



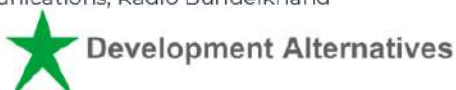
FINAL REPORT

COMMUNITY RADIO STATION: SUSTAINABLE FARMING THROUGH BROADCASTING

2022-2023 Case Studies Cohort
India

This research was conducted by

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Community Radio as a Voice for the Bundelkhand Region | India Case Study

Summary

Climate change communication and education for the communities in climate sensitive regions of Bundelkhand is extremely challenging. They face several vulnerabilities and lacking in strategic and scientific information about climate change adaptation options. Communicating scientific information in a simplified manner that is appropriate and easy to understand for the communities remains critical for adoption of sustainable adaptation solutions. Failure to engage existing local institutions that allow for dialogue and exchange between scientists, local government officials, policy makers and community members further compounds the problem. These huge gaps in climate change knowledge sharing have resulted in failing adaptation information to reach the most vulnerable communities and lack of grassroots perspectives and voice in policy development. To combat these challenges Development Alternatives launched community radio- Radio Bundelkhand- FM 90.4 “Apna Radio Apni Baatein” in 2008. The aim of this initiative is to address climate change sensitivities in the most vulnerable sections of the society and provide them information regarding risks and adaptation measures in locally relevant and easily comprehensible messages. It is also brought grassroots voices and priorities on climate change and development to the attention of the scientists and the policy makers.

The objective of this MECCE Case Study report is to understand the climate change awareness, education and solutions delivered to rural marginalized farming communities in Bundelkhand through climate change communication programmes of community radio station in Bundelkhand. This study highlights the impact of the Climate Change Adaptation Model- Community Radio, Radio Bundelkhand- FM 90.4 implemented in India, Bundelkhand Region by the Development Alternatives.

The research methods used in this study are in-depth interview and focused group discussion for listeners and experts to assess the effectiveness of these radio programmes for climate change awareness and address related informational gaps of the local community (with particular emphasis on the farming community) in the regions in Bundelkhand where the radio programmes were broadcasted and narrowcasted; and questionnaire for radio reporters to identify the scope for better outreach and effectiveness of climate change communications through community radio in Bundelkhand.

The results highlighted that the Radio Bundelkhand sensitising the farming communities of Bundelkhand regarding the need to adapt to the changing climate. Community members have become familiar with new options and government schemes related to climate change adaptation such as line sowing, drip irrigation techniques, water harvesting measures, soil testing, organic composting methods, drought resistant seed varieties, subsidies on constructing farm ponds, subsidies on biogas plants etc. Listening to the climate change radio shows such as Shubh Kal and Khetkhaliyan, a few farmers have adopted ‘no cost adaptation options’ such as field bunding, line sowing, organic composting, use of climate resilient seed varieties and utilising government subsidies on building farm ponds, installing bio gas plants etc. The findings highlight that capacities of community radio reporters in understanding climate change adaptation in the local context should be further enhanced by training modules and knowledge support. This would go a long way in reducing the existing knowledge gap between communities and local level government authorities on climate change issues.

This innovative model of climate communication has proved to be an effective tool for grassroots representation and communicating voices from the ground to scientists, local government authorities and policy makers.

Report

The CCE Initiative

Radio Bundelkhand 90.4 FM, a community radio, is an initiative of Development Alternatives. The initiative aims to provide a voice to the community in the Bundelkhand region. The radio station was established on 23 October 2008 in the Development Alternatives Appropriate Technology Centre at TARA gram Orchha in Madhya Pradesh. Radio Bundelkhand is the first Community Radio Station in Madhya Pradesh and the second one in India. Since then, it has been airing shows for women, youth, farmers, and vulnerable groups, and it reaches out to more than 120 villages within a radius of 15 kilometres.

The media's presence in rural Bundelkhand is either government-driven or its ownership is in the hands of private individuals, with no scope for the local community's involvement. There was virtually no communication platform for rural people in very backward regions to voice their concerns about drought, migration, and farmers' suicides, obtain information, and find solutions.

In this context, Radio Bundelkhand has emerged as a people's radio station that provides a platform to air their aspirations and concerns and showcase their talent. Its participatory and collaborative approach empowers and builds consensus for change. Radio Bundelkhand broadcasts transmissions 11 hours daily between 07:00 am and 6:00 pm. The timings have been fixed in consultation with the communities based on their daily routine; women prefer morning sessions, while men prefer evening slots.

The content for its programs is prepared by the organization based on secondary and primary research through audience polls and expert advice. The content is gathered with the help of experts and other stakeholders in various fields and converted into infotainment programs. These curated programs are then broadcast on the radio station. The information is shared daily, biweekly, and weekly depending on the themes and project deliverables.

Among the other modes of intervention (explicitly prepared to provide extension and advisory services) are Radio Bundelkhand Mobile applications, YouTube Channel Radio Bundelkhand, a WhatsApp group for the community and community radios.

Development Alternatives and the community jointly manage Radio Bundelkhand. The programs are produced with the participation of the local people. Its participatory programming and broadcast model are a mix of awareness, information, and entertainment along to promote local self-governance. All the programs are designed based on feedback from communities.

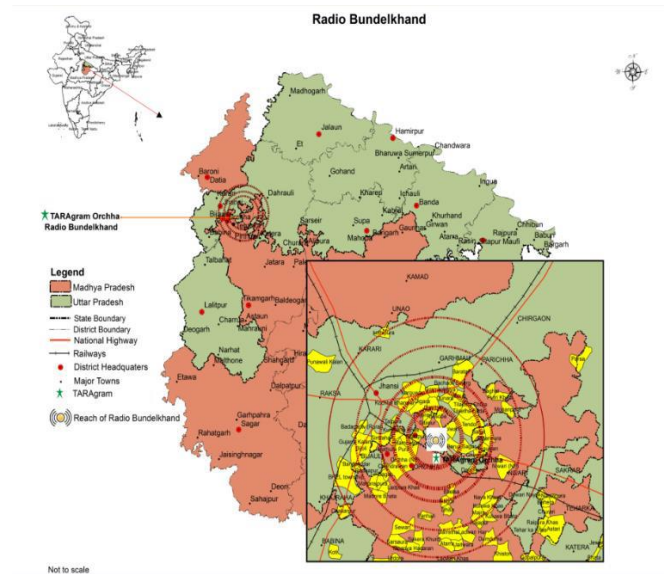


Figure 1: Map of Radio Bundelkhand broadcasting range
Source: Development Alternatives, 2022

The Case Study

Objective:

- To understand the climate change awareness, education and solutions delivered to rural marginalized farming communities in Bundelkhand through climate change communication programs of a community radio station.
- To document the case of climate change communication through community radio programs (broadcasting and narrowcasting) by narrating the aim, activities carried out, target groups for community outreach and the achieved outputs of the program.
- To understand the degree of outreach of the climate change communication program and related training activities of community radio in Bundelkhand.
- To assess the effectiveness of these radio programs for climate change awareness and address related informational gaps of the local community (with special emphasis on the farming community) in the regions in Bundelkhand where the radio programs were broadcasted and narrowcasted.
- To assess the awareness of the communicators i.e., community radio reporters of the community radio stations selected for the project in Bundelkhand about climate change issues.
- To understand whether voices of the marginalized (economic and social) communities and women are represented and addressed in these community radio programs on climate change communication.
- To identify the scope for better outreach and effectiveness of climate change communications through community radio in Bundelkhand.

Case study methods and participants

The research is divided into three phases:

Phase 1: Review secondary literature and existing reports on the project. The first draft of the questionnaire will be built in this phase. The target villages will be selected based on the coverage of the community radio programs on climate change communication, and stakeholders such as community radio reporters, civil society organizations and scientific experts, members of the farming community etc. will be selected in such a way as to ensure adequate representation of socio-economic and gender identities.

Phase 2: Field-visit to the Bundelkhand region to conduct individual interviews and focus group discussions (FGDs) with community radio reporters of the selected radio stations and some of the village communities on understanding their experience, extent of engagement and how the community radio program has impacted their knowledge and practices around climate change. FGDs with different composition criteria for the group will be done - a mixed group, an all-women group, a group of those from economically disadvantaged classes or castes, and other social realities that may need particular representation. Based on the findings of these FGDs, the questionnaire will be revised. Also, these FGDs will be video recorded with due permission. Next, one-on-one interviews will be conducted with the farming community and all those involved in the climate change communication program. The selection of interviewees will be made based on the findings of FGDs. These interviews will be videotaped, with due permission.

Phase 3: Transcribing the interviews, to prepare a narrative report and producing a video to support the case study.

Tools used for Research:

In-depth Interview Schedule and Focus Group Discussion:

- To understand whether voices of the marginalized (economic and social) communities and women are represented and addressed in these community radio programs on climate change communication.
- To assess the effectiveness of these radio programs for climate change awareness and address related informational gaps of the local community (with particular emphasis on the farming community) in the regions in Bundelkhand where the radio programs were broadcasted.

Questionnaire for Reporters:

- To identify the scope for better outreach and effectiveness of climate change communications through community radio in Bundelkhand.
- To assess the awareness of the communicators, i.e., community radio reporters of the community radio stations selected for the project in Bundelkhand, about climate change issues.

Sampling Technique: Purposive sampling will be done to select the geography and target group.

Geography: Bundelkhand (6 districts of Madhya Pradesh and 7 districts of Uttar Pradesh) will be chosen as a geography to research because it is highly prone to recurring droughts; erratic rainfall distribution and dry spells are common. Radio Bundelkhand (90.4 FM) is also situated in the Bundelkhand region.

Target Group: The selection of the village will be made based on the outreach of the radio station.

- 3 Community radio reporters of the radio will be interviewed to assess their awareness of climate change and to understand the program mechanism.
- 3 Experts will be interviewed to understand how they helped in the development of the radio programs.
- 5 Male farmers and 5 female farmers will be interviewed to study the impact of the climate change communication programs and activities of the community radios in Bundelkhand.

Focused group discussion will be done with women, men, youth, scheduled caste (SC)/ scheduled tribe (ST) and mixed groups. To understand whether the inclusivity aspects are taken care of in the program designing and dissemination of the information related to climate change.

Advancing Quality CCE through this Case Study (findings)

The Bundelkhand region of Central India consists of 6 districts of the Madhya Pradesh state (Chhatarpur, Tikamgarh, Damoh, Sagar, Datia and Panna) and 7 districts of the Uttar Pradesh state (Chitrakoot, Banda, Jhansi, Jalaun, Hamirpur, Mahoba, and Lalitpur) (Bundelkhand Development Society, 2021). It is highly prone to recurring droughts; erratic rainfall distribution and dry spells are common. It is one of the most underdeveloped regions of the country with poor human development indices. Large areas of barren and uncultivable land, water shortage, poor quality of the soil, and soil erosion due to high runoff rate adversely affect farming in the region (Development Alternatives, 2012). Since illiteracy is rampant, people here have a shallow perception of climate change risk and resist change. Development Alternatives (DA) have taken several initiatives to conserve and sustainably manage water resources for human consumption and livestock, economic development, and ecosystem health, as well as to strengthen governance institutions, manage water resources, diversify livelihoods, and build resilience in rural areas to deal with climate change. In addition,

behavior needs to change regarding perceptions of climate change risks and resistance to change.

To combat the behavior-related issues, one of DA's innovative solutions is Bundelkhand community radio 90.4 "Apna radio apni baatein", a community-owned and produced radio station dedicated to the concerns of rural communities in the Bundelkhand region of Madhya Pradesh and Uttar Pradesh. Radio Bundelkhand has played an important role in bringing about social and long-term changes in the Bundelkhand region. It is a popular, cost-effective, and non-literate-friendly communication medium and follows the participatory and collaborative approach to empower and build consensus for change. Through community radio, vital dialogues are facilitated among communities, scientists, and policymakers on climate change issues, strengthening community knowledge and voices on the impacts.

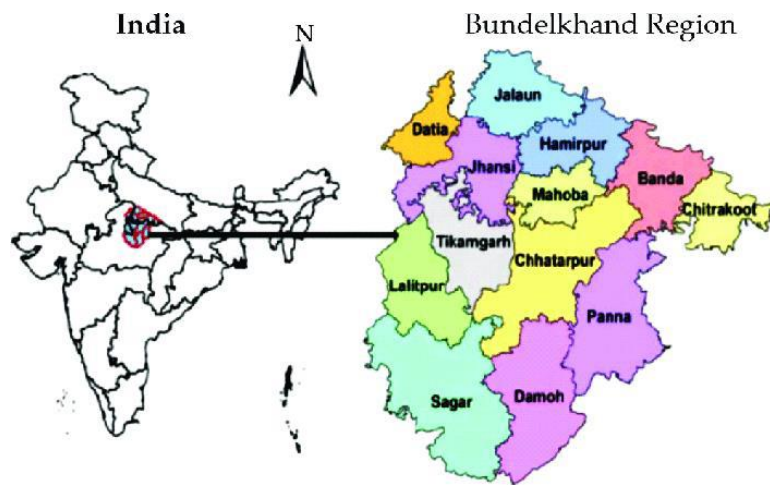


Figure 2: Map of Bundelkhand Region
Source: Bundelkhand Development Society, 2021

The information communicated to the community is through simple messages, appropriate delivery mechanisms, local language, and region-specific cultural norms. The radio successfully facilitated the process of community-based climate change adaptation.

Radio Bundelkhand now has a team of 4 people who completely and dedicatedly work for the community to address their climate change and agriculture-related issues. They provide them with information about agroforestry, climate change, sustainable agriculture (Natural and organic farming, vermicompost, irrigation techniques, seed selection techniques, water conservation techniques, etc.) and other development issues such as women and child development, adult education, etc.

The Radio Bundelkhand not only focused on community awareness and information dissemination, but it also provided capacity-building training to the radio reporters to build their skills, and knowledge and to engage them with scientists and policymakers on local climate change-related issues of their respective communities.

In 2012, Radio Bundelkhand launched a pilot project Shubh- kal (a better future) - From Information to Knowledge and Action was implemented in the drought-prone, climate-sensitive region of Bundelkhand in Central India in 2012- 2013. Funded by the London-based Climate and Development Knowledge Network (CDKN), this initiative aimed to test a communication model on the ground to see if community radio reporters can be an effective link to bridge the knowledge gap on climate change adaptation between the farming community, scientists, and policy makers.

The initiative was formally launched with three more community radio stations- Lalit Lokwani, Radio Dadhkan, and Chanderi Ki Awaaz in and around the Bundelkhand region. The pilot project envisioned linking key stakeholders and bringing local experiences and priorities on climate change and development to the forefront of the community-science-policy dialogue and testing an innovative communication model using community radios with the aim of: Building capacities of local community radio journalists in climate change reporting,

training community radio reporters to bridge the climate change knowledge gap between communities, scientists, local government officials and policy makers, strengthening community knowledge and voice on climate change impacts and adaptation by enabling communities to share their experiences in coping with and adapting to climate change and increasing awareness of the scientific community, local government authorities and policy makers on how climate change is impacting local development.

Capacity building training conducted to familiarize reporters with fundamentals of climate change causes and impacts at the global, national, and local levels, improve their journalistic skills through creative tasks, teach reporters how to make interesting and informative climate change radio programs.

Radio Bundelkhand had worked on climate change issues since 2008 but had not used the 'community scientist-government officials' connect in their show formats. Keeping the climate change understanding of the reporters in mind, simplified terminologies and local examples based on real life experiences were used to explain tricky climate change related terms. It was reasoned that the effects of climate change are directly linked with the daily lives of the communities, thereby making it vital for community reporters to cover such stories. It was also emphasised that the role of the reporters was to inform their communities regarding adaptation measures and help build their resilience to cope with the impacts of climate change.

Besides providing the reporters with an understanding of climate change issues, the workshops also focused on improving their journalistic skills and teaching them how to make effective climate change stories and programs. Skill enhancement of the participants was done through creative tasks such as conducting mock interviews, producing radio plays and short radio stories. The strategy employed at the workshops included providing both theoretical and practical experience to the attending participants. They were guided in how to research story ideas, conduct interviews with the different stakeholders, kind of questions to ask etc. The participants directly interacted with villagers, local scientific experts and government officials to collect information on climate change issues. They had to produce short radio stories based on these interviews. These workshops also provided a platform for knowledge sharing and exchange of experiences between radio reporters from different radio stations.

Selection of the themes for the radio programs

The selection of the themes for the programs doesn't happen in closed rooms. To select themes for each program, radio reporters visit communities to understand community perceptions and issues/challenges related to climate change and agriculture and then decide on strategies and themes for programs. The following are some of the themes used in the programs:

- The perception of community, policymakers and scientists on climate change and the effects of climate change globally and locally.
- Climate-resilient farming practices.
- Agroforestry as a climate adaptation strategy.
- Effects of climate change on water resources.
- Rainwater harvesting and water-efficient irrigation practices.
- Organic composting for improving soil health.
- Renewable energy use in villages such as the use of biogas plants.
- Prevention of soil erosion and conservation of soil quality.

- Impacts of climate change on livestock rearing.
- Use of Argo-meteorological information such as weather, seasonal and monsoon forecasts.
- Effects of climate change on human health.
- Crop insurance and crop loans.
- Climate variability - a cause of migration.

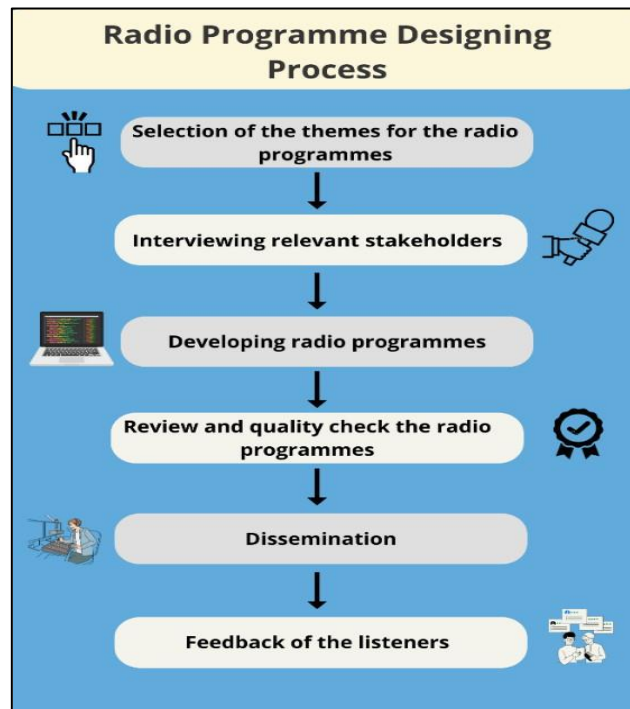


Figure 3: Program Designing Process

Interviewing relevant stakeholders:

The radio reporters first interviewed the farming communities to capture their perceptions and collected their doubts on the related subjects. Then they contacted the scientific agencies such as the Agricultural Professor of the Bundelkhand University, Krishi Vigyan Kendras (KVKs – government agriculture extension centers) and the local government departments such as the agriculture department, the Forest department, the Irrigation department and the health department to collect climate change related information and government schemes relating to the same.

Developing radio programs:

To develop a program an edutainment approach has been used by the reporters. The information was subsequently converted into simple and easily comprehensible messages using an edutainment approach and local dialects. The duration of one radio show is between 15 to 20 minutes. The programs developed in a magazine format for the community's using interviews, radio dramas, jingles, folk songs and talk shows. The following are some of the programs designed for the radio shows:

- Amma Ki Chowkhe Se: Introduced by Radio Bundelkhand to create awareness and inculcate the practice of climate-smart, smoke-free cooking in rural India for cleaner environment, the initiative also promotes good health among rural women.

- **Khetkhaliyan:** Radio Bundelkhand's 'Khetkhaliyan' is an agriculture-based program that recognizes the potential of women as farmers. Community radio reporters approach women and make programs in which they share their experiences as farmers, talking about cropping patterns and techniques they use in farming. The program seeks to highlight women's role in the field, and the crucial role they play in deciding the market price of produce.

Review and quality check of the radio programs

Prior to the broadcast, the programs were checked for errors and improved. The lead reporter constantly reviewed the quality and content of the programs during their development.

Popular Climate Change Adaptation Radio Shows

Kaun Banega Shubh Kal Leader: This was India's first rural reality show on climate change. It promotes climate change adaptation practices such as organic farming, agroforestry, and rainwater harvesting.

Khetkhaliyan: Radio Bundelkhand's 'Khetkhaliyan' is an agriculture-based programme that recognizes the potential of farmers. Community radio reporters approach communities and make programmes in which they share their experiences as farmers, talking about cropping patterns and techniques they use in farming. The programme seeks to highlight women's role in the field, and the crucial role they play in deciding the market price of produce.

Shubh Kal (Climate Change Adaptation): The programme creates awareness about climate change adaptation and natural resource management. The programme highlights the climate change issues the community has been facing for a long and provides them with information about their benefit. The information shared under the Shubh Kal is about kitchen gardening, vermicomposting, amrut-mitti, agro-forestry, rainwater harvesting, organic farming, solar lantern, fuel-efficient cook stoves, wastewater recycling, food processing, efficient irrigation methods, poultry farming, seed treatment, line sowing, organic fertilisers and pesticides, and biogas.

Dissemination of the Programs:

After the production of the radio shows, the programs were broadcasted and narrow casted to the local communities in the outreach areas. The broadcasting of the programs happened at time slots convenient for the farming communities, which was either early morning or at lunch time or in the evening after sunset.

Narrowcasting is the dissemination of information to a limited or narrow set of audiences. To promote the outreach of the programs and to cater to the needs of those community members who missed listening to the programs during broadcast times.

Feedback from the Listeners:

The listeners share their feedback with radio reporters through phone calls and letters. The feedback obtained from the listeners was then analyzed and communicated to the relevant scientists, and government authorities, and finally, the queries were answered by the radio reporters in the next round of radio programmes. Edutainment is a portmanteau combining the words 'Education' and 'Entertainment'. It delivers information and knowledge by means of entertainment for making it enjoyable.

The narrowcasting sessions were also followed by feedback and discussions from the community members. Feedback forms were circulated among the listener groups to capture their response on the radio programmes. With the aim of communicating voices from the ground to the scientists and local government authorities, radio reporters communicated feedback from the narrowcasting sessions to the experts.

Varsha Raikwar, Radio Reporter, Bundelkhand Community Radio:

"Shubh Kal is the brand program of Radio Bundelkhand which is very much liked and appreciated by our listeners because in Shubh Kal program, we talk totally about climate change, we explain to them that change in weather cycle means climate change. Shubh Kal program is popular in our Bundelkhand and one of the reasons for its popularity is "Bhairon- Bhauji". This would be a five-minute segment in the program but whatever information they shared about climate change was appreciated by the listeners because it was all said in the local language, Bundeli. Listening to this people used to get incredibly happy saying that on the one hand we are getting information and on the other hand we are also getting entertained. After listening to this, the other 5 radio stations who are also our partners broadcasted the same program on their respective radio stations as well and the response they received as also very well."

Stakeholders Responses:

Climate Change Communicators' (Radio Reporters) view on the Climate Change Programme:

The three radio reporters (Varsha Raikwar, Manish Samdhiya and Matadeen Kushwaha) of radio Bundelkhand has been interviewed to understand the programme mechanism. They highlighted that when they started talking about climate change (*Jal- vayu Parivartan*) with the community, they learned that the community was unaware of it. There needs to be more knowledge about climate change. They just know that rainfall pattern is unpredictable, summertime has increased, the weather is fluctuating, and water retention is very low in the area. Still, they need to have factual knowledge about climate change. Then the team started working on these collected community issues/challenges and contacted the experts of KVK, the agricultural department, etc., to address those issues. Then they design the programme according to the community needs and awareness. The programme designing mechanism is mentioned above (Fig.3).

The radio Bundelkhand is an open source of information for communication. Radio reporters provide them with information about climate change adaptation, motivate the members to come up with their issues, and help them create content/programmes. The working environment and mechanism depend entirely on community interactions and responses. The radio shows are entirely designed in the Bundeli dialect to engage with many listeners.

Manish Samadhiya, Radio Reporter, Bundelkhand Community Radio (Working at Radio Bundelkhand for the past 14 years):

"Whatever content we run on Radio Bundelkhand, it is only in Bundeli because if we speak in Bundeli, then more listeners join us. they like it when their language is spoken. Along with this, there are traditional genres, there are stories in the Bundeli language, there are poems, and people in our community like to listen to them. We run a program called Khetkhaliyan on the radio Bundelkhand. For this program, we research the content. For research, we go to the villages and identify the problems of the farmers. This is how we get the content. Once we identify the problem, we take that problem to the expert who then provides us with a solution. Radio Bundelkhand acts as a mediator in this process. After we come up with a solution to their problems, then here we edit, package, and broadcast the programs".

The team has got climate change adaptation capacity building training under the *Shubh Kal* programme, which enhanced their skills and capacity to work on climate, water and agriculture topics. They also motivate the community to participate in programme designing, singing and recording folk songs on climate change, writing and reciting poems and storytelling.

Experts' view on the Climate Change Programme:

Bundelkhand University Agricultural Professors has been interviewed as an expert. They highlighted that radio reporters frequently contact them to collect information related to climate change and sustainable agriculture. The process of interviewing experts is not limited to phone calls, online and in-person meetings. They have been invited to the radio station for talk shows and live calls. On talk shows such as "*humari tumhari baatein, humara ganv humari pehchaan and ass apss*" where the experts are allowed to talk directly about the issues/ challenges related to climate change and agriculture. In live shows, experts directly connect to the community members and farmers to answer their queries. Through the radio, Bundelkhand bridged the information gap between the "information- scientists (experts)- community members". This helped the community get hands-on information about the challenges they faced during farming and climate change.

Prof. Santosh Pandey, Assistant Professor Institute of Agricultural Sciences, Bundelkhand University, Jhansi, Uttar Pradesh:

"Farmers in Bundelkhand face a lot of issues. By default, farmers don't have a lot of opportunities to work. There is a lot of scope and possibilities for organic farming here. The reason is that the farmers do not have a lot of information about organic farming, and this creates a good opportunity to work in this field. I'd heard about Radio Bundelkhand before. I was introduced to Manish Samadhiya who shared the issues of framers with me, and I provided him with the solutions for the farmers. This allowed me to connect with the community radio which made me believe that I can help the farmers by being an agriculture expert/scientist. Farmers mainly ask about 3-4 issues. Firstly, farmers here do not have much knowledge about seeds. Here farmers sow grains in winter, they do not sow seeds at all. Secondly, there is a lot of water problem here. There is hardly any water to drink for people, so farming is a challenge. Also, they have very little knowledge about the time to plant. Farmers have no idea about burning issues like global warming and climate change. Whenever I have been interviewed by farmers on Radio Bundelkhand, they always ask me about these issues. The biggest issue is that farmers do not know when and what nutrients to provide to the plants."

Prof. Dr. Satyavir Singh Solanki, Assistant Professor Institute of Agricultural Sciences, Bundelkhand University, Jhansi, Uttar Pradesh:

"Radio Bundelkhand is a medium where farmers meet experts like me where they discuss their issues and exporters as I and other fellows provide them with solutions. Radio Bundelkhand calls us experts from time to time and we have one on one interactions with the farmers, this helps in spreading awareness. The situation today is such that a lot of organic production happens in Bundelkhand and in the coming time Bundelkhand region will emerge as a good hub of organic produce for the Uttar Pradesh Government. Radio Bundelkhand is like a blessing for farmers and the public because it brings the problems from the grassroots level and there is knowledge enhancement of these people via experts and scientists i.e. the one who has doubt and the one who has a solution, Radio Bundelkhand is doing the job of connecting these two very well and for this any amount of appreciation will be less."

Listeners' view on the Climate Change Programme:

Three villages- Ladpura, Pajanpura and Ujyan Patha were selected for the community interviews and focused group discussion. Total 10 farmers (5 male and 5 female) from the above-said villages has been interviewed, and total 6 focused group discussions (women group, men group, SC/ ST community, youth, 2 mixed groups) with different group have been done with the communities.

Matadeen Kushwaha, Radio Reporter, Bundelkhand Community Radio (Working at Radio Bundelkhand for the past 14 years):

“People know about the purpose of community radio is to serve the community, by the community, and for the community. The specialty of this radio is that it's different from others. Community participation is 50%, which makes it different. It allows the people of the community to join directly. No restrictions apply to the community here. If the community goes to another radio, they will not be able to speak in their language, making them feel anxious. Community radio differs from other private radio stations in this way. Our content is provided by the community, and 50 percent of the community participates. When we go to the community, we get many types of people, someone requires ration or someone needs knowledge for their farming. For example, now is the time of wheat cultivation So the wheat plants of the farmers are turning yellow. The farmers need

During the interview, farmers highlighted that the radio programme enhanced their knowledge and provided solutions to the issues/ challenges they have faced for a long time.

A Farmer Dheeraj Vanshkar, Pajanpura Village, Radio Listener:

“I have been listening to RB since the past 13 yrs. That one year I did not know about RB because I was a student and had no idea what channel radio Bundelkhand is. Once I got to know about it since then it is like a song recorded on a chip. We have the information about farming through Radio Bundelkhand only. Now the times are such that radio Bundelkhand has shares information for the poor that there should be small work and big profit. We have learned a lot from Radio Bundelkhand, about organic fertilizers. Put organic fertilizers in the field. Whatever the crop, use that fertilizer, there is a good flower and a good crop. We apply this practice in our fields too. In our field, every work of farming is done after listening to Radio Bundelkhand. Whatever information we get, if there is any issue with our farming, we call Manish ji and varsha didi, they call the doctors and experts, we can learn through it, but all those who listen to Radio Bundelkhand also benefit from this thing.”

They have been listening to the radio Bundelkhand since ages (10-15 years back). They get information about organic farming, natural farming, vermicomposting, irrigation, seed selection, etc., from the programmes, applying it in their agriculture and getting good results. The programme they highlighted that they don't miss and find out very useful are Khetkhaliyan, Shubhkal, Baatein humari tumahari, Aaj ki baat, and Ass pass.

Impacts of the Case Study

The activities of radio Bundelkhand have given further meaning to decentralisation. An appropriate communication medium has been created to facilitate an interface between scientists-knowledge-community, especially for the people in the operational districts of Bundelkhand Radio. The interactive sessions provided by the station for local authorities to explain climate change adaptation and sustainable agriculture programmes are a clear case of promoting accountability and transparency. The people can ask about their climate, health and agricultural-related issues. The KVKs and local government could connect directly to the

community without interference. Radio plays a vital role in women's empowerment as well. The women-oriented programme has a different space on the radio Bundelkhand. The team is still trying to learn more about the prevalent issues. Radio Bundelkhand could document more essential issues and disseminate them among the community. Time to time, capacity building is also essential for radio reporters as they also need to know the new ways of information dissemination.

Radio Bundelkhand has its own climate-change adaptation model for semi-arid regions. This model could be adopted by the other community radio stations based in the semi-arid regions with slight modifications and in the region's own language and dialect. Capacity building of radio reporters could help the decentralisation of the climate change adaptation model.

The radio team needs support to sustain radio shows for a long time. There are fewer radio station representatives in the community, which increases the workload of radio reporters and lowers the productivity of the program. More community people need to mobilise to participate in making radio programmes. People working in the radio station are paid from the projects and funding received by the local bodies, CSOs, Corporate Social Responsibility (CSR) activities, etc. To strengthen the system, more funding is needed. This case study helped others to understand the community radio system and promote this kind of initiative, which allows the communities and makes them aware of the real issues.

Applicability and Scaling of the CCE Initiative

Development Alternatives believes that this intervention has enabled them to address and enhance the 6 A's of technology significantly:

- **Availability** – Apart from the radio station's fixed schedule when it goes on air, listeners can also reach out through via WhatsApp groups and phone calls at any time.
- **Affordability** – Radio is a very cheap and affordable source of information since listeners aren't charges for programmes and the issues they discuss.
- **Awareness** – Our awareness programmes on varied and current issues are invariably based on matters raised by the communities.
- **Accessibility** – Our infotainment community radio programmes reach approximately 15-20 kms and 120 villages with a population of over 20,000. So far, Radio Bundelkhand has penetrated rural communities settled in and around TARAGram Orchha, like the villages of Gundrai, Chandravan, Bagan, Orchha, Sitapur, Azadpura, and Lachmanpura.
- **Ability** – The organization builds the capacity of community radio reporters, village-level volunteer journalists, and print journalists (from local newspapers) to enable them to better capture local concerns, knowledge and practices from the community. In turn, this is communicated back to local experts and policymakers, to feed into robust policies related to agriculture and climate change.
- **Adaptability** – Community radio has integrated grassroots voices into local scientific research and policy dialogues on agriculture, climate change impacts, and adaptation measures.

Sustainability and Scaling Up: Radio Bundelkhand serves as a tool to empower the community and to serve as a mass communication medium in the hands of rural, illiterate and marginalised communities, who use it for their own empowerment and entertainment, with programmes designed to ensure sustainability. Its long-term vision is new product development/customisation, increasing listenership, corporate tie-ups and development of a revenue model.

Conclusion

Radio Bundelkhand has started the process of sensitising the farming communities of Bundelkhand regarding the need to adapt to the changing climate. Community members have become familiar with new options and government schemes related to climate change adaptation such as line sowing, drip irrigation techniques, water harvesting measures, soil testing, organic composting methods, drought resistant seed varieties, subsidies on constructing farm ponds, subsidies on biogas plants etc. Listening to the climate change radio shows such as Shubh Kal and Khetkhaliyan, a few farmers have adopted 'no cost adaptation options' such as field bunding, line sowing, organic composting, use of climate resilient seed varieties and utilising government subsidies on building farm ponds, installing bio gas plants etc. Narrowcasting sessions have proved to be successful in popularising climate change adaptation options and also increasing the visibility of radio stations especially in amongst those farmers who missed hearing the shows at the time of the broadcast. During the narrowcasting sessions, the listener groups (farmers) were inquisitive about climate change issues and asked several questions from the radio reporters. They wanted these queries to be answered by the scientific community and the government officials. Interpersonal communication and face to face interaction facilitated by radio reporters have motivated behaviour change in the community by fostering dialogue exchange, sharing knowledge and finding solutions for community development. Few farmers in village of Ladpura Khas, Niwari district listen radio through radio Bundelkhand app because the network of radio doesn't reach to their villages. Through listening to radio broadcasts by Bundelkhand radio app they shifted to 100 percent organic farming from the chemical farming. This is indicative by the behaviour of the communities that more such shows are required to be produced, broadcasted and narrow casted over a longer period of time for enabling significant behaviour change in the communities and paving the way for implementation of localised adaptation interventions.

Bundelkhand community radio reporters trained in climate change journalism have proved to be a strong interface medium between communities, scientists and government officials. Since the radio reporters belong to the community only, farmers find it easy to communicate their concerns and queries to them. The scientists and government officials also find interacting with the radio reporters useful as they receive an improved understanding of the communities' perceptions, information needs on climate change issues and how climate change is impacting local development. Besides being community members, community radio reporters also play the role of local campaigners, information providers, mass communicators, investigators and information intermediaries. Varsha Raikwar one of the community radio reporters has been selected as a climate change warrior by the United Nations. The findings highlight that capacities of community radio reporters in understanding climate change adaptation in the local context should be further enhanced by training modules and knowledge support. This would go a long way in reducing the existing knowledge gap between communities and local level government authorities on climate change issues. This innovative model of climate communication has proved to be an effective tool for grassroots representation and communicating voices from the ground to scientists, local government authorities and policy makers. Thus sustaining radio shows beyond limited number of episodes funding should be encouraged for such efforts on climate change communication. The way forward is to utilise other community radios nationally and globally to bridge the knowledge gap between communities, scientific organisations, and decision makers to achieve climate resilient development.

ANNEXURE 1: In-depth Interview Schedule and Focus Group Discussion for the Experts and Listeners:

Individual Profiling

Name:

Age: Sex:

Address:

Income:

Questions for the Listeners/ Farmers

1. Do you have a radio or any other source for listening radio?
2. How many family members listen to the radio at home
3. How much time does your family spend listening to the radio
4. Which type of programme do you like to listen to on the radio
5. Which radio station do you and your family prefer to listen to and why
6. Do you know about the radio Bundelkhand? If yes, how did you get to know about it, and what kind of program do you prefer to listen to it
7. Do your children also like to listen to Radio Bundelkhand? If yes, then what kind of program they want to listen.
8. Have you heard about climate change? If yes, from where did you get to know about it
9. Have you ever heard about the climate change program on the radio Bundelkhand? If yes, what kind of information did you get from it
10. Do you know the name of any climate change program
11. How do climate change radio programs helpful for the farmer's community to understand climate change and its impact on farming
12. Have you ever addressed the issues related to the farming
13. Do you like to listen radio Bundelkhand? If yes, what kind of program do you like to listen to?
14. Have the farmers made any changes in their life from the radio program Subhkal?
15. How is community radio the medium for sharing important information for farmers?
16. What are the gaps in the current community radio programme? How it can be improved to better disseminate knowledge?
17. What other program should come for farmers?

Interview Schedule for Experts

1. How did you get to know about the climate change program of radio Bundelkhand?
2. How did the reporters approach you with the queries they received from the community?
3. Which type of problems or issues reporters sent to you?
4. How did you answer those questions, and on which parameters did you assess community problems?
5. How did you prepare yourself for on-call sessions?

ANNEXURE 2: Questionnaire for the Bundelkhand Radio Reporter

Radio Reporters Profiling

Name:

Age: Sex:

Address:

Income:

Questions:

1. What is community radio, according to the radio reporter?
2. How is Radio Bundelkhand different from other radio stations?
3. What is the process of targeting the audience, and how do reporters approach them?
4. How radio Bundelkhand started working on the climate change programme. What is the rationale behind it?
5. How are capacity building of radio reporters done for handling climate change programmes, researching on them, gathering information, community interaction on the same and knowledge sharing with other radio partners
6. How do you approach the audience about climate change awareness programmes?
7. What issues are faced by the farming community due to climate change?
8. Which type of climate change program runs on the radio Bundelkhand? - Mention topics and the background research done by the radio, what is their source of information
9. Which practices and tools are used to engage the audience?
10. How do communities approach the BKD Radio with their climate change related issues, farming practices and water management issues, how are those addressed by the radio? A few examples of addressing or resolving on-ground issues
11. Are these issues being addressed by the community radio?
12. What are the gaps in the current community radio system? How can it be improved for better dissemination of knowledge?

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Disclaimer:

This case study on Radio Bundelkhand and its impact on climate change communication in Bundelkhand is based on specific experiences and perspectives. The findings reflect the observed outcomes in the studied context and may not be universally applicable.

Interpretations should consider the localized nature of the intervention and its potential variations in different regions.

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