Mobile Vaani: A Voice-based Community Media Network for Social Development

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My recent book, *Technology and (Dis)Empowerment: A Call to Technologists*, is an attempt to understand why digital technologies designed for social development often go wrong, and how they can be done in a better way [1]. It builds upon my experience with co-founding and co-leading Gram Vaani - *http://gramvaani.org*, a technology based social enterprise in India that operates voice-based community media networks in rural areas. Other than discussing digital technologies in general, the book outlines in detail our experiences with using community media for development and the challenges we encountered along the way. The book also discusses the relevance of community media forums to guide technologists in understanding the impact of their technologies and managing or re-designing the technologies accordingly for more responsible outcomes. I discuss the following aspects of community media and development in detail in my book:

Relevance of voice-based communication through Interactive Voice Response (IVR) systems. Being able to interact in voice is the lowest common denominator for information systems to make them accessible even by less-literate populations. Mobile Vaani (MV), our community media platform, runs primarily over IVR systems – people can initiate a call to the MV telephony servers, the servers cut the call and call the callers back, thus keeping the service free of cost for them, and callers can then listen to audio messages or record their own messages and share them with other callers [2]. The service does not require smartphones or the Internet. If people do have access to the Internet though, then they can also use the same service over an MV Whatsapp bot and an Android application.

Value of participatory media for behavior change communication. External experts may share recommendations and best practices with a community, but people are more likely to take up these suggestions if they are appropriately contextualized and echoed by other community members [3]. MV encourages people to share their stories and experiences, in their own voices, on various aspects such as agricultural practices, health and nutrition behavior, social issues such as early marriage and domestic violence. Impact evaluations have validated that this bottom-up contextualization of messages by members from the community is able to accelerate behavior change [4].

At the same time, communities are not internally homogenous, and community media which is able to ensure representativeness in expression from different social groups and multiple stakeholders is able to provide diverse perspectives to people. This diverse expression serves an important learning role and fosters plurality, which, as our surveys have revealed [5], helps build a greater understanding among community members about issues faced by poor and marginalized populations. This is an essential role that

media needs to play in a democracy, and our experience shows that well-curated community media can play an instrumental role towards this. I use Gordon Pask's conversation theory [6] and Mark Granovetter's Strength of Weak Ties hypothesis [7] to discuss this learning function of community media.

Self-expression as a means of empowerment. When marginalized communities voice themselves and can have their issues heard by thousands of other community members, this act itself is significantly empowering for them [8]. Countless cases of landless labourers talking about unfair sharecropping arrangements, stories about poor living conditions of workers who migrate to cities for work in factories, and challenges faced by women workers engaged in informal home-based work with no social security and with below minimum wage work arrangements, have not just made them more confident to engage with those who hold power over them, but also helped us and our collaborators to write research reports and advocate for appropriate policy interventions [9, 10].

Community media as a tool for social accountability. Community media also plays the role of a watchdog over local power holders. MV encourages people to record grievances about problems faced by them in accessing government schemes, such as unpaid or delayed wages under employment guarantee programmes, exclusions caused by flaky operations of fair-price shops for subsidized food, poor quality services provided by public health facilities, and technological problems faced by people as social protection access is increasingly digitized. These grievance recordings are published publicly on the MV platform, forwarded to relevant government officials over the phone, and shared on social media channels of different government departments. This helps draw the attention of authorities and administrators and prompts quick and appropriate action [11].

Relevance of a local community volunteer network. MV is not just a digital platform – a crucial element is the offline network of community volunteers who support MV's work on the ground. The community volunteers come from diverse backgrounds themselves and are unified in their passion to resolve developmental issues for their communities. They inform community members about MV – how to use it and benefit from it, consciously reach out to under-represented social groups to give them a voice, engage with government officials to resolve grievances, and regularly report issues of local relevance that sensational mainstream media often does not consider important to carry itself. In particular, the volunteers were instrumental in providing relief services to vulnerable populations during the COVID-19 lockdown in India when people were overnight rendered without income, food, and cash, and benefited significantly from the agile assistance provided by social

workers and non-profit organizations who had feet on the street [12][1].

Federated locally managed public spheres for a deliberative democracy and an example of responsible governance of technology. Inspired by Habermas' concept of federated public spheres for deliberation and learning [13–15], MV's design has evolved over the years and now operates not as a monolithic social media platform but as a federated network of local community media instances. Each instance of MV has its own unique phone number and information channel, which provides an opportunity for hyperlocal customization as well as to build local ownership among the community volunteers. Groups of volunteers are organized into district-level volunteer clubs and collectively decide locally relevant use-cases such as topical programmes to create or strategic advocacy campaigns to run. Organizing volunteers into clubs also helps foster mutual accountability and solidarity among the volunteers, much as seen with Self Help Groups (SHGs) and cooperatives, and over the years these clubs have become community institutions in themselves. Volunteer attrition at MV is near-zero and the local instances operate autonomously. We have extensively documented the incentives that drive MV volunteers [16].

As any other participatory media platform that encourages self-expression, MV instances also stand the risk of turning into echo chambers, mediums of hate speech, and polarized political viewpoints. All content on MV is moderated by a team of trained central moderators of Gram Vaani who follow clearly laid out editorial principles such as verifying the veracity of any allegations or grievances before they are published, ensuring that all messages are spoken in a respectful tone, and by encouraging diverse viewpoints [17]. Messages conveying novel and different perspectives are ranked higher to ensure that a more complete picture of any issue is conveyed to the users. Central moderators, however, may not always understand the local context, and active back-channel communication is encouraged between the moderators and volunteers to provide crucial nuances that determine which messages are published and highlighted. We have also recently developed an application for distributed moderation through which this editorial control can be delegated to experienced volunteers as well.

Along with managing local instances to encourage plurality, the moderators also actively cross-publish content across different instances. This further enables communities to discover new perspectives and have themselves get heard across geographical and thematic boundaries.

Sustainability and agenda-setting of community media. MV has so far been sustained financially largely through grants for focused programmes on development issues, or through internal margins earned by Gram Vaani from technology services. At scale, we envision that advertising campaigns and micro-grants from crowd-funding assignments can add new revenue streams. It is a continuous struggle though to keep MV running, despite it being an extremely useful and impactful service for rural and low-income communities [18]. We are especially keen to explore a new opportunity from data sales of the audio recordings contributed by MV users. The speech data is apparently quite useful for companies providing speech recognition services to improve the accuracy of their machine learning models [19]. We want to explore a commons-based model so that any revenues from the speech data sales are channelled back to the community to support [20], for example, volunteer stipends, offline campaigns to improve social protection measures, enable transitions to more climate resilient land-use alternatives, etc.

The book, which is aimed at technologists overall, discussed the relevance of such community media forums from two standpoints. First, as a public sphere for society to discover values that technology projects for social good should follow. Ethical values underpin the definition of what is social good, and these need to be democratically identified by society through deliberation, for which participatory media that respects plurality is essential. Second, as a public sphere for technologists to get connected with the users of their technologies. This linkage is essential for technologists to understand the diverse contexts in which their innovations may be used, and to be mindful of steering their technologies as new unanticipated scenarios emerge that require careful management or re-design.

Community media forums can thus help align the values driving the work of technologists with the values deemed important by society, and create forums of deliberation through pluralistic mechanisms to discover the values essential to solve the current challenges of climate change, poverty, exploitation, and inequality.

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