



Mobile Vaani: A voice-based communication platform for the BoP
Gram Vaani Community Media Pvt. Ltd.
New Delhi, India

1. The problem

Most social development programs have an IEC (Information and Education Communication) component to inform and make the target beneficiaries aware of the development programs, reinforce key messages that need to be conveyed to them, or provide a helpline through which beneficiaries can resolve their doubts and ask for assistance. In practice however, several gaps have been noticed in the traditional ways in which IEC activities are built:

- **Informing and making people aware:** Typical methods used here are newspaper ads, TV and radio announcements, or hoardings and wall paintings put up at strategic locations. However, it is well known that print, TV, and radio are not effective at reaching the target demography – typically categorized as SEC (Socio Economic Profile) D and E, mass media access to this SEC segment is under 10% in most of North and Eastern India including UP, MP, Bihar, Jharkhand, Chattisgarh, and Orissa [SEC]. Further, these mediums are not interactive and model the audience as passive listeners, also known to be less effective [Digital Green, Gram Vaani]. It is not surprising therefore that even decade old flagship schemes like MNREGA are not known and understood by everybody.
- **Reinforcing messages:** Most social development projects that aim to touch communities do so via NGOs that hold field workshops and training sessions. However, often these are one-time engagements and are repeated infrequently, maybe a couple of times a year, and due to logistic issues with organizing physical meetings often the same set of participants are not repeated across consecutive workshops. Behavior change communication requires repeated messaging to create resonance, often from different media at the same time [CLP]. Therefore the development messages are often not reinforced, especially true for messaging related to adoption of better maternal health, nutrition, hygiene, and sanitation practices.
- **Responding to community needs:** Several models for grievance redressal or information assistance have been tried, using call centers in grievance cells, or physical kiosks that serve as sahayata kendras, or training armies of volunteers to help their respective communities take up new development programs. A detailed cost-benefit analysis of these different modes of community assistance is much needed, but it is well known that bottom-up media eco-systems can serve a role of strengthening both knowledge sharing as well as enforce accountability and trust among local stakeholders. Local experts can respond to queries more efficiently than centralized experts. And responsiveness from local officials can be improved by using local media, to create a culture of a pro-active push towards improved performance rather than a reactive culture of filing grievances [M4D].

Gram Vaani is a strong advocate of community media eco-systems that can address many of the challenges named above. A media eco-system embedded in the local community can serve as an outreach arm for announcements and information about development programs, can sustain messaging over long periods of time for behavior change, and can also serve as an information and accountability forum. Community radio, and its mobile iteration innovated by Gram Vaani as part of the Mobile Vaani platform, have validated these solutions to a large extent.

2. The solution: Mobile Vaani

The genesis of Mobile Vaani lies in the community radio movement of India.



Mobile Vaani network: 500,000 households in JH, BH, NE, UP, MP, OR, UK, HR, HP Over 40 deployments of GRINS with community radio stations across the country

a. Community radio in India

The participatory philosophy of content development for community radio distinguishes it from the way commercial stations operate [Zahir thesis]. With a typical FM broadcast radius of 15-20km, it is designed to cater to the immediate community by involving them in the content production process. Stations achieve this in several ways, including the recruitment of staff and volunteers from the local community, regular tours of the surrounding areas to interview people and capture their opinions and concerns, and increasing now to use mobile phones with voice and SMS interactions to involve the community. These participatory processes help keep the content contextual and relevant for the community. This in turn, helps address the problems listed above:

- Awareness and information dissemination is more effective when it is done in the local language, referring to local aspects, and is likely to see much more uptake
- For the same reason, local programs produced with a long term agenda and by involving the community in discussions and debate on the topic, are likely to be more successful at initiating the community members towards behavior change
- And finally, providing the community with its own communication medium gives them a voice which can manifest itself to ensure greater accountability, articulate their information needs, and also community perceptions

Despite community radio being a strong medium to solve several problems ailing development programs, the Indian context presents several challenges. Due to a tight licensing regime in the country, the rate of allotting licenses to new stations is very slow. While there is room for 4000+ community radio stations in the country, so far there are hardly 150 stations. Hence even the combined footprint of the community radio stations in India is quite limited. Additionally, the stations are all operated by different organizations, including NGOs, Krishi Vigyan Kendras, educational institutions, etc. As is expected, each organization runs its community radio station in its own way with different processes, and hence a standardization of approach towards using stations for development programs is missing. Finally, due to limited financial resources, only a few stations utilize technological advances through SMS and voice, which holds the potential to make their operations more efficient and widespread.

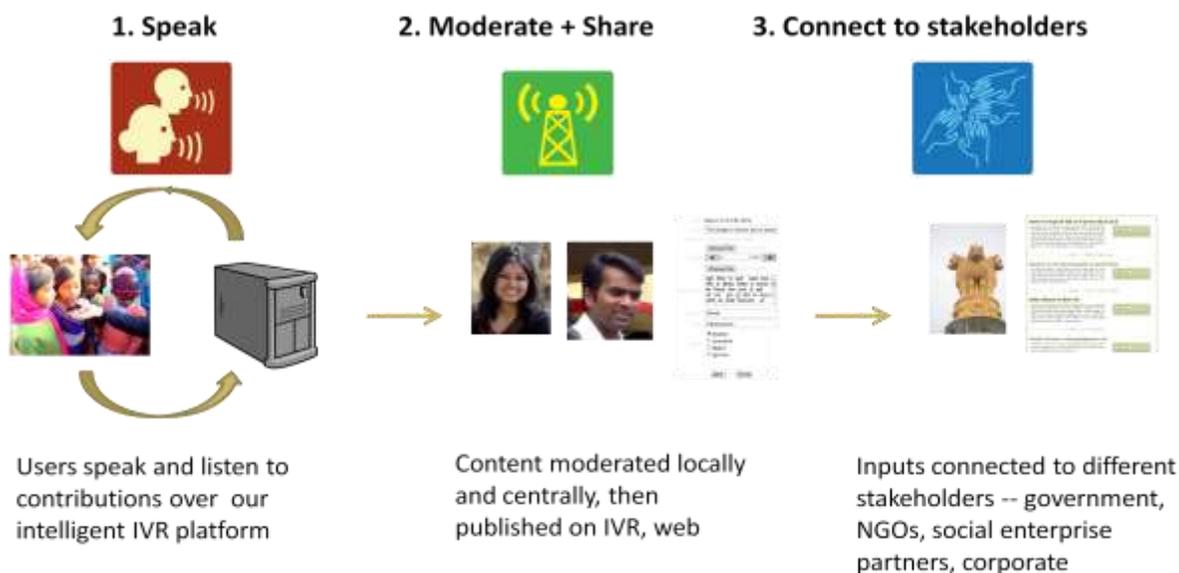
Gram Vaani first experimented with tackling these problems by running campaigns on MNREGA, PDS, and RTE across 5 community stations [CR campaign]. The prime characteristic of these campaigns were:

- Use of Gram Vaani’s **GRINS (Gramin Radio Inter Networking System)** community radio automation system to use SMS and IVR for community engagement, to evaluate the hypothesis that can these technologies help improve the degree of community engagement
- Standardized process of running campaigns across the stations, but with localization for each station. This was achieved by first asking each participating station to run a survey on the government schemes by interviewing multiple stakeholders to understand the local scenario. The survey results were then shared with the Gram Vaani team that helped the stations contextualize program development suited for their respective communities. The process of community participation was also standardized through the use of GRINS, to collect ongoing feedback from people and air it as a part of the program.

The method was quite successful. Stations appreciated the campaign process as a capacity building exercise for themselves, and the use of technology indeed helped them collect more inputs and opinions from their community than what they could otherwise manage through physical interviews. However, the small footprint of community radio stations was still a concern, which Mobile Vaani solved as explained below.

b. The development of Mobile Vaani

Mobile Vaani can essentially be considered as a phone based equivalent of community radio. It uses IVR (Interactive Voice Response) systems to enable an application where people can call a phone number and leave their messages, or listen to messages left by other people. This turns Mobile Vaani into a bottom-up knowledge sharing platform. People can share questions and answers related to agricultural information, health practices, give their feedback on government schemes, and even express themselves through folk songs and poetry. Being accessible over a simple phone call, Mobile Vaani can thus also jump illiteracy barriers by relying exclusively on voice-based communication.

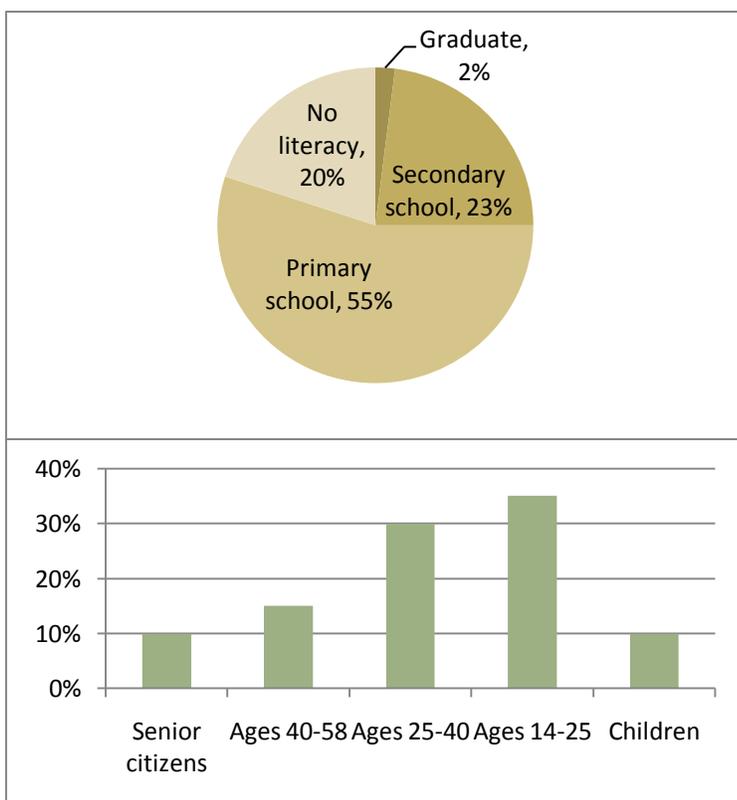
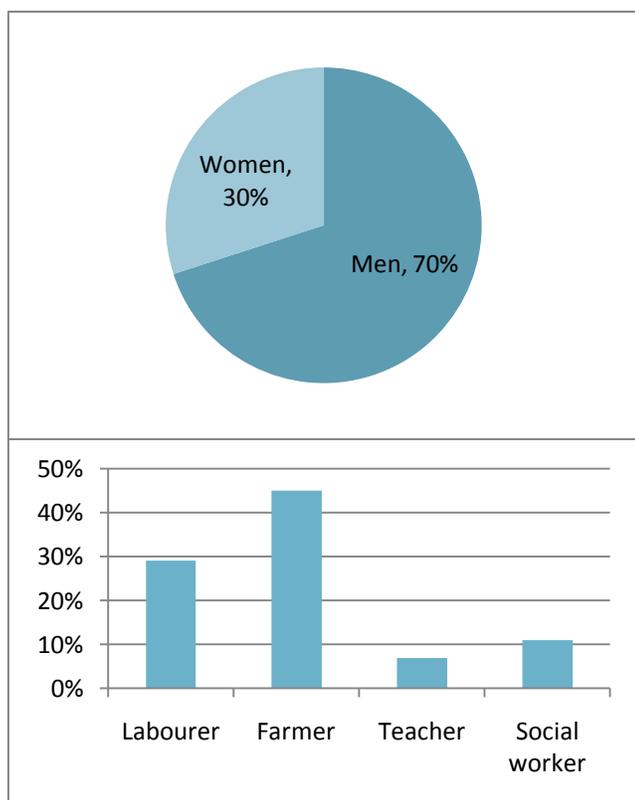


It solves the problem of the small footprint of community radio stations, since it can be set up easily without any regulatory hassles and can be accessed from anywhere. Our existing networks in Jharkhand, Bihar, and the North East, have a combined call volume of over 5,000 calls per day and which is steadily increasing.

It also allows several different styles of content formats, ranging from simply playing audio programs that people can listen to over the phone, to asking people to comment on specific questions that can be woven into a separate feedback program to generate more comments, and also solicit structured feedback in the form of multiple-choice-questions for community surveys that can then be discussed in the community. The forum is moderated by a team of content managers who are recruited locally from different Mobile Vaani geographies so that they can understand the context, and are trained to coordinate discussions on the platform.

Finally, it integrates seamlessly with community radio stations, wherever they exist, since the stations can operate their own local Mobile Vaani iterations to supplement their program broadcast. Stations can also make their content available on Mobile Vaani so that listeners outside the FM broadcast radius can also call and listen to the content. Further, appropriate training of the stations on Mobile Vaani can help them execute campaigns in a standardized manner, thus enabling syndicated campaigns across a network of stations.

Mobile Vaani can thus serve as a communication platform for communities to address the challenges outlined in the previous sections. We have done some very successful campaigns on topics such as crowd-sourcing of data for assessment of health facilities, understanding community perceptions on the reasons for rural-urban migration despite several government schemes that are trying to counter it, involving communities in active discussions on gender empowerment and early marriage, etc [Social campaigns]. Some of these campaigns were purely online campaigns on Mobile Vaani with an objective to raise the awareness of people on these topics, while some also had a significant offline component as the primary activity that was reinforced with Mobile Vaani campaigns.



Other than the technological innovation, the most significant feature of Mobile Vaani is our strategy to activate new communities to participate on the forum since it is the participation of people that drives the usage of the platform. This activation is done in different ways, considering different target demography segments we want to involve:

- **For SEC D and E:** The only reasonable way to publicize Mobile Vaani among this demography is through offline field workshops, since the population does not access mass media and is not easily convertible through BTL activities like hoardings and wall paintings. All Mobile Vaani geographies therefore have their respective field teams of community managers. A large set of volunteers are also incentivized to work closely with the community managers to popularize Mobile Vaani, help in content acquisition, and add more users.

So far in Jharkhand, the team has worked closely with local NGOs who have helped introduce us to the communities and tell them about the platform. In Bihar however, we have partnered with NRLM's (National Rural Livelihood Mission) JEEViKA program, which has helped organize ToT (Train the Trainer) workshops to train their community resource personnel, who in turn go back to the SHGs managed by them and tell them about the platform. JEEViKA like networks can prove instrumental for the growth of Mobile Vaani since they simply the task of layering a communication platform on a pre-existing offline structure.

Other partnerships we are working with include with the National Rural Health Mission to leverage the network of ASHA workers and in turn provide them services for helplines, or data collection for health service accountability, or technologies to assist them in their day to day work such as to provide ante- and post- natal care. We are also working with Panchayati Raj Institutions proposing an end-to-end community engagement and government coordination suite for Panchayat members for local governance, through which they can collect inputs from the citizens, convey government directives and opportunities to them, and keep track of fund utilization and demand planning.

- **For SEC C:** This segment is reachable via mass media such as print, and indeed comprises the demography dividend of the country marked by ambitions for economic growth. We are beginning to launch print ads to publicize some key services on Mobile Vaani, including being able to listen to job openings, live conferencing with career counseling agents, audio packs on interview and employment tips, etc. Such specific services are of interest to this segment.

These methods are enhanced with virality features such as forwarding of messages to friends, 'liking' messages, etc, which tap into the social network of participants to further expand the base and increase stickiness of users.

We thus employ unique methods of user acquisition to bring online and make reachable a demography that is otherwise not accessible via interactive media such as the Internet. This gives Mobile Vaani a leadership position in building an expansive community media eco-system for rural and low-income areas, which can be used for development programs and also directly by the community as a public sphere for deliberation, entertainment, and self expression alike.

3. Leveraging Mobile Vaani for social development

As has been mentioned, Mobile Vaani primarily brings three benefits to local communities: it serves as a medium for bottom-up knowledge sharing, a tool for behavior change communication, and an open forum to bring accountability and transparency in the working of local service providers. We outline some details and experiences in this direction:

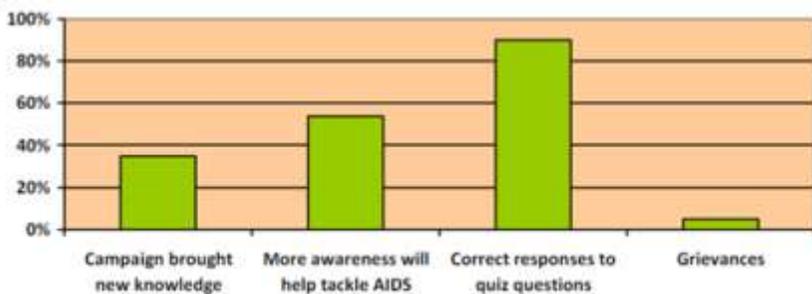
- **Knowledge sharing:** In the domain of agriculture, we allow community members to ask questions on Mobile Vaani. These questions are conveyed to a pool of resource experts we have identified from among local NGOs and development organizations, specifically PRADAN in Jharkhand and Drishtee in Bihar. The experts answer the questions, and the question + answer snippet is posted on the forum for the benefit of other callers as well. This has helped us build a unique combination of bottom-up needs identification based on the questions asked by

people, and supplement it with corresponding relevant top-down authoritative content developed by PRADAN and Drishtee experts. The community thus gets the best of both worlds, high quality educative content, necessary parts of which are contextualized for consumption by the community.

In the same way, this method can be applied for health awareness, financial literacy, employment needs, etc.

Dr Virendra Singh, Project Director, JSACS spoke to JMR and shared with the listeners of JMR various information related to AIDS. He said that AIDS is an infection not a disease. It is transmitted by three main ways: unprotected sexual contact, exposure to infected body fluid or tissues, and from mother to child during pregnancy, delivery, or breastfeeding. With medical technology improving very fast these days the child in the womb of the mother can be protected from being infected. WHO has a programme of awareness called ABC, which means A for abstinence, B for be faithful to your partner and C for condom, as explained by NACO. Person infected by AIDS can stay healthy by regular treatment and proper lifestyle. He said one should have a positive attitude towards life even after being infected by AIDS, as AIDS doesn't mean the end of life.

Dr Virendra Singh, Project director JSACS:
About the ABC approach to avoid AIDS, infection Vs disease, and government run ICTC centers for free ART treatment and medicines



- **Behavior change communication:** We mentioned earlier the unique content programming method we have developed, called campaigns, where we involve the community in discussions about topics as hard as early marriage and gender empowerment which are not discussed otherwise in our target communities. We believe this method can be more effective at initiating behavior change, as compared to listening to programs on radio or television, because the communities are actively involved in a discussion around the issues rather than being considered as passive listeners.

महिलाओं के प्रति बदलनी होगी बोगो की मानसिकता

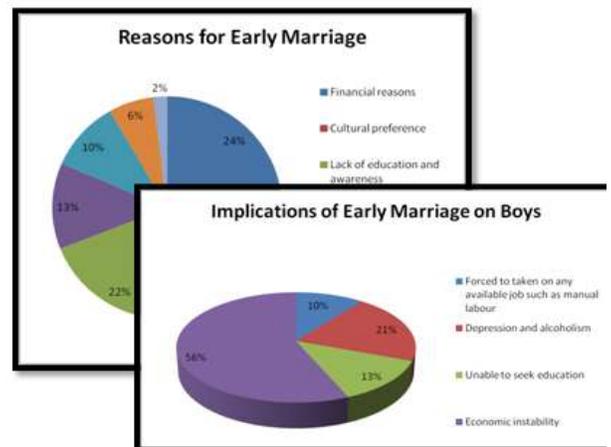
मायावीह बोक्सरो से वासुदेव तुरी ने झारखण्ड मोबाइल वाणी पे अपने विचार रखे और हमें बताया की महिला सशक्तिकरण के सपने देखने से मही बॉम्बे उन्हें हुबिक्त में अपनाना होगा आज भी वेदो की पढ़ में वेदियों की बलि चढ़ा रहे है वेदियों को गर्भ में ही मार दिया जा रहा है. आज हम भले ही इन्वीसटी सटी में पहुँच गए है पर फिर भी वेदों को ही वे सारी समझी नहीं समझने लगे और बन्धा भुंगे हया को हो सके.

March 5, 2013, 8:50 p.m. women

Kasari Panchayat gets even for all

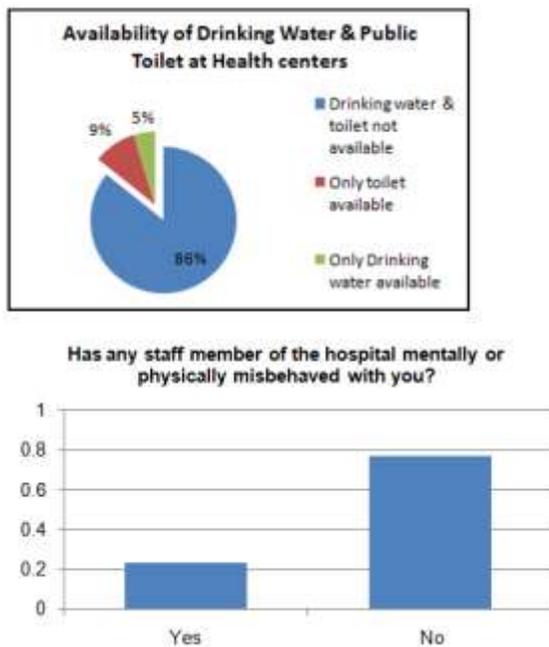
Raju Kumar called from Chatra to talk about the evenness that exist in the social structure in the region. In an interview for JMR Sri Sanita Devi, a resident of Kasari Panchayat said that there is no visible gap in her village. The Women equally participate and assist the Men in agricultural practices, handle the household activities and also participate in micro investment community initiatives by local Self Help Groups. She also said that simply depending on government schemes is not enough, hence they all took initiatives within their community and started doing micro finance to help each other. A twelve member group started doing micro financing with an amount of fifty rupees from each which is given on a minimal interest to anyone in financial need.

March 6, 2013, 9:50 a.m. | Location: Chatra,Simaria,Not known | Topic: gender: SHG: ofam: women



As an example, the campaign on early marriage put up provocative questions to the community, such as why despite the early marriage act which criminalizes such marriages, why do early marriages still happen? What is the affect of early marriage on the career choices of boys? What is its affect on the health of girls? Communities would respond with very contextual issues, such as the problem of dowry which prompts parents to marry their daughters early to save money, or an economic tradeoff between financing school education of sons Vs daughters. These comments are published, and other community members react to them by leaving their own thoughts. The callers are thus animatedly engaged in a discussion on a topic which would otherwise not be discussed in their daily lives. We also take it further by encouraging volunteers from different villages to solicit pledges from the Sarpanch in their village, or get the views of school teachers on the topic and take a pledge from them to discuss this issue in the school. Such ideas which involve people directly in activities or discussion are considered to be more effective at creating behavior change.

- **Accountability:** We have seen accountability loops work in three distinct ways via Mobile Vaani:
 - o **Data generation for social audit:** We ran a two month long health campaign, asking people to report on the status of health facilities in their village. We found that 80% of the PHCs (Public Health Centers) did not have clean drinking water, more than 40% of the clinics had posts vacant, and most significantly several stories were reported of child births happening in the bathroom for lack of a bed, demand of bribes for stitching any ruptured membranes, and several such horrifying stories. The data generated was conveyed to partner mass media agencies including newspapers and several TV channels that carried these stories for several days. Consequently, we got several testimonials from the callers about health facilities actually showing an improved functioning after the campaign. Public pressure imposed through criticism in mass media thus made the service providers more responsive.



झारखंड में स्वास्थ्य सुविधा नदारद, बाथरूम में होते हैं प्रसव

शनि 30 अगस्त - 10:54:34 PM / Wed, Sep 18th, 2013

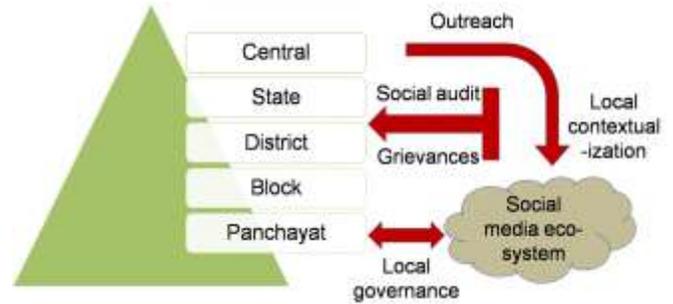
SHARE Like 17



विकास सिन्हा, रांची. झारखंड गठन के 12 वर्षों के बावजूद स्वास्थ्य सुविधा नदारद है. लोगों को कई किलोमीटर दूर स्वास्थ्य सुविधा उपकेंद्रों में इलाज के लिए जाना होता है. इन केंद्रों में भी स्वास्थ्य सुविधा उपलब्ध नहीं होने के कारण लोग निजी अस्पताल में जाने को विवश हैं. झारखंड ग्राम वाणी द्वारा कराये गये कैंपेन में कई बातें निकल कर आ रही हैं. झारखंड मोबाइल वाणी के मोबाइल नंबर पर कॉल कर अपनी विधाओं को gpalindia.com पर अपलोड करवा सकते हैं. 27 अक्टूबर के अतिथि कार्यक्रम में...

In a similar way, we have done surveys on education facilities, the quality of care imparted in hospitals, the state of completed MNREGA works, etc, and have seen similar dynamics when the issues were taken up by mass media.

- **Fear of escalation at the local level:** Several issues of corruption such as unpaid MNREGA wages, UID officials demanding a bribe for enrollment, malaria deaths caused in villages, etc, are regularly reported by the community. Many of these issues are solvable at the local Panchayat or Block level, and often get resolved without any external intervention from our side. This again seems to be because of a fear of escalation of issues that are being put out in the public domain. This mechanism validates how the presence of an inclusive and open communication platform can help communities keep checks and balances between local stakeholders.



Such a mechanism if institutionalized as part of Panchayat duties can help citizens keep a check on local governance issues.

Illegal mining on the bank of Damodar river
 Nraj Kumar Turi from Baghmara block of Dhanbad district called up to complain about the illegal mining near the banks of the river Damodar. He said that if such illegal mining is not stopped then there are chances of labours losing their lives. He requested BCCL to look into the matter.
 Date: 17, 2013, 11:54 AM | Location: Dhanbad, Baghmara, Not K | Tags: mining, agriculture, farmer

Baghmara block, Danbad: Locals report illegal mining in progress in Baghmara. Verified by local NGO

Heavy blasting insecure farmers in Bermo
 Vasudev Turi from Nawadih block, Bokaro called up to inform the listeners of JMR about the heavy blasting in Bermo. The farmers are in serious troubled situation as the government is constructing several power plants, and in order to do so the mountains are blasted out. This results in creating difficult situation for the farmers, the water sources are getting dried up as the ecology is disturbed.
 Date: 7, 2013, 11:51 AM | Location: Bokaro, Nawadih, Not Known | Tags: grievance, mining, agriculture, farmer

Nawadih block, Bokaro: Due to extensive mining, water streams have been diverted and houses are developing cracks

जॉब कार्ड वितरण में गड़बड़ियाँ
 सरायकेला -खरसावा: अखतर हुसैन ने सरायकेला-खरसावा जिला के कृषक प्रखंड के चौड़ा गाँव से झारखण्ड नोबलडन वाली बो बताया कि चौड़ा गाँव में जॉब कार्ड वितरण में भारी अनियमितता बरती गई है, यहाँ पर दूनवनों के दूधरा वैदी -वैदी जेभौ को जॉब कार्ड बनावा दिया गया है जो की 80 साल के उमर वाले हैं जो वही 14 साल के उमर वाले बच्चों को भी जॉब कार्ड बना दिया गया है। उनका कहना है कि चौड़ा गाँव में एक - एक घर में 2 से 3 जॉब कार्ड हैं लेकिन लोगो को कम सही से नहीं मिल रहा है।उक्त: केंद्रीय ग्रामीण विकास मंत्रालय से से अनुरोध है कि इस पर उंच स्तरीय टीम से जॉब कराये जाए .
 Date: 11, 2013, 11:04 AM | Location: Bokaro, Bermo, Not Known | Tags: MNREGA, corruption

Chauda panchayat, Kukar Block, Saraikela-Kharsawan: MNREGA job-cards distributed to 80 year olds and also to 14 year olds. Families have 2-3 jobcards each

- **Institutional linkages:** We also pro-actively try to build direct linkages with government departments and senior administrative officials. We have noticed that actionable issues reported on our platform, when conveyed through official channels to senior officials, bring a high degree of responsiveness from the government machinery. Several cases including widow pension, incidents of domestic violence, ration card defaults, etc, were filed by our team as validated complaints, and brought prompt action from the concerned department.

| Rec# | Opened | Audio | Comment | Type | Reference# | Zone | Responsibility | Action |
|---------|--------------|-------|------------------------------------|------|------------|-------------|----------------|--------|
| AA02292 | Apr 23, 2011 | 0:00 | EVR Post office, Vikas Puri | None | | West | MCD | New |
| AA02324 | Apr 25, 2011 | 0:00 | complaint attended. | None | | South | MCD | Accept |
| AA02331 | Apr 25, 2011 | 0:00 | GURU HAR KISHAN NAGAR M-191-210 | None | | Nazafgarh | MCD | Reject |
| AA02354 | Apr 25, 2011 | 0:00 | west panjabagh 47 no. Road madl | None | | West | MCD | |
| AA02356 | Apr 26, 2011 | 0:00 | dindayal upadhaya marg | None | | City | MCD | |
| AA02371 | Apr 26, 2011 | 0:00 | PVR cinema, Vikashpun, transe | None | | West | MCD | |
| AA02406 | Apr 27, 2011 | 0:00 | Old complaint reference dated 0 | None | | South | MCD | |
| AA02407 | Apr 27, 2011 | 0:00 | B Block Krishna Park, Near Devi | None | | South | MCD | |
| AA02408 | Apr 27, 2011 | 0:00 | Continuation of complaint no. 2 | None | | South | MCD | |
| AA02427 | Apr 28, 2011 | 0:00 | Owarka Sec-18, Abulaya Chowk, B | None | | Nazafgarh | MCD | |
| AA02443 | Apr 28, 2011 | 0:00 | K88/3, Bijli Ghar, Tilak Nagar, | None | | West | MCD | |
| AA02459 | Apr 29, 2011 | 0:00 | President Station Govt. school | None | | City | MCD | |
| AA02463 | Apr 29, 2011 | 0:00 | Mahilpalpur Chatam mohala | None | | Nazafgarh | MCD | |
| AA02475 | Apr 29, 2011 | 0:00 | Burari, Kaushik enclave, B Bloc | None | | Civil Lines | MCD | |
| AA02484 | Apr 29, 2011 | 0:00 | PRESENTATION SCHOOL LAL CHAND | None | | City | MCD | |

We are in the process of building grievance dashboards that are populated by our team based on community feedback, and conveyed to the concerned government officials for their attention. Mobile Vaani can thus serve as a citizen engagement arm for government departments, which plugs its inputs into the right places in the government system.

4. The future of Mobile Vaani

Assuming a population per (medium sized) state of 5cr (50M), we define the addressable market of Mobile Vaani as the ~ 65% of poorly-literate/low-income people who are unlikely to be on the Internet in the next decade, and 40% of that as the market touched by mobile phone penetration. Assuming a household size of 5 members per family, typically noticed as seeing 1 mobile phone per household, this gives an addressable market of 50M households in India or 2.6M households per state or 130K households per district.

Based on our work in Jharkhand and Bihar, we have understood what it will take to scale Mobile Vaani to these heights. Organizationally, it involves expanding all four pillars of Gram Vaani: Technology enhancement and deployment, business development, content management, and community management. The primary cost components include the call cost of running Mobile Vaani free for users, the content moderation cost, and community management cost for offline activation and volunteer incentivization. At scale, the user acquisition cost is Rs 10 per user and user retention cost is Rs 35 per user per user. This cost is to be offset by campaign sponsorships, channel and network sponsorships, and advertisements on Mobile Vaani. Even conservative estimates yield average revenue per user of Rs 90, which can easily fund Mobile Vaani operations and expansion. This revenue estimate assumes a billing rate of Rs 2 impression, which is actually competitive to radio yet providing many more features such as interactivity and access to a remote rural user base:

- Commercial and All India Radio rates for advertisements are of the order of Rs 2,000 for a 10sec spot
- Consider five 30sec spots aired 7 days a week to ensure that 10% of the radio listener base (~ 20L per station) hears the ad at least once
- This translates to a cost per impression of Rs 1 to reach users already accessible via mass media

The future of Mobile Vaani therefore is very bright, with lots to do to scale the platform and bring large scale social impact through improved governance and knowledge sharing. The use of IVR systems and community radio stations

have been a good entry strategy for us to establish a user base, but we will have to continuously adapt Mobile Vaani as new technologies such as USSD [*Utopia*] and smartphones (with Internet access) become popular among our target addressable market.

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- [*Social campaigns*] http://www.gramvaani.org/?page_id=830
- [*Utopia*] <http://www.u2opiamobile.com/>