resources. Stringers also face challenges, such as poor labor conditions and lower pay, which threaten the quality of

their work. Moreover, many of them have only high school education and are not professionally trained for the occupation [79], often resulting in low-quality contributions.

In order to dispel harmful hyperlocal misinformation, it is critical that fact-checking organizations design training modules to teach fact-checking tools and techniques to stringers, as well as provide them with clear guidelines on supporting material and evidence needed to create higher-quality claims. Despite the important role that stringers play in identifying and verifying local stories, little is known about how they assess information credibility, what networks and tools they rely on to source and disseminate fact-checked information, and the challenges they face. Although our work touches upon the experiences of fact-checking organizations with stringers, more work is needed to study the work practices and tools that stringers use, and examine the technological support that can be provided to strengthen their collaboration with fact-checkers. One way it can be done is by leveraging the tools that stringers already use in their daily work. For example, given the high penetration of WhatsApp in rural regions, fact-checking organizations can create automated tip lines for stringers to submit claims or fact-checking outcomes using predefined templates and checklists that enforce basic journalistic practices (e.g., five W's of journalism [58]) and provide them with automated feedback when they deviate from the template.

In addition to strengthening the network of stringers, fact-checking organizations might also leverage citizen journalists on the ground to report claims and gather facts. One method is to allow rural users the ability to post misinformation and its corresponding debunked fact, which gets reviewed by a moderator. This is similar to CGNet Swara, a voice-based citizen journalism platform that enables rural communities in India to report and listen to locally relevant news and grievances. Users call a toll-free phone number, press 1 on the phone keypad to record a new message in their own language, and press 2 to listen to messages recorded by others. The recorded messages are fact-checked, published on a website and the forum, and viewed by activists, government actors, and the mainstream media. Since its inception, CGNet Swara has received over 6,500 reports and has resulted in the resolution of more than 300 grievances [65], demonstrating that effective change is possible through citizen activism with local leaders rather than mainstream journalistic interventions.

Fact-checking organizations must take into account a number of considerations when designing such systems for citizen-driven fact-checking. Studies have shown that in some situations, rural users knowingly spread misinformation for economic or communal gain [93]. This danger could be combated by having a moderation platform that requires lengthy evidence and corroboration from other users on the ground. Another challenge is that technology usage is skewed towards men in rural communities, which means that there could be implicit gender bias in what is debunked [93]. As a result, it is important that trusted community actors as well as a representative set of citizen journalists are onboarded into the system.

Nuances in Publishing Fact-checks. Having efficient mechanisms to source and fact-check misinformation is just one aspect of the work to combat misinformation. The other is the appropriate dissemination of fact-checked content. One participant had concerns about the “*backfire effect*” of correcting hyperlocal misinformation, describing how publishing corrective messages not only increases the reach of the misinformation itself, but also causes people to remain more convinced about the misinformation. However, specifically, in Western contexts, there are opposing views on whether a backfire effect exists. For example, in the work of Skippage [87], the editors were concerned if they were contributing to the spread of disinformation in an effort to dispel it. Furthermore, a review conducted by Swire-Thompson et al. [91] identified two major backfire effects: (1) the worldview backfire effect when the fact-checked information challenges the existing worldview of a person, and (2) the familiarity backfire effect when the misinformation is repeated

in the shared correction. On the other hand, the work by Porter [78] debunks the backfire effect in the context of political misinformation in the United States.

Although the backfire effect is contested in Western contexts, Badrinathan [24] showed evidence of the backfire effect in India, arguing that the backfire effect could exist in India as political misinformation may be consumed differently in a traditionally non-ideological party system like India. Furthermore, Porter et al. [76] empirically studied ten countries, including India, to test the effects of correcting vaccine misinformation and showed that correction had a significant effect on belief accuracy except for India and Indonesia. Given these early studies, more work is needed to examine whether and in what contexts correcting hyperlocal misinformation could lead to backfire effects.

Lack of Financial Resources to Target Rural Users. One key point almost all of the participants mentioned was the lack of resources, specifically monetary funds, to support reaching out to rural populations. Organizations in our sample were funded in three ways: (1) through grants and donations, (2) through advertising revenues on their website and social media accounts, and (3) through the revenue from providing third-party fact-checking services to social media companies. None of these methods provided them with a steady stream of financial resources to focus on hyperlocal misinformation propagating in rural areas.

Only one organization in our sample ran successfully through crowdfunding and almost all others were dependent primarily on grants and funding provided by IFCN, which provided funds required to keep operations running but not enough to design and scale fact-checking initiatives in rural areas. In the case of advertising, the organizations had to inadvertently focus on areas that have a high population density, resulting in more focus on urban users and viral misinformation instead of hyperlocal misinformation propagating on a small scale in rural areas. Finally, some organizations provide third-party fact-checking services to social media companies to generate revenue. However, the revenue generated through this stream was limited, since organizations are paid for each post they debunk, which requires a lot of monetary and human resources.

Some participants noted how government partnerships could play a pivotal role in reaching out to people in rural areas. Local government workers such as CHWs have the social capital and physical reach to impact people on a large scale. Partnering with them would be effective without having to reinvent the wheel and develop such human infrastructures. However, most organizations require IFCN certification to receive funds from IFCN. Furthermore, providing third-party services to mainstream social media giants like Meta requires fact-checking organizations to maintain an arm's length distance from government bodies to maintain non-partisanship. Therefore, the limited media literacy campaigns that fact-checking organizations do partnering with the government are also often done free of charge, so that there is no conflict of interest and fact-checking organizations can remain nonpartisan and beneficiaries of IFCN funds [53].

Keeping this in mind, it is critical for policymakers, fact-checkers, and social media platforms to provide incentives to promote fact-checking in rural regions and design clear guidelines that outline areas where government bodies and fact-checking organizations can work together and where they should stay separate, thereby making viable areas of engagement open for monetization and further growth.

5.2 Improving Media Literacy and Misinformation Education

Several participants in our study emphasized the importance of fact-checking education to reduce the spread of misinformation. Fact-checking education consists of educating the public about tools that can be used to identify and fact-check misinformation independently. A study on fake news on Facebook and Twitter by Geeng et al. [38] discovered that social media users often

trust low-credibility posts without much investigation. Providing fact-checking education could enhance the inclinations that users feel they need to validate the information they come across. Furthermore, given that current fact-checking practices are not geared toward debunking hyperlocal misinformation propagating in vernacular languages and in rural areas, fact-checking education and media literacy becomes a critical tool in mitigating the spread of hyperlocal misinformation.

Our findings show that fact-checking organizations face several challenges in scaling educational programs geared to improve media literacy in rural areas. From having difficulties in partnering with government and non-governmental partners to a lack of human resources to teach people about misinformation in rural areas, the challenges are multifold. Based on our findings and previous related work in designing educational interventions in low-resource contexts, we provide recommendations to create effective educational interventions to improve media literacy in rural regions.

Role of Policy. India's National Education Policy, designed in 2020, is touted to bring substantial changes to the Indian education system. It emphasizes critical thinking, multidisciplinary skills, multilingual education, equitable and inclusive education, together with other well-intentioned objectives [16]. However, it leaves much to be desired in the space of digital and media literacy. The policy lacks discussion and directions to create initiatives to improve media literacy and fact-checking skills and mentions digital literacy only twice, one of which is appropriately mentioned in the critical life skills for adult education and lifelong learning [12]. Since the education curriculum in India is largely regulated by state and national governments, and government intervention is vital to have effective media literacy, there is an urgent need to make policy-level changes to make media literacy an essential or at the very least an optional part of a child's or an adult's education. Furthermore, standardization of misinformation education would allow fact-checking organizations to spend more time developing specific strategies for rural regions.

Human-Centered Design for Media Literacy Interventions. Technologists and fact-checking organizations must work in tandem to create educational digital tools to be deployed in schools or through outreach programs. These educational tools would be used to increase awareness of the harms of misinformation and to help others learn techniques to identify and debunk misinformation on their own. An example that technologists and fact-checkers can follow is TeachAIDS, an educational intervention that creates a safe and comfortable online space to learn about AIDS through culturally sensitive animations along with audience interaction [89]. TeachAIDS uses hyperlocalized content to resonate with target communities, animations, and euphemisms to help illustrate highly stigmatized topics related to AIDS transmission, and voices and caricatures of public figures to enhance learner engagement and diminish stigma around the topic. To design the intervention, the researchers behind TeachAIDS conducted in-depth interviews with students and teachers, leaders of local NGOs, cultural experts, and anthropologists to understand the sociocultural norms and sociopolitical forces that impact the education of AIDS. They then created prototypes of the educational intervention and repeatedly refined it through feedback from various stakeholders to make it more culturally appropriate and engaging. The overall approach of TeachAIDS resulted in a highly successful and adaptable product that has served half a billion people around the world. Like AIDS education, which is highly stigmatized and divisive [89], educating people about the harms of misinformation is tricky, given that misinformation often focuses on sensitive and polarizing topics such as health and politics, and debunking such claims can cause social schisms and political polarization if not done appropriately.

Like TeachAIDS, fact-checking organizations need to use a human-centered design approach to create tools to build fact-checking skills and capabilities. Fact-checking organizations need to carefully understand the surrounding social, cultural, and political contexts within which such tool

might be deployed. A human-centered design approach is specifically important for rural regions that may have cultural nuances unbeknown to the organization and the designer. To do so, first, they need to identify hyperlocal misinformation that is significant but not divisive so that users learn to verify facts on a topic they are comfortable with. To illustrate, a user may not want to fact-check their favorite politician, whereas they may be more willing to learn how to identify health misinformation. Framing fact-checking education in this way can create a more comfortable environment for the user. Subsequently, they can apply their learning to identify and verify other types of misinformation.

Leveraging Gatekeepers. In addition to integrating fact-checking education into the school curriculum, fact-checking education can also be distributed through local gatekeepers, such as local police, village officials, doctors, or other trusted members. As our findings show, local leaders in rural communities are more trusted than outside organizations, making the partnership even more crucial to help combat misinformation in rural areas. Specifically, a few fact-checking organizations noted that police officers in some communities are interested and willing to learn and also teach fact-checking. Although there are some cases in which police officers are trusted members of the community, there is also a general public distrust of police officers, as explained by Jauregui [49]. This distrust can have adverse effects when using police officers to disseminate fact-checked information, as spreading fact-checked information through distrusted sources can lead to even more public distrust in the facts being spread. Therefore, fact-checking organizations must take into account several considerations when partnering with local police to distribute fact-checked information. Specifically, one must understand the relationship between the police and the community in the target location and ensure that this relationship is one of trust rather than distrust.

The organizations also mentioned partnering with *Panchayat* leaders who are elected officials or local doctors to increase awareness of misinformation in rural areas. Such trusted gatekeepers might help better spread fact-checked information because community members trust them more than law enforcement officials and outsiders. Fact-checking organizations must create strategic partnerships with such gatekeepers and design interventions that leverage the strengths and network of these gatekeepers to improve media literacy in rural settings.

Facilitating Long-term Engagement with and Evaluation of Educational Initiatives. Although educational interventions have shown potential to curb the spread of misinformation, they may not be effective in some cases. Specifically, short-term educational methods to increase misinformation identification have been shown to be inadequate [89]. Additionally, the effectiveness of educational interventions depends on how well their characteristics and delivery are customized for the population of interest [19]. Given the resilient nature of misinformation, fact-checking organizations must facilitate long-term messaging and education for educational intervention to be effective [24]. Furthermore, given the limited evidence on the effectiveness of educational interventions targeting social media users in rural areas and those with low digital literacy, more research is needed on such interventions before scaling up efforts [19].

Integrating Education in Everyday Technologies. Several fact-checking organizations in our sample used everyday technologies such as WhatsApp-based tip lines and bots to receive claims and share fact-checked information, especially to target rural users due to the ubiquity and simplicity of WhatsApp. However, previous work reports that new users in low-income communities rarely attempt to verify information [85, 86, 93], and nudging people to always think critically about information significantly also lowers its propagation [73, 74]. Hence, a critical step to increase user tendency to discover misinformation is to help them build appropriate mental and threat models in an online information environment to filter through information instantly without thinking critically on all of them. Future work should further explore the use of conversational

agents embedded in everyday technologies like WhatsApp. For example, to shape mental and threat models of people, the agent could share trending fake posts along with detailed descriptions of why the information is false or misleading. Similarly, to help to develop fact-checking skills, the agent could routinely share fact-checking tips including links to fact-checking websites, tutorials on fact-checking tools like Google Reverse Image search, and features to detect deepfake videos. Future work also needs to empirically evaluate the frequency of users sharing trending fake posts and the frequency of users sharing fact-checking tips on WhatsApp-based tip lines. This will help to understand people's sensitivities to different types of misinformation while understanding which sort of fact-checking tips to surface to avoid overloading them with information.

Our participants emphasized prioritizing the youth when building educational tools, believing that teaching younger generations about fact-checking is easier than teaching older generations who already have established mental models and are less likely to use the educational tools. However, embedding such capabilities in everyday technologies used by a wider range of audiences could benefit young as well as old social media users in rural communities and beyond.

6 CONCLUSION AND LIMITATIONS

This paper examined how fact-checking organizations in India address misinformation propagating in rural areas and the challenges associated with it. We learned that fact-checking organizations use a number of approaches to increase the reach, relevance, and awareness of fact-checked content for people in rural communities. In doing so, they use tailored approaches that take into account local sociocultural norms, linguistic preferences, and on-the-ground partnerships. We also found that fact-checking organizations face a number of hurdles, such as challenges in identifying and fact-checking hyperlocal misinformation, challenges in maintaining external partnerships, and a lack of appropriate context-sensitive tools that limit the scale and impact of their work. Based on these findings, we proposed a set of design considerations for technologists interested in creating interventions that cooperatively work with fact-checkers, target hyperlocal news, and increase misinformation literacy in rural India. We also proposed policy recommendations to support and scale such interventions.

Our study has some limitations. Apart from the limitations of the small sample size in our qualitative research, our study population comprises prominent fact-checkers, editors, and founders in India. The study would have benefited if we had more participants, however, it was difficult to recruit more people on top of the representation that we already have from top fact-checking organizations in India. Others within the organizations were also busy with their daily responsibilities. We acknowledge that the experiences of fact-checking organizations in India, including their needs and aspirations related to making their services available to rural audiences, may not be generalized to fact-checking organizations in other countries in the Global South. It would be beneficial to conduct studies across other countries in the Global South to understand if there are broader trends in increasing fact-checking access to rural users. While our work takes the important first steps towards highlighting the challenges as well as potential solutions to make fact-checking more available and accessible to rural users who are critically underrepresented in current research advances, more work is needed to empirically evaluate the merits of the proposed measures.

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A INTERVIEW PROTOCOL

Note: Template for Fact-Checking Interview. The questions below were asked in the context of serving rural users/rural areas.

General Questions

- Can you please tell us your name, your roles and responsibilities in the fact-checking organization and your overall experience in fact-checking? How long have you been with the organization?

Strategies for Improving Accessibility to Content

- How do you make your services accessible to users with low digital literacy?
- How do you make your services accessible to new technology users?
- Which medium (audio, text, image and/or video) do you use to communicate the outcomes of your fact-checking exercises?
- What primary social media platforms do you use to spread fact-checked information?

Strategies Utilizing Partnerships

- Do you have any partnerships with anyone or any organizations that aid you in reaching users with low literacy or users with low technological skills?

HyperLocal Fake News

- How do you deal with hyperlocal/context specific fake news?
- Do you have grassroot connections for dealing with “hyperlocal fake news”?
- Is there any other possible way that you can think of in dealing with “hyperlocal fake news”? If yes, Can you elaborate what might be helpful.

Building Trust with People

- What does your organization do to increase trust with people who are watching and believing your content?
- What are the challenges that you have faced in building trust?

Education

- Have you taken any proactive measures to educate people of the above-mentioned background of the dangers of fake news and the need for fact-checking?
- What more do you think can be done or needs to be done in this direction?

Concluding Questions

- What are some of the things that your organization wishes to implement if provided with enough resources to make fact-checking services broadly accessible to diverse audiences?
- Is there anything else you would like to highlight, any challenges, or need for support in a particular direction?
- Ask them for more organizations that we can speak with!

Thank you for participating in this interview! Feel free to ask us any questions about the research. The manuscript and transcript will be available on request and the final research report will be sent to you at the end.

B CODEBOOK

Theme/Code	Theme/Code
Increasing Accessibility	Increasing Awareness
<i>Practices in increasing accessibility</i>	<i>Practices in increasing education about fact-checking</i>
Perform audio fact-checking	Educate through government, policy, and curriculum
Cover topics that have impact on people	Design specialized education programs for different regions
Fact-check in multiple languages	Develop educational materials for people with low digital literacy
Communicate fact-checked information on messaging platforms	Increase awareness to build trust around the fact-checking process
Use newsletter and WhatsApp tipline to reach out to people	Use physical materials to educate about fact-checked information
Disseminate fact-checked information on social media platforms	Make video content due to its effectiveness over long-form text
Use short videos on social media platforms	Form government partnerships
Add elements of entertainment when disseminating content	Form partnerships with NGOs
Use instagram infographics	Form partnerships with schools
Make video content due to its effectiveness over long-form text	Form partnerships with the police to make ground level impact
Collaborate with well known people/celebrities	Build trust by showing evidence
Publish fact-checked information on websites to increase visibility	Organize outreach programs
Fact-check in vernacular languages to build trust	<i>Challenges in increasing awareness about fact-checking</i>
Form partnerships with other fact-checking organizations	To convince stakeholders to spend on media literacy
Cooperate with gatekeepers to spread information	To scale educational programs with limited resources
Form government partnerships	To scale outreach programs from pilot level
Form partnerships with NGOs	To get people to question online content
Use WhatsApp tipline to process large number of claims	Increasing Reach
<i>Challenges in increasing accessibility of fact-checks</i>	<i>Practices in fact-checking hyperlocal fake news</i>
Social media platforms are not accessible to everyone	Design specialized education programs for different regions
To fact-check the large amount content on social media	Place local fact-checking teams on the ground
To identify misinformation embedded in videos	Sort and identify misinformation specific to regions by languages
To deal with opposing views	Use different platforms based on local usage
To scale support to fact-check in more languages	Disseminate hyperlocal fact-checks to affected regions only
To reduce harassment faced by women on messaging platforms	Not over-spread hyperlocal fact-checks on big news platforms
To scale geographically with limited financial and human resources	Build capacity for stringers to tackle hyperlocal misinformation
To work with platform privacy to secure personal information	Form partnerships with the police to make ground level impact
Technological structures that perpetuates spread of misinformation	Form partnerships with schools
To build trust with communities takes time	Automate the process of grouping similar hyperlocal fake news
To perform fact-checking in rural areas	<i>Challenges in fact-checking hyperlocal misinformation</i>
Law enforcement is far away from rural areas to contain fake news	To place local teams across regions with limited resources
To develop apps with limited resources	To penetrate misinformation on WhatsApp as opposed to dhabas
To deal with general public distrust of fact-checking organizations	
Older generation is less receptive to be fact-checked	

Theme/Code
General
Spread of misinformation
General challenges with the spread of misinformation
General challenges of fact-checking
Fake news are debunked only when they are trending
Prioritize debunking misinformation based on potential harm rather than geographical areas
Debunking hyperlocal misinformation is difficult
Rural users consume more social media content than users in metropolitan areas
There is a need for automated fact-checking
There is a need for education on fact-checking
Believe that technology has limited power in sourcing news and verifying information
Fact-checking business model