

Shubh Kal

We change with climate change

Community Radios and Climate Change Communication:

Mapping Grassroots Experiences of the 'Shubh Kal' Project

in Bundelkhand, Central India



Development Alternatives

Community Radios and Climate Change Communication: Mapping Grassroots Experiences of the 'Shubh Kal' Project in Bundelkhand, Central India

Authors – Harshita Bisht (Climate Change Researcher) and Neelam Ahluwalia (Knowledge Communications Manager), Development Alternatives

Peer Reviewers:

Dr. Archana Kumar - Associate Professor
Department of Communication and Extension, Lady Irwin College, Delhi University

Tom Tanner - Research Fellow
Institute of Development Studies (IDS), London

Blane Harvey - Senior Program Officer
International Development Research Centre (IDRC), Canada

Abstract

Communities in climate sensitive regions face several vulnerabilities making climate change communication at the grassroots extremely challenging. Lacking strategic information about climate change adaptation options, few are aware about government schemes and remain poorly linked to scientists, scientific knowledge and policy makers. Communicating scientific information in a simplified manner that is appropriate to local stakeholder needs and socio cultural context remains critical for adoption of sustainable adaptation solutions. Failure to meaningfully 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 adaptation information failing to reach the most vulnerable communities and lack of grassroots perspectives and voice in policy development.

To address climate change sensitivities in the most vulnerable sections of the society, it imperative to communicate information regarding risks and adaptation measures in locally relevant and easily comprehensible messages. It is also crucial to bring grassroots voices and priorities on climate change and development to the attention of the scientists and the policy makers. This research paper presents experiences of a pilot project by the name of 'Shubh Kal (a better tomorrow) - From Information to Knowledge & Action' in which an innovative communication model using community radios to bridge the knowledge gap between communities, scientists and policy makers has been tested in the drought prone, climate sensitive region of Bundelkhand in Central India. The paper explores results of the pilot initiative in building capacities of radio reporters in climate change journalism. It also analyses the role of radio reporters in strengthening community knowledge and voice on climate change adaptation on one hand and increasing awareness of the scientific community, local government authorities and policy makers on how climate change is impacting local development on the other hand. Further this paper analyses the efficacy of the communication model being piloted to see how effective the radio reporters can be as information intermediaries to strengthen climate change communication at the grassroots. This research paper concludes that with the provision of knowledge support and financial sustenance such communication models using community radios can effectively bridge the knowledge gap between local stakeholders and help in meeting the information needs of the marginalised communities and taking their voices to the scientific community and the policymakers thus paving the way for climate resilient development.

Key Words

Community Radio, Radio Reporters, Climate Change Communication, Bundelkhand, Climate Change Adaptation, Capacity Building in Climate Change Journalism

1. Introduction

Uncertainty associated with climate change poses great risks to economic development globally. Over one billion people living in rural India directly depend on climate sensitive sectors such as agriculture, fisheries and forestry for their livelihoods (Satapathy, 2011). These studies indicate that rural communities are likely to be disproportionately affected by the impacts of climate change. Therefore it is necessary that robust adaptation measures are designed to help vulnerable communities cope with climate variabilities.

Despite extensive research and increased availability of information, existing knowledge on how to adapt to climate change at the grassroots level is extremely fragmented and dispersed. Those likely to be affected the most have least access to the information related to current and projected climate change impacts (Reid et al., 2009) and resources for responding to these impacts (Harvey, 2011). Although numerous research studies have been done at the national and international level, there is still an urgent need for communicating climate change issues in locally relevant and culturally appropriate ways (Agrawal and Perrin 2009). To facilitate the implementation of climate change adaptation practices at the grassroots level, it is critical to engage local institutions (Agrawal and Perrin 2009) and relevant stakeholders (Tompkins et al., 2007), locally tested cultural practices (Ensor and Berger 2009) and community based participatory approaches (Reid et al, 2009). Therefore, new means and innovations for outreach to communities are needed to propel them towards sustainable adaptation measures.

2. Background

2.1. Communication for Empowerment

Communication plays a vital role in ensuring community empowerment. Studies indicate that information and communication technologies (ICTs) are an effective medium for sharing knowledge and information and thus facilitating socio-economic development in relatively vulnerable rural areas of developing countries such as India (Lwoga, 2010). As Everett M Rogers (1983) defines it,

“Development communication refers to the uses to which communication is put in order to further development. Such application is intended to either further development in a general way such as by increasing the level of the mass media exposure among a nation’s citizens, in order to create a favourable ‘climate’ for development or to support a specific development programme project.”

For development of a society, participation of concerned communities is important. Participation of people is based on interpersonal communication for providing freedom of expression, building a sense of ownership and strengthening local level planning and implementation of programmes. By dialogue and consensus building it enables people to expand their capabilities to negotiate with, influence, control and hold accountable institutions that affect their lives (Narayan, 2006). The importance of participation is increasingly being understood as an alternative grassroots approach in development (Craig & Mayo, 1995). Thus community participation has been recognized as an important aspect of development and is encouraged through the use of various community media.

In community participation, media is an ‘articulation space’ for people to address issues of public interest and concern. Therefore, media for behaviour change and development should properly be identified, contextualised and created (Das, 2011). Since, development cannot be induced by

communication controlled by external forces alone, it is important to use participatory approaches in communication as development is a participatory process of social change (Rogers, 1976). Participatory communication is an approach based on dialogue, allowing exchange of information, perceptions and opinions among the various stakeholders thereby creating awareness, providing community based solutions, strengthening community voices and facilitating empowerment of vulnerable and marginalised communities. There is now increasing recognition among development practitioners and planners that participatory communication is the 'most promising approach for decreasing dependency, building self-confidence and self-reliance of the people'. Also this process has the potential to enable people to act as protagonists in leading their own development.

Unfortunately, development communication in rural areas is restricted due to the limitations of some of the large scale mass media tools. Lack of electricity connections and supply limits the use of television. Print media that is an important source of information (Billet 2010) in the country is also not accessible to the largely illiterate population in Indian villages. However, radio as a dominant form of mass media in rural India has already proved its significance in providing entertainment, education and agricultural knowledge to the village communities (Choudhury, 2011; Jumani, 2009). Radio sets can easily be operated on dry cell batteries and thus are not necessarily dependent on electricity for charging. The easily understandable simple formats and lower investment costs makes radio one of the most accessible communication mediums to reach out to grass root communities (Siva Balan et al., 2012) regardless of their social or educational status (Gauthier, 2005). Ownership for radio stations can be divided into three categories (Fratzke, 2008):

- Private Radio: These are advertisement sponsored stations aimed towards maximising their numbers of listeners for higher financial profits. Their primary aim is to provide entertainment to listeners thus maximising their financial returns.
- Public Radio: These radios are mostly government funded and have a huge coverage. In addition to entertainment, public radios are obligated to inform and educate mass audiences. Therefore, a lot of emphasis is given on social journalism such as awareness programs on literacy, health, livelihoods etc.
- Community radio: Community based radios are mostly based on the idea of participatory journalism – citizens informing their fellow communities about local issues affecting them on a day to day basis. Community radio is defined by three core aspects- local ownership and control, participation of people and non-profit approach. Broadcast is within a radius of 10 to 15 kilometres making the community radio very localised in its approach.

Community radios have been successful in creating grassroots level participation and circulation of ideas among rural communities (Patil 2010). Community radio is designed for the community and operated by the community to address their concerns. Thus it facilitates incorporation of people's participation in the development process. Its ownership and participatory approach (Patil 2010; Balan et al., 2012) (Perkins 2012) initiates community dialogue necessary for representing needs of the marginalised communities. Radio reporters belong to the local communities, speak in the local dialects and are well aware of the social issues of their areas. Besides being community members, community radio reporters also play multiple roles as information providers (Sharma, 2011), investigators, information intermediaries, local campaigners and mass communicators.

Evidence from rural areas of the country shows that community radios with well-developed capacities have contributed to women's empowerment (Bandelli 2011), disaster management, agricultural development (Sharma, 2011) socio-economic upliftment, education and awareness (Patil, 2010). Recently a study done on the community radio station – Pudukkottai Vaani, Tamil Nadu explored the potential of community radio as a tool for empowerment. This study used quantitative measures to study the profile of women in the community, their radio listening patterns and their participation in radio program making. It was found that community radio has been an effective tool in promoting

women's participation (*Balan & Norman, 2012*). Thus community radio overcomes the barriers (affordability, illiteracy, accessibility, simplicity, local relevance) which often limit the use of other mass media tools including newspapers, television and internet for information and knowledge dissemination in rural areas. The community radio broadcasts regional entertainment and engages the communities in information dissemination and local debates making it an important means of development communication. The inclusive yet localised approach of community radio makes it an important tool for community empowerment.

2.2. Community Radio for Communicating Climate Change

Climate change is a global phenomenon with profound effects at the most localised levels. Local level community based climate change adaptation is an important mechanism for building resilience of communities in the face of change. This is because community-based adaptation to climate change is a community-driven process, based on communities' priorities, needs, knowledge and capacities. It empowers people to plan for and cope with the impacts of climate change by analysing the causes and effects of climate change and integrating their indigenous knowledge and scientific information to design and implement adaptive measures for climate change (*Reid et al., 2009*). The key for community based adaptation is provision of relevant information in forms and ways easily understood by the community members. The information has to be communicated using simple messages, appropriate delivery mechanisms, local language and region specific cultural norms. Community media can successfully facilitate the process of community based climate change adaptation. For example in the West African country of Mali, rural community radio stations are working to assist farmers adapt to changing seasonal patterns in order to maintain and increase their harvest (*Buckley, 2009*).

Community radio, an integral constituent of community media has already proved its importance in disaster management and disaster preparedness in climate vulnerable regions of the world. As part of addressing the risk of Cyclone Mahasen in May 2013, six community radio stations in the coastal region of Bangladesh broadcasted information on cyclone shelters to help prepare communities in wake of the disaster situation in the region. Supported by continuous updates from the meteorological department and other government agencies, a total of more than 390 community radio staff members and volunteers along with 20,000 listener groups from the six community radio stations were involved in disseminating disaster preparedness information to the local communities (*CR news, 2013*). Natural catastrophes in El Salvador, Peru, Indonesia, India and the Katrina disaster in USA have shown the important role that community radios play in informing and rebuilding communities (*Buckley, 2009*).

Community radio has also been used as a tool to communicate, research and advocate on climate change adaptation and promote climate justice under the Climate Airwaves initiative, a pilot project tested in Ghana in Africa (*Harvey, 2011*). The initiative associated with three radio stations in Ghana aimed to build capacities of their broadcasters to initiate climate change dialogue between communities, researchers and locally relevant institutions. The pilot study helped broadcasters to understand fundamentals of climate change and its impacts on their local communities. Technical concepts like greenhouse effect, adaptation, vulnerability etc which have no local language equivalent in Ghana were explained through different analogies developed by the community members themselves. These concepts were then communicated to the community using community radios.

3. 'Shubh Kal - From Information to Knowledge and Action' Pilot Project

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 Bundelkhand region of Central India consisting of 6 districts of the Madhya Pradesh state and 7 districts of the Uttar Pradesh state 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, soil erosion due to high run off rate adversely affect farming in the region.

With illiteracy being rampant, rural communities in Bundelkhand have an extremely low climate change risk perception and are also quite resistant to change. Research shows that simple adaptation actions such as watershed management, changing planting dates and crop varieties could greatly reduce the climate change impacts. However, communities being poorly linked to scientists and policy makers lack information about climate change adaptation options and government schemes related to the same. There are also challenges of communicating scientific research in simplified ways that are appropriate to local stakeholder needs.

The baseline assessment of this pilot project highlighted that one of the key barriers to meeting the challenge of climate change adaptation is a failure to meaningfully engage existing local institutions that allow for dialogue and exchange between scientists, local government officials, policy makers and community members. These huge gaps in climate change knowledge sharing have resulted in adaptation information failing to reach the most vulnerable communities and an inadequate influence of voices from the ground in policy development.

The baseline research indicated that for addressing climate change sensitivities in the most vulnerable and weakest farming sections of the Bundelkhand region, it is imperative to communicate climate change in messages which are locally relevant and easy to comprehend. The assessment stressed on the use of traditional and community based media such as theatre, face-to-face discussions and local language radio broadcasts. Therefore, the pilot initiative 'Shubh Kal - From Information to Knowledge and Action' used a collaborative approach to build local community radio broadcasters' capacities to draw upon a wider knowledge and research network for communicating and strengthening community knowledge on climate change impacts and adaptation measures.

In June 2012, this initiative was formally launched with four community radio stations (Lalit Lokwani, Radio Dadhkan, Chanderi Ki Awaaz and Radio Bundelkhand) 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
- Increasing awareness of the scientific community, local government authorities and policy makers on how climate change is impacting local development

3.1. Methodological Framework

The methodological framework was based on testing a pilot model for climate change communication between communities, scientists and local government officials at the grassroots level. This innovative communication model is represented in the figure below.

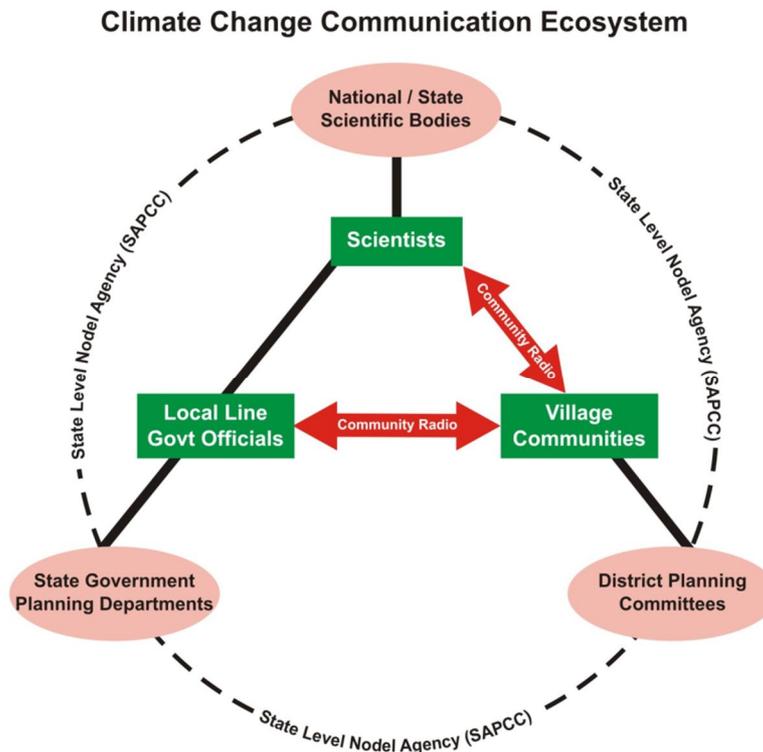


Figure 1: Climate change communication ecosystem highlighting the pilot communication model of the Shubh Kal pilot project

This figure describes the ecosystem for climate change communication at the state and district level in India. Nodal scientific agencies, government planning departments and district planning committees are expected to work together to integrate climate change concerns in the development planning process of the state. This is facilitated by state level nodal agencies for climate change adaptation such as the State Action Plan on Climate Change (SAPCC) which devise appropriate adaptation guidelines for the various states.

The communication model that has been piloted under this Shubh Kal project emphasises on the regional two way information flow between local line government officials, scientists and village communities primarily comprising of farmers. This information flow is mediated by the community radios. Since the rural communities are so poorly linked to the scientific researchers and local government authorities, this pilot project 'Shubh Kal – From Information to Knowledge and Action' intended to bridge this knowledge gap. The initiative aimed to test if the community radio reporters trained in climate change journalism could serve as an effective two way communication link at the grassroots between farmers on one hand and the government line department officials and scientific experts from agriculture extension agencies such as Krishi Vigyan Kendras (KVKs – government agriculture extension centres) on the other hand to enable climate change adaptation.

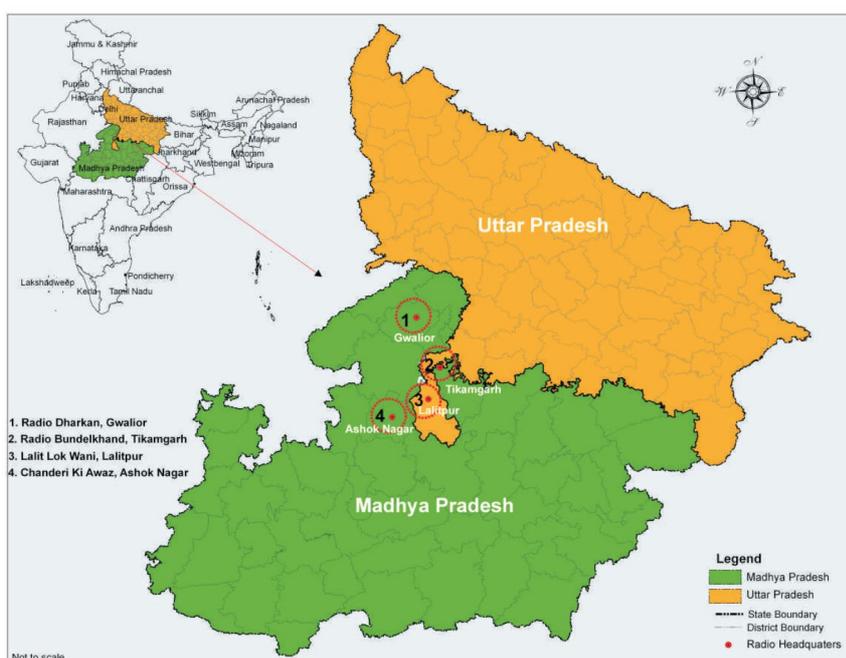
3.2. Profile of the Participating Radio Stations

This pilot initiative was conducted in the vicinity of the radio outreach region (within 10 – 15 kilometres) of the four participating community radio stations (Lalit Lokwani, Radio Dadhkan, Chanderi Ki Awaaz and Radio Bundelkhand). These radio stations reach approximately 400,000 people across 400 villages in and around the Bundelkhand region of Central India. The average age of the reporters from the four radio stations is 29 years with 50% of the reporters educated till post graduate level. 37.51% of the reporters belong to the farming community and also practice farming as an additional source of income.

Table 1: Brief profile of the participating radio stations

Community Radio	Location	District	State	Year of Establishment	Number of Villages Reached	Prior Experience of Climate Change Reporting
Radio Bundelkhand	Orchha	Tikamgarh	Madhya Pradesh	2008	140	Yes
Chanderi Ki Awaaz	Chanderi	Ashok Nagar	Madhya Pradesh	2008	60	No
Lalit Lokwani	Lalitpur	Lalitpur	Uttar Pradesh	2010	120	No
Radio Dhadkan	Shivpuri	Shivpuri	Madhya Pradesh	2010	70	No

Figure 2: Map of Bundelkhand (highlighting the 4 participating community radio stations in the Shubh Kal pilot project)



4. Shubh Kal Pilot Project Components

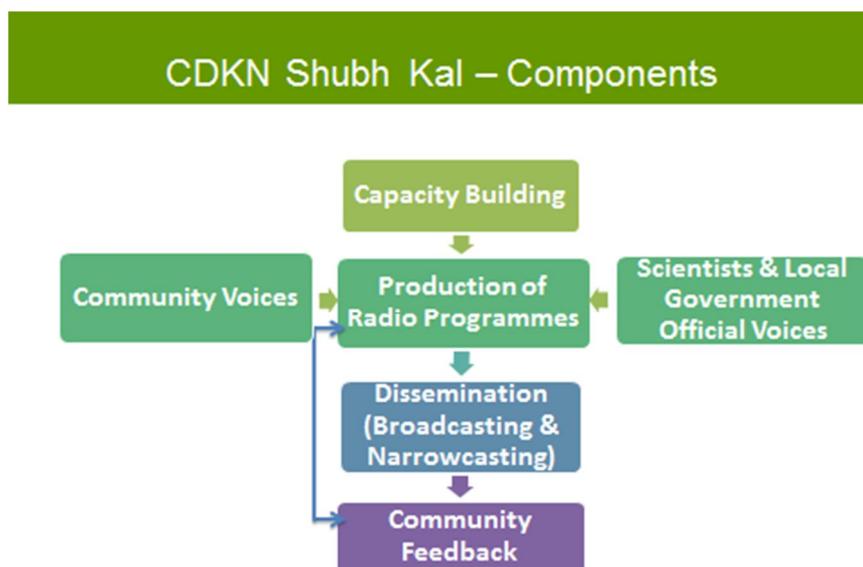


Figure 3: Pilot Project ‘Shubh Kal- From Information to Knowledge and Action’ Components

In order to prepare community radios for bridging the knowledge gap between scientists, communities and local government officials; capacities of 35 community radio reporters from the four participating radio stations were built. Subsequently the radio reporters were involved in producing radio shows to facilitate climate change information and knowledge exchange at the grassroots. During the production of radio shows on climate change, the radio reporters captured views and concerns of the farming community, submitted farmer’s queries to the experts and collected information on adaptation options and government schemes related to the same. This information on climate change impacts and adaptation strategies was converted into easily comprehensible messages using an edutainment approach and local dialects. Radio shows were then created in a magazine format using interviews, radio dramas, jingles, folk songs and talk shows. These shows were then disseminated through broadcasting and narrowcasting (to small listener groups in villages to allow for face to face dialogue and feedback). Feedback from communities was collected and submitted to scientists and government officials by the community radios. In this way, the community radio reporters facilitated dialogue exchange between scientists (researching on climate change), communities (vulnerable to climate change) and local line department government officials (implementing government plans).

4.1. Capacity Building Workshops

This pilot initiative developed the capacity of four existing community radio stations to engage with scientists and policy makers on local climate change related issues of their respective communities. Capacity building workshops were conducted to:

- Familiarise 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 programmes

A total of 35 radio reporters from four radio stations (Radio Bundelkhand, Lalit Lokwani, Chanderi Ki Awaaz and Radio Dhadkan) participated in the two capacity building training workshops. With the exception of Radio Bundelkhand reporters, the reporters of the other three radio stations (71.4%) had no prior experience of climate change reporting. The remaining 28.6% of reporters belonging to Radio

Bundelkhand had worked on climate change issues earlier, 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 programmes. 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 on 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.

4.2. Shubh Kal Radio Programme Development

Deciding the themes for the radio programmes

After receiving training in climate change reporting, reporters from the four participating radio stations started developing programmes. They first chose topics and themes for the radio shows depending on the issues facing their communities. The following are some of the themes used in the Shubh Kal programmes:

- The community's, policy makers and scientist's perceptions on climate change and effects of climate change globally and locally
- Climate resilient farming practices
- Agro forestry as a climate adaptation strategy
- Effects of climate change on water resources
- Rain water harvesting and water efficient irrigation practices
- Organic composting for improving soil health
- Renewable energy use in villages such as use of biogas plants
- Prevention of soil erosion and conservation of soil quality
- Impacts of climate change on livestock rearing
- Use of agro-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

Interviewing relevant stakeholders

The radio reporters interviewed the farming communities to capture their perceptions and collected their doubts on the related subjects. The reporters then contacted the scientific agencies such as the Krishi Vigyan Kendras (KVKs – government agriculture extension centres) and the local government line 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 programmes

The information was subsequently converted into simple and easily comprehensible messages using an edutainment approach and local dialects. Each radio station created a package of 12 radio shows under the label of Shubh Kal (for a better future). The 15 - 20 minute radio shows were developed in a magazine format for farmers using interviews, radio dramas, jingles, folk songs and talk shows. The radio programmes made by the four radio stations varied slightly due to locally differing conditions and information received from the scientists and the relevant government officials in the four districts.

Review and quality check of the radio programmes

During the development of the programmes, the lead trainers constantly reviewed the programmes for their quality and content. The programmes were checked for errors and were improvised before the broadcast. The review process for quality check of the radio programmes was a unique learning experience for the radio reporters. The radio reporters from all the four radio stations participated in these quality check workshops. Under the guidance of the lead trainers, radio reporters reviewed the radio shows of all the radio stations. These workshops helped the radio reporters understand the do's and don'ts of climate change reporting from the lead trainers. Using a participatory and group learning approach, the radio reporters gave and received feedback for improving their own and their peer reporters' climate change reporting skills.

4.3. Dissemination and Feedback of the Shubh Kal Radio Programmes

After the production of the radio shows, the programmes were broadcasted and narrow casted to the local communities in the outreach areas of all the four participating radio stations. The programmes were broadcasted at time slots convenient for the farming communities which was either early morning or at lunch time or in the evening after sunset. The feedback was received through phone calls and letters. The feedback obtained from the listeners was then analysed 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.

Narrowcasting is the dissemination of information to a limited or narrow set of audience. To promote the outreach of the programmes and to cater to the needs of those community members who missed listening to the programmes during broadcast times, narrowcasting sessions were conducted in 30 villages in the vicinity of each of the four participating radio stations. The programmes were played on the radio by the reporters personally to groups of villagers at non- broadcast times. 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.

5. Mapping the Pilot Project

A qualitative study was done to map the immediate results of the pilot project in building capacities of radio reporters in climate change journalism and the bridging the information gap between farmers, scientists and local government authorities in the Bundelkhand region. The study also explored the scope of the reporters and the radio shows in sensitising the communities about issues of climate change in the region and increasing awareness of the scientific community, local government authorities and policy makers on how climate change is impacting local development.

In order to gauge the capacity building of the reporters in climate change journalism, their change in knowledge about climate change issues was studied through a survey of 15 radio reporters actively involved in the pilot project from the four participating radio stations. The first baseline survey was conducted at the beginning of the project before the capacity building process was initiated. The survey was repeated in the last phase of the project after all the climate change radio shows had been produced and broadcasted. A semi structured interview method was used comprising of a combination of close ended and open ended questions to capture the views of the radio reporters on the following aspects:

- Perceptions regarding climate change issues
- Understanding of climate change adaptation in the region
- Experiences from the capacity building and radio programme development process
- Success and challenges involved in bridging the gap between communities, scientists and government authorities
- Climate change reporting - way forward

To map the perspectives of different community groups about the project and their sensitisation about the issues of climate change, interviews and focussed group discussions were conducted with the village level listener groups. 10 - 15 farmers from five villages were interviewed in each of the four districts to study their perspectives about the climate change related radio programmes.

Lastly, feedback of the scientists and government officials in each of the four districts was collected through personal interviews. The interviews primarily focused on getting their perspective on whether the pilot initiative, 'Shubh Kal - From Information to Knowledge and Action' has been successful in bridging the information gap between communities, scientists and local authorities on climate change issues.

6. Insights and Learnings

The four community radio stations (Radio Dhadkan, Lalit LokVaani, Chanderi Ki Awaz and Radio Bundelkhand) acted as mediators between the farming community, scientists and local government authorities by creating radio shows on various issues of climate change concerns in the region and provided locally relevant solutions to help the communities adapt to the vagaries of climate change.

6.1. Radio Reporters' Perspectives

6.1.1. Radio Reporters Knowledge about Climate Change

The first baseline survey of the reporters done at the beginning of the pilot project found that 42.85% of the reporters had heard about climate change but did not fully comprehend the meaning of the term and almost a similar number 44.78% were either unaware or had partial understanding of the term. For example, a few of them had heard about global warming but could not understand how it impacted their local environment. To overcome lack of this climate change knowledge, capacity building of radio reporters was conducted to strengthen their theoretical knowledge and practical skills in climate change reporting. After undergoing the capacity building process and producing the radio shows, the understanding of the radio reporters on climate change issues increased to a great extent.

The survey done towards the end of the pilot project found that 42.85% reporters felt that they had developed a fairly good understanding of climate change vulnerability and adaptation measures. The improved understanding of the respondents was evident from the fact that 64.2% of the reporters correctly identified the main causes of climate change and understood the linkages between industrialisation, vehicular emissions and increase in anthropogenic disturbances and their impact on climate change. 50% of the respondents perceived that despite their improved understanding about climate change issues, they still needed more information for deeper understanding of the uncertainties and complexities associated with climate change since it was such a complex and vast subject.

6.1.2. Radio Reporters' Capacity Development

71.42% reporters had never received any training before on issues like climate change or on improving their journalistic skills. Out of the four participating radio stations, only Radio Bundelkhand reporters had some previous experience in climate change reporting at the community level. Rest of the radio reporters from the other three radio stations had not previously made any programmes related to how climate change is impacting the agricultural sector and the farming community. So for them the climate change reporting capacity building workshops held at the beginning of the pilot project proved to be very useful in:

- providing them with an understanding of climate change issues affecting the rural communities in Bundelkhand
- improving their technical skills such as how to conduct interviews, the kind of questions to ask etc.
- improving their journalistic skills and teaching them how to make interesting climate change stories and programmes
- introducing the radio reporters to new methods of group learning

Santosh, a radio reporter from Radio Dhadkan stated,

"I had never thought that climate change could affect our lives in so many ways. Through the training workshops, we understood the graveness of the climate change problem and if not heeded how big this problem could become for all of us in the years to come."

About 92% of the reporters mentioned that the practical training component of the capacity building workshops had been a new experience for them. Kailash, a 21 year old radio reporter from Chanderi Ki Awaaz said,

"I had never attended a training workshop like this before. It was for the first time in my life that I got the opportunity to meet and interview scientists and government officials."

Through the medium of mock interviews and practical sessions, the reporters learnt the right techniques of interviewing experts. This proved to be very useful in the process of developing the Shubh Kal radio programmes on climate change.

6.1.3. Radio Reporters' Experience in Interacting with Various Stakeholders during the Production of the Shubh Kal Programmes

Rampal, a reporter from Radio Bundelkhand stated,

"The experience with the community has been very good as there was not any platform before where people could come and express their views regarding how climate change is affecting different aspects of their lives".

All the radio reporters were using the format of bringing communities, scientists and government officials in their programmes for the first time. Shabana, a lady reporter from Chanderi Ki Awaaz said,

“I have really liked the fact that Shubh Kal programmes discuss problems as well as solutions of climate change. The programmes also provide the communities with a medium to convey their concerns to the government officials and scientists. This way the programme has responded to the community needs. Opinion of the experts is taken as well. So the listeners are presented with all facets of a topic in a single programme.”

A key aspect of this pilot project was enabling the radio reporters to interact with scientists and local government officials. Before this pilot initiative, only 21.42% of the reporters had interacted with the scientific community on a regular basis. Most of these (66.7%) reporters belonged to Radio Bundelkhand and had been interviewing scientists and making programmes on climate change issues before. 42.85% of the reporters had never met and interviewed scientists before working on this project. 64.28% of the reporters found that the response of the scientists was ‘very relevant and appropriate’ and 35.71% felt that it was ‘somewhat appropriate’ in satisfying the queries of the farming communities. Almost all the reporters thought that the scientists made efforts to translate the complex knowledge into messages that could be easily understood by the community members.

In contrast to the experience of interacting with the scientific community, the radio reporters had prior experience of interviewing local authorities and government officials in the region. Before the pilot project, 64.28% of the reporters had interviewed government officials regarding information on agriculture and other welfare schemes while making other radio shows. Due to the cross sectoral nature of climate change, the Shubh Kal pilot project gave all the community radio reporters from the four participating radio shows an opportunity to interact with officials from planning departments and different line departments such as agriculture, irrigation, health, forest etc. in their respective districts.

On the whole, reporters were satisfied (28.57% - satisfied, 57.14% - very satisfied) with the government officials in satisfying the queries of the farming communities. However, 14.29% reporters stated that complexity of the climate change issues sometimes constrained the officials in answering the queries of the farming communities satisfactorily.

6.1.4. Radio Reporters’ Experience of Producing Programmes based on an Infotainment Approach

Almost 90% of the reporters expressed that they really enjoyed making the Shubh Kal programmes using the infotainment approach as it kept the interest of the community members alive and did not make the programmes too information heavy. Baby Raja, the Station Manager of Radio Dhadkan stated,

“The positive feedback received from our listeners on the infotainment approach used in the Shubh Kal programmes has motivated us to use the same approach while making programmes on other topics as well.”

6.1.5. Personal Development of the Radio Reporters

92.8% of the reporters stated their experience of working on this pilot project had been very helpful in building their confidence and enhancing their journalistic skills not only for making climate change shows but also in producing programmes related to other subjects. They all felt that their interviewing skills had taken a major leap during the making of these climate change shows especially with regard to interviewing experts.

Sitaram, a radio reporter from Lalit Lokwani said,

“The experience of working on this Shubh Kal project has helped me tremendously in expanding my horizons and learning from so many different experts.”

Narrating his experiences, Sarnam, a radio reporter from Radio Dadhkan stated,

“The government officials and scientists in my district now recognise me by name and face. They call me if they find any new information about climate change. I also invite them to our studio for talk shows and interviews. I feel my role as a community radio reporter on these Shubh Kal programmes has given me recognition and respect in the society”.

Rampal, a radio reporter from Radio Bundelkhand sharing his experience said,

“During the Shubh Kal project, we got associated with three other radio stations in the region. In my 4 years of experience as a community radio reporter, I had never got the opportunity of group learning and knowledge sharing like this before. This has helped all of us to share content, folk music and story ideas.”

6.1.6. Radio Reporters’ Experience of Bridging the Climate Change Information Gap between Scientists, Policy Makers and Communities

All the radio reporters felt that they played an important role in facilitating dialogue on climate change at the village level by discussing issues of climate change impacts and adaptation with the communities. 85.71% of the reporters perceived farmers in their region were currently not sufficiently capable of adapting to climate variabilities on account of lack of information, resources, institutional support and guidance. Further 92.8% of the reporters responded that providing information about climate change issues was very important for the farmers in the region.

The radio reporters also felt that this pilot project provided them with the opportunity to closely interact with government officials from sectoral line departments and scientific experts from agriculture extension agencies such as Krishi Vigyan Kendras (KVKs) and research organisations to help find solutions to the problems of their community members. Krishna, a lady reporter from Chanderi Ki Awaaz stated,

“Our work in this Shubh Kal project in linking the scientists and government officials with the community has been very significant as through these radio shows the information reaches those it is meant to benefit.”

The radio reporters also participated in the state and national level meetings and consultations of the Shubh Kal project. This gave them an opportunity to share their experiences and challenges of reporting on climate change issues and also communicate voices from the ground to the scientists and policy makers at the state and national level.

Sitaram, radio reporter from Lalit Lokwani said,

“I felt really proud to share my grassroots experiences and communicate voices of my fellow farmers on how climate change is impacting their lives to the policy makers at a national workshop on climate change organised in Delhi.”

6.1.7. Climate Change Reporting - Way Forward

Having worked as intermediaries in the Shubh Kal communication model, community radio reporters of all the four radio stations understand the relevance of climate change reporting in Bundelkhand. All the reporters stated that agriculture and water resources have been most impacted by climate change in Bundelkhand. 100% of the reporters responded that they felt confident to report on climate change issues and would do so even after the completion of the pilot project. In the production of the twelve radio shows, the reporters realised that climate change is a broad and complex subject and all the issues cannot be covered in such few episodes. They have discovered many more topics on which they could make shows to educate their listeners regarding sustainable farming techniques to ensure climate resilient development in the region. To take this initiative forward, they would like support in the form of funding and resources, guidance on the broad issues of climate change vulnerability and

adaptation through training modules and additional involvement of the scientists and government officials to respond to the queries and concerns of the communities.

Sarnam, a radio reporter from Radio Dhadkan said,

“In many villages, farmers have told me that the Shubh Kal shows have been their only source of information regarding adaptation options and government schemes related to the same. I feel proud of being able to help my fellow community members and wish to continue making such programmes in the future.”

6.2. Community Perspectives

The pilot project has been moderately successful in sensitising the farmers in all the four districts regarding the risks of climate change and measures they need to adopt to cope with the same.

6.2.1. Community’s Perceptions about the Shubh Kal Radio Programmes

The Shubh Kal shows covered a wide range of topics which are beneficial for helping rural communities adapt to climate change. The listener groups found that the information provided in the radio programmes was valuable to them and such shows should be encouraged in the future. The most popular shows were: *organic farming, sustainable farming for climate resilient development, agro forestry and rain water harvesting techniques*. The listener groups of Radio Dhadkan and Chanderi Ki Awaaz stations also liked the shows on *renewable energy (biogas plants) and water efficient irrigation practices*. The community members stated that the solutions given in the shows were scientific and were suggested by the scientists working in the region which gave the radio programmes a lot of credibility. Anil Goswami, a farmer from Khaurgar village in Shivpuri district stated,

“Earlier we did not know how chemical based farm produce adversely affects our health. When we heard the scientist from KVK Shivpuri explain the ill effects of chemical fertilizers on our soil health and our own health in a Shubh Kal programme, many of us stopped using chemical fertilizers and have started experimenting with organic composts. We also found the information on a government subsidy scheme on vermi composting being talked about by a government official useful.”

A farmer Dayashankar Ahirwar from Pipra village of Tikamgarh district stated,

“I learned the benefits of farm bunding from a Shubh Kal programme broadcast on Radio Bundelkhand. It is a good soil conservation measure. It has prevented soil erosion in my field.”

Suresh from Sateria village of Shivpuri district is a member of the narrowcasting listener group of Radio Dhadkan. After listening to a show on water harvesting measures such as building farm ponds using the Balram Talab Yojna (a state government subsidy scheme), he got inspired to use this scheme and build a pond in his field to prevent water run-off and increase water availability for his farming needs. He had known about the scheme earlier but had never thought of using it. Hearing the government expert talking on the radio encouraged him to reap the benefits of this scheme. He said,

“The Shubh Kal show has laid the seeds of change in my village. Other farmers would probably get motivated to do the same after seeing positive results on my farm.”

The community members further commented that the community radio reporters disseminated new and scientifically validated information on adaptation options in an entertaining manner which motivated the farmers to try the new practices. Farmer Devender Pratap Singh of Aaravni village in Lalitpur district said,

“All the episodes of the Shubh Kal programmes provide very clear information. We really like the fact that the reporters talk in our local dialect and explain things being said by the experts in a simple way.

Besides the content, all my farmer friends also like the Shubh Kal programmes in terms of the entertainment provided as well. We have really enjoyed listening to the poems and folk songs based on the various themes.”

This highlights the importance of infotainment approach for communicating climate change to the communities. The communities of Aaravni village of Lalitpur district were initially hesitant for implementing water conservation measures being introduced in their village by a non-government organisation. After the Lalit Lokwani radio reporters conducted a narrowcasting session of a Shubh Kal programme on water management, some of the villagers got motivated to make small farm ponds, plant trees along with their crops (agroforestry), do field bunding etc. These farmers have set a positive example for other villagers in Aaravni and other neighbouring villages to undertake water conservation measures.

A large number of government initiatives remain unnoticed at the grassroots due to the absence of community based information channels. The community radios in the Shubh Kal pilot project have bridged this information gap because of good outreach and contributed in popularising the initiatives of agriculture extension agencies such as Krishi Vigyan Kendras and the government line departments among the communities. The communities were largely unaware about the toll free service for farmers, the 'Kisan Call Centre'. This service advertised through the Shubh Kal shows was highly appreciated by the farmers.

6.2.2. Community's response on the role of the radio reporters as intermediaries

During the course of the pilot project, villagers have developed a good rapport with the radio reporters and the reporters have been successful in bridging the information gap between the communities on one hand and the scientists and government authorities on the other. The narrowcasting sessions have further strengthened their position as information providers in the villages. Due to the regular interaction of the radio reporters with the scientists and local government officials, the villagers view the radio reporters as influential members of the society. In many villages, radio reporters were the only source of information regarding climate change adaptation measures which resulted in close bonds of trust being established between the communities and the reporters.

6.3. Scientists and Government Officials Perspectives

By interacting with scientists from the Krishi Vigyan Kendras (KVKs – government agriculture extension centres) and the line department officials of the district, community radio reporters have helped them understand community perspectives on climate change. They have also helped the scientists in dissemination and demystification of complex scientific knowledge to the communities. The community radio reporters also contributed in creating awareness about government programmes and schemes related to agriculture and allied sectors. Thus the information barrier to the end users was broken and community radios created a congenial environment for knowledge sharing and information exchange.

6.3.1. Role of Radio Reporters as Information Intermediaries

The government officials and the scientists have shown an encouraging response towards this pilot initiative. They have appreciated the efforts of the community radio reporters in aiding their extension services. They believe that the service provided by radio reporters will help them in reaching out to more farmers in their districts. Dr. A.K.S.Chauhan, Chief Scientist, Krishi Vigyan Kendra, Lalitpur stated,

“Communicating in the local language ensures easy acceptance by the community. Our association with the community radio has been productive as with a limited staff we could not have reached so many farmers”.

In addition to informing the communities about government schemes, community radio reporters also informed the government officials about community perceptions on climate change. The government officials also seemed interested in visiting the villages for village level meetings facilitated by community radio reporters to discuss climate change adaptation measures with the community members. Baby Raja, Station Manager, Radio Dhadkan sharing her experience on how her radio reporters were effectively bridging the gap between communities and government officials said,

“After a narrow casting session of a Shubh Kal radio show on ‘bio gas’ in Nauhari village, 12 villagers expressed an interest in installing biogas plants. We communicated this feedback to the agriculture department official who had the yearly target of installing 290 biogas plants in the district. We facilitated a meeting in the village where the community members directly interacted with the government official to clear their doubts. Forms for installation of biogas plants with the interested community members were filled on the spot. Work has now begun for bio gas plant installation in a number of households in this village.”

6.3.2. Radio Reporters Communicating Traditional Knowledge about Sustainable Farming to the Scientists and Policy Makers

Through community radios, the scientists have learnt about the traditional knowledge and adaptation practices of the farmers. Prakash Kushwaha, a farmer from Rajawar village of Tikamgarh district has been using ‘amrit mitti’ (a type of organic compost) on his farm. Seeing positive results of the application of this organic compost, more than 200 villagers from surrounding villages have switched to using ‘amri mitti’ replacing chemical fertilizers. Radio reporters from all the four radio stations made a Shubh Kal episode on ‘amrit mitti’ to educate farmers in their districts about this tried and tested organic compost. The radio reporters from Radio Bundelkhand and Radio Dhadkan communicated Prakash Kushwaha’s efforts to promote ‘amrit mitti’ to the local scientists and helped facilitate an ‘amrit mitti’ making demonstration in the Krishi Vigyan Kendras (KVKs – government agriculture extension centres) at Jhansi and Shivpuri. Dr. M.K Bhargav, Chief Scientist, Krishi Vigyaan Kendra, Shivpuri said:

“The techniques of organic farming adopted and demonstrated by Prakash Kushwaha at our centre are extremely effective in improving soil fertility and increasing agricultural productivity. The Krishi Vigyan Kendra will take this initiative forward by demonstrating and promoting the same among farmers in Shivpuri and nearby districts”.

6.3.3. Link between Community Radios, Scientific Organisations and Government Line Departments – Way Forward

As a positive outcome of this pilot project, authorities from Krishi Vigyaan Kendras (KVKs - government agriculture extension centres) and agriculture departments in each of the four districts have signed partnership letters with the radio stations to continue facilitating their extension services. The officials will not only provide information on agriculture related advisories but will also invite the radio reporters for relevant meetings, farmer fairs, exhibitions and training programs. This will provide radio reporters with the information of latest initiatives and government schemes in the region and help them to continue making climate change programmes. Dr. Sunil Kumar Agnihotri, Head of the Agriculture Department, Jhansi expressed,

“We congratulate Radio Bundelkhand in providing us the extension support to reach out to farming communities in more than 100 villages. Scientists have developed new seeds and technologies for helping the farmers cope with climatic variabilities. Radio Bundelkhand has acted as an important medium in disseminating this information to the farmers. We would like to carry forward our partnership developed with Radio Bundelkhand during the Shubh Kal initiative. We would continue to inform the radio about our schemes, programmes and meetings.”

The community radio reporters have thus been successful in being an effective medium for two way communication between the communities on one hand and the scientists and local government authorities on the other for promoting climate change adaptation.

7. Conclusion

The pilot project 'Shubh Kal – From Information to Knowledge and Action' 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 bio gas plants etc. Listening to the Shubh Kal radio shows, 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 increasing the visibility of radio stations especially in those villages where the radio broadcast reach is not effective and amongst those farmers who missed hearing the shows at the time of the broadcast. During the narrowcasting sessions, the listener groups 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 community radios have motivated behaviour change in the community by fostering dialogue exchange, sharing knowledge and finding solutions for community development as evident from the example of Aaravni village in Lalipur district where community members adopted water harvesting measures after a narrow casting session of a Shubh Kal show by Lalit Lokwani on water management. Similarly in Nauhri village in Shivpuri district, many community members expressed an interest in installing biogas plants after listening to a Shubh Kal show by Radio Dhadkan on the topic. This is indicative of the fact 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.

This pilot project has created a new space for dialogue between communities, scientists and local government authorities to exchange information about climate change impacts and advocate responses which address local communities' needs. The climate change communication model piloted in this initiative has proved to be successful on the ground. 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, farmers find it easy to communicate their concerns and queries to them. The scientists and government officials 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. In future, this information will help them design more locally relevant adaptation strategies.

Several studies have necessitated the integration of localised indigenous knowledge into scientific research studies for a better understanding of community based adaptation (*Berkes, Colding, & Folke, 2000*). Besides being community members, community radio reporters also play the role of local campaigners, information providers, mass communicators, investigators and information intermediaries. In this pilot project, radio reporters have been successful in taking traditional knowledge of the communities with respect to adaptation practices to the scientific community and policy makers. The example of radio reporters from two radio stations facilitating demonstration of 'amit mitti' making (a type of organic compost) by farmer Prakash Kushwaha at the Krishi Vigyan

Kendras (KVKs – government agriculture extension centres) in Jhansi and Shivpuri districts is illustrative of this connect. The radio reporters have also been sharing the success story of Prakash Kushwaha's efforts to promote organic farming in Tikamgarh district with policy makers during their participation in state and national level workshops on climate change communication organised during the course of this pilot project.

The Shubh Kal initiative has been fairly successful in building the reporters capacities in climate change journalism. The findings clearly indicate that designing capacity modules which impart both practical and theoretical experience to the reporters are effective in building their capacities and enhancing their knowledge and skills with respect to climate change communication. The involvement of community radios in sensitisation of climate change concerns and adoption of adaptation measures should be scaled up by the production of more such radio shows in different climate sensitive regions. This research suggests that the impact of community radios can be successfully amplified by association with the extension agencies of local scientific institutions and government departments. Mainstreaming climate change communication in the current planning process and building capacities of local level authorities in understanding complexities related to climate change is strongly required. The findings highlight that capacities of community radio reporters and relevant stakeholders (local village authorities and district government officials) 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 pilot model has proved to be an effective tool for grassroots representation and communicating voices from the ground to scientists, local government authorities and policy makers. Funding should be encouraged for such efforts on climate change communication thus sustaining radio shows beyond limited number of episodes. 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.

References

- Agrawal, A., & Perrin, N. (2009). 'Climate Adaptation, Local Institutions and Rural Livelihoods' IFRI Working Paper W081-6, University of Michigan
- Bandelli, D. (2011). Women in Community Radio in India: Avenues of Research on Participation and Empowerment' Working Paper circulated on Solution Exchange India, September, 2011
- BBC World Service Trust, (2009). Africa talks Climate Research Briefing: Ghana. London: BBC World Service Trust
- Berkes, F., Colding, J., & Folke, C. (2000). Rediscovery of Traditional Ecological Knowledge as Adaptive Management. *Ecological Applications*. 10(5): 1251–1262
- Buckley, S. (2009). Annual Report. World Association of Community Radio Broadcasters, AMARC. Retrieved from http://www.amarc.org/documents/rapports/annual_reports/ANNUAL_REP_2009_Opt_29072010.pdf on 15/6/2013
- Choudhury, P.S. (2011). Media in Development Communication. *Global Media Journal – Indian Edition/ISSN 2249-5835 Winter Issue / December 2011*. 2(2)
- Craig, G. and Mayo, M (eds.) (1995). Rediscovering Community Development: Some Prerequisites for Working “in and around the State”. *Community Development Journal*. 30(2): 105-9
- CR News (2013). CRs in Bangladesh address cyclone 'Mahasen'. 4(1):3
- Das, R. (2011). Scope of Revitalizing Rural Development Through Community Radio. *Media Watch*. 2(1): 28-34
- Gauthier, J. (2005). Popularize, Produce, Disseminate. Reference sheets for field researchers. Sheet 12: Radio. Ottawa: IDRC
- Ensor, J., & Berger, R. (2009). Community-based Adaptation and Culture in Theory and Practice. In W. N. Adger, I. Lorenzoni, & K. O'Brien (Eds.), *Adapting to Climate Change: Thresholds, Values, Governance* (pp. 227–239). Cambridge, UK: Cambridge University Press
- Fratzke, S. (2008). Internet Radio as a Learning Tool. Retrieved from http://www.i-radio-school.eu/starterkit/journalism/cooperation_radiostations/recommendations_cooperation.pdf on 18/6/2013
- Harvey, B. (2011). Climate Airwaves: Community Radio, Action Research and Advocacy for Climate Justice in Ghana. *International Journal of Communication*. 5: 2035-2058
- Jumani, N.B. (2009). Study on Role of Radio for Rural Education in Pakistan. *Turkish Online Journal of Distance Education-TOJDE* October 2009 ISSN 1302-6488. 10(4): 176-187
- Lwoga, E.T. (2010). Bridging The Agricultural Knowledge And Information Divide: The Case Of Selected Telecenters And Rural Radio In Tanzania. *The Electronic Journal on Information Systems in Developing Countries*. 43(6):1-14

- Patil, D. (2010). A Voice for the Voiceless: The Role of Community Radio in the Development of the Rural Poor. *International Journal of Rural Studies*.17(1)
- Narayan, D. *Empowerment and Poverty Reduction: A Sourcebook*. Washington, World Bank, 2002
- Reid H., Alam M., Berger R., Cannon T., Huq S., Milligan A., (2009). *Participatory Learning Approach: Community based Adaptation to Climate Change*. Nottingham, U.K. Russell Press
- Rogers, E. (1976). Communication and development: The passing of the dominant paradigm. *Communication Research*, 3, 21324001724912400, 2600090
- Rogers, Everett M. (1983). *Diffusion of Innovations (Third Edition)*. New York, USA: Free Press
- Satapathy S., (2011). *Adaptation to Climate Change with a Focus on Rural Areas and India* Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, India Project on Climate Change Adaptation in Rural Areas of India
- Sharma A. (2011). *Community Radio As An Effective Tool For Agricultural Development*
- Siva Balan K.C., & Norman S. J. (2012). *Community Radio (CR) – Participatory Communication Tool for Rural Women Development - A Study*. *International Research Journal of Social Sciences*. 1(1), 19-22.
- Tompkins, E.L., Few, R., Brown, K. (2007). Scenario-based stakeholder engagement: Incorporating stakeholders preferences into coastal planning for climate change. *Journal of Environmental Management*. 88(4):1580–1592
- Youth ki Awaaz. Retrieved from <http://www.youthkiawaaz.com/2011/07/community-radio-as-an-effective-tool-for-agricultural-development-research/> accessed on 18th January, 2013

About the participant groups



Environment Planning and Coordination Organization (EPCO), Government of Madhya Pradesh is registered under the Housing and Environment Department of the Government of Madhya Pradesh. It connects government as well as non-government agencies in solving environmental problems. <http://www.epco.in/>



The Institute of Development Studies (IDS) at the University of Sussex, UK is a leading global organisation for research, teaching and communication on international development. It acts as a development research and knowledge hub, connecting and convening networks throughout the world. <http://www.ids.ac.uk/>



Kings College London, Humanitarian Futures Group - The Humanitarian Futures Programme (HFP), works to support organisations with humanitarian roles and responsibilities to effectively anticipate and prepare for long term future crises. www.humanitarianfutures.org/



Third Pole Project is a joint project of the Internews Earth Journalism Network and the bilingual environment news website chinadialogue.net that seeks to improve coverage of climate change issues in the Himalayan region and downstream. The Third Pole – based in New Delhi, Beijing, London and San Diego – designs curriculum and carries out media capacity building and training workshops for local and regional groups across Asia. www.thethirdpole.net/



Development Alternatives (DA) is India's leading civil society organization engaged in research and development. DA set up the first Community Radio in the Central Indian region of Bundelkhand. <http://www.devalt.org/>

Supported by:



Climate and Development Knowledge Network (CDKN) supports decision-makers in designing and delivering climate compatible developments by combining research, advisory services and knowledge management in support of locally owned and managed policy processes. www.cdkn.org

Disclaimer:

"This document is an output from a project funded by the UK Department for International Development (DFID) and the Netherlands Directorate-General for International Cooperation (DGIS) for the benefit of developing countries. However, the views expressed and information contained in it are not necessarily those of or endorsed by DFID, DGIS or the entities managing the delivery of the Climate and Development Knowledge Network, which can accept no responsibility or liability for such views, completeness or accuracy of the information or for any reliance placed on them."