Community Radio: An Introduction
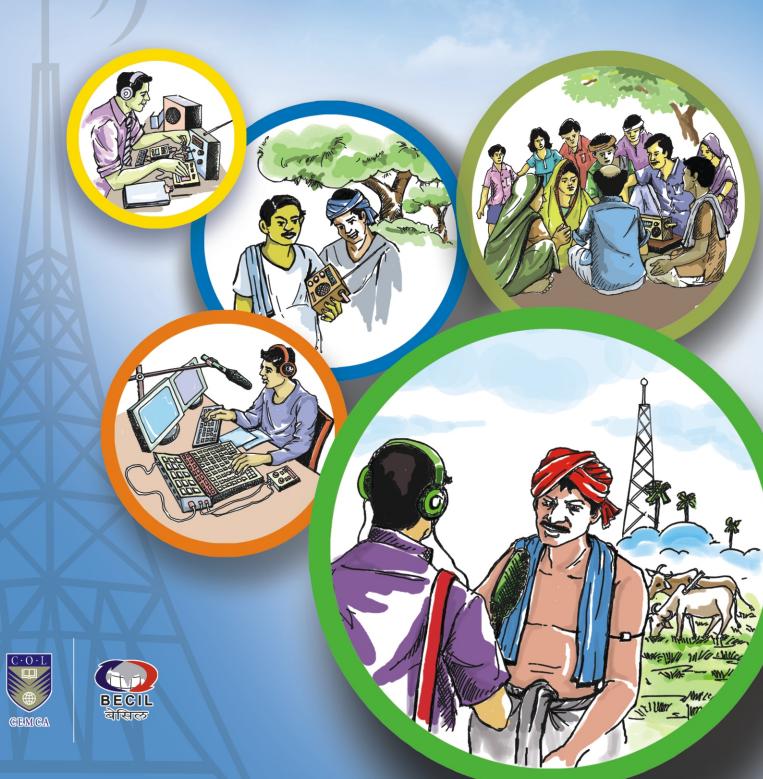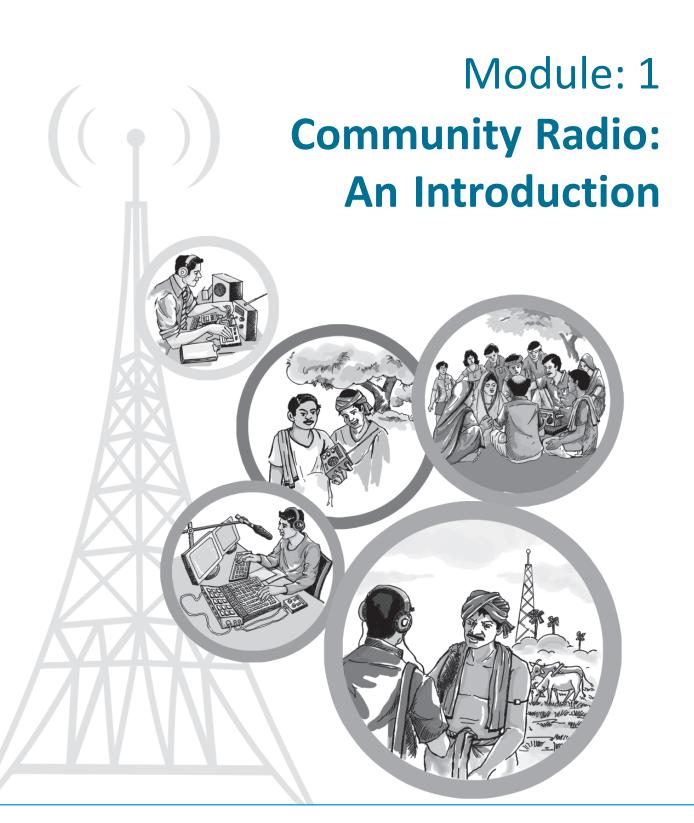
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Module: 1
Community Radio:
An Introduction

Module 1 : Community Radio: An Introduction

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Certificate in Community Radio Technology

Courses	Modules	Units	
Course I: **Understanding** **Community Radio** (3 Credits, 90 Hours)	**Module 1** Community Radio: An Introduction	Unit 1 : Unit 2: Unit 3: Unit 4:	Community Radio: Concept and Evolution Context, Access and Equity Community Radio: Policy Guidelines Technology for CR: Guiding Principles
	Module 2 Setting up of CRS	Unit 5: Unit 6: Unit 7: Unit 8:	Components of CR Station Radio Waves and Spectrum Basics of Electricity Power Backup and Voltage Stabilisation
Course II: **Community Radio** **Production: System &** **Technology** (5 Credits,150 Hours)	**Module 3** Studio Technology	Unit 9: Unit 10: Unit 11: Unit 12:	Basics of Sound Analog and Digital Audio Components of the Audio Chain Studio Acoustics
	Module 4 Audio Production	Unit 13: Unit 14: Unit 15:	Audio Hardware and Field Recording Free and Open Source Software Telephony for Radio
	Module 5 Audio Post Production	Unit 16: Unit 17: Unit 18: Unit 19:	Sound Recording and Editing Mixing and Mastering File Formats and Compression Storing and Retrieval
	Module 6 Studio Operations	Unit 20: Unit 21: Unit 22:	Good Engineering Practices for Studio Setup Studio Equipment: Preventive & Corrective Maintenance Content Distribution: Alternative Mechanisms
Course III: **Community Radio** **Transmission: System &** **Technology** (2 Credits, 60 Hrs)	**Module 7** Radio Transmission Technology	Unit 23: Unit 24: Unit 25: Unit 26:	Components of Transmission Chain Components of FM Transmitter Antenna and Coaxial Cable Propagation and Coverage
	Module 8 FM Transmitter Setup	Unit 27: Unit 28: Unit 29:	Transmitter Setup: Step-by-step Transmission System-Preventive and Corrective Maintenance Transmission Setup-Good Engineering Practices
Course IV: **Technical Internship** (2 Credits, 60 Hrs)	**Module 9** Practical Internship Handbook	Section A: Section B: Section C: Section D: Section E:	Introduction Activities to be Conducted During the Practical Internship The Internship Journal and Self- Assessment Paper Assessment of Internship Appendices

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About the Module

Module Description

This module is first part of the Course – I: Understanding Community Radio, and gives an introduction and overview of Community Radio including its concept and evolution along with the basics of Radio Broadcasting in India.

The first module, *"Community Radio: An Introduction"* has four Units. The first Unit provides you with a historical perspective of the emergence of community radio in India besides giving a brief idea of the other two tiers of broadcasting viz., public service broadcasting and private sector broadcasting.

Community Radio is fundamentally linked to the idea of 'voice-to-voiceless' and is a tool for social change. The second Unit, besides throwing light on these aspects, also introduces you to issues such as developmental implications of Community Radio Stations, freedom of speech, gender equity and provides an opportunity for one to read up a bit more on existing community radio stations and measure them against some of the principles behind the setting up of a CR station.

Third Unit will focus on the existing community radio policy in India and its salient features. You will realise how the policy framework affects the technology and programming of community radio. A background on the campaign for community radio in India and the various actors behind it also find more than a mention in this Unit.

Since the programme is intended to develop technical competencies of those associated with CR stations, the fourth Unit will discuss the fundamental principles and key decisions one will need to take before deciding on the technology. These decision points will be the key to minimising downtime and maximising flexibility of operations.

Module Objectives

- To provide a historical perspective on the evolution of Community Radio (CR) in India;
- To discuss the principles behind setting up of CR;
- To discuss the policy guidelines and their impact on technology and content of a CR station; and
- To discuss the fundamental principles behind deciding the technology for a CR station.

Units in the Module

- Community Radio: Concept and Evolution
- Context, Access and Equity
- Community Radio: Policy Guidelines
- Technology for Community Radio: Guiding Principles

UNIT 1

Community Radio: Concept and Evolution

Structure

1.1 Introduction

This Unit will help you to understand community radio as a concept. There are no technology-related topics in this Unit but rather, basic material related to the history of radio in India, and the evolution of community radio.

This Unit will also give you a few case studies of community radio stations across Asia. You will need access to select reading materials, and a visit to the nearest community radio station is highly recommended.

You will need at least four hours to complete this Unit including carrying out some of the activities mentioned below.

1.2 Learning Outcomes

After going through this Unit, you will be able to:

- discuss the basics of radio broadcasting in Asia – including history and evolution of community radio;
- explain the evolution and emergence of community radio, especially in India; and
- discuss a few model community radio stations across Asia.

1.3 Radio Broadcasting in India

This section will introduce you to the history of radio broadcasting in India, including a history of the public service broadcasting sector – All India Radio, and the emergence of the private radio sector. It will not only give you a historical perspective on both these sectors, but will also help you distinguish these sectors from community radio.

Radio came to India during its infancy in the Western part of India. For much of its history, it has remained a part of the government, with private broadcasters commencing operation only in the early 2000s (though many were regularly purchasing airtime by the mid-1990s.)

In British India, radio broadcasting began, in a small way, in July 1923 with programmes by the Radio Club of Bombay and other radio clubs. However, on a larger scale, radio broadcasting was started in India by a private company *viz*., Indian Broadcasting Company Ltd. (IBC) in 1927, which was authorized by the government vide an agreement of July 23, 1927 to operate two radio stations : the Bombay Station began on 23 July 1927, and the Calcutta station followed on 26

August 1927. On 1 March 1930, however, the company went into liquidation. The government took over the broadcasting facilities and started running the service as the Indian State Broadcasting Service (ISBS) from 1st April 1930 (on an experimental basis for two years, and permanently from May 1932). On June 8, 1936, the ISBS was renamed All India Radio (AIR).

On 1 October 1939 the AIR launched its External Service with a broadcast in Pushtu. It was intended to counter radio propaganda from Germany directed to Afghanistan, Iran and the Arab nations. When India became independent in 1947, the AIR network had only six stations (in Delhi, Bombay, Calcutta, Madras, Lucknow, and Tiruchi) and the total number of radio sets in the country at that time was about 275,000.

In the interim period, Radio Ceylon, based in Colombo, captured Indian hearts and wallets by broadcasting Hindi (Bollywood) songs. Radio Ceylon was started in 1923, and quickly set high standards for broadcasting. But it came into its own at the end of the Second Wold War, when Allied Forces – who had been using it for wartime broadcasts – handed it back to the Govt. of Ceylon. The 1950s and 1960s were the golden age of Hindi film music and Radio Ceylon played plenty of it with the result that Radio Ceylon's powerful transmissions began to be the preferred listening service in South Asia. It made household names of several of its producers and comperes and gave rise to popular programmes like the *Binaca Geet Mala* and *Lipton Ke Sitare.* Advertising revenue streamed from India to Ceylon in vast quantities. On 3 October 1957 the Vividh Bharati Service was launched by All India Radio to compete with Radio Ceylon. Television broadcasting which began in Delhi in 1959 as part of AIR, was split off from the All India Radio network and became independent TV public service broadcasting network – Doordarshan on 1 April 1976.

Today, All India Radio's Home Service consists of 403 stations across the country, broadcasting in 23 languages and 146 dialects. All India Radio covers 92% of the terrain and 99% of the population of the country.

Formation of Prasar Bharati

From the day it was started, the radio service was run by the Government of India, whether it was the British or the Indian government after Independence. This meant that all the people working in the radio stations were government employees, and all the money required for setting up and running the radio stations was provided by the government. In 1975, however, India saw a brief period during which content on the radio and television was alleged to be only about those topics that the government approved. As a result, a great public debate ensued for making All India Radio and Doordarshan totally separate and independent of the Government and thus function truly as a Public Broadcaster. It was argued that the objective of the public service broadcasting sector is to cover issues which would be in public interest and not for profit or only entertainment. Moreover, public service broadcasting is aimed at programmes catering to all sections of the population – rich or poor, urban or rural, men or women.

A bill *viz.,* Prasar Bharati Bill was, accordingly, introduced in the Parliament to bring the above mentioned objective into effect. The Prasar Bharati Bill was debated in Parliament at great length to come to a consensus as to how this public service broadcasting sector would operate. Finally, in 1997, the Prasar Bharati Act was passed by Parliament, and a separate organization was incorporated which was known as Prasar Bharati. It was to be an independent public service oriented corporation, which would manage both All India Radio and Doordarshan. The funds, staff and programming would be managed by this corporation. Prasar Bharati is, however, still not able to generate adequate funds and has to be rescued by the Government. The Chief of Prasar Bharati is appointed by the Ministry of Information and Broadcasting of the Government of India, but is given special protection in order to provide functional autonomy.

1.3.1 Public Service Broadcasting

Public service broadcasting in India today is probably one of the largest of all such operations in the world. All India Radio has a wide range of home services which cater to every part of the country, and almost all the officially recognized languages and dialects. The service is very popular, especially in remote and rural areas, where there is no other media penetration – including private FM radio (explained in the next sub-section) or television. The programmes cater even to rural audiences including programmes on agriculture, local culture, livelihood, and folk music. The All India Radio service has one national service which broadcasts from Delhi and can be picked up by the regional stations in each state. Each state also has a number of regional services which include one main station, usually in the capital of the state, and then smaller stations installed in specific districts. The regional and smaller stations may also relay programmes from larger stations, such as the national service. For example, the Bangalore AIR station relays news or music programmes from AIR Bombay on certain occasions. The relay service is also useful in broadcasting national news which would be the same for all the stations. In terms of modes of transmission, All India Radio in FM, MW and SW mode. The Medium Wave services are mostly the regional stations which cover entire districts or states, and cater to a wide range of audience, while FM Services mostly work as local radios. You will find that both FM and MW are explained in more detail in later chapters.

Activity 1.1

Try tuning into a FM or AM (MW and SW) service of AIR broadcasting. Try to list down the kind of programmes that are covered in both types of service. Is there any difference between AIR and other kinds of radio programmes which you can hear in your location? This exercise should take you about 45 minutes.

1.3.2 Emergence of Private Radio Sector

The private radio broadcasting sector, as the name suggests, is primarily distinguished from public service broadcasting in terms of ownership of the radio. While public service broadcasting was first owned by government and then by Prasar Bharti, private broadcasting is owned by private companies. Ministry of Information and Broadcasting, in the early 90s, felt that while All India Radio programmes were being heard in large part of the country, there was a need to diversify content by bringing in private players on AIR's platform.

AIR thus began selling airtime blocks on its FM services to private broadcasters and producers, who then broadcast these programmes over AIR FM Channels. Among the first private entities to enter this business was Times FM, which commenced operations in 1993. So much was the popularity gained by Times FM, that there was a clamour for allotment of airtime slots by many other entities. This led to litigations which forced AIR to withdraw the scheme. Meanwhile, there was a landmark Supreme Court judgement in the case of West Bengal Cricket Association v/s Union of India, which held that the airwaves are public property, with the government's role restricted to management and regulation. The implication was that private parties had an equal right to broadcast in India.

The Government of India, vide its notification made on 1 July 1999, opened the doors of FM broadcasting to private operators by offering to allot 108 channels in 40 cities. Alongside, it also earmarked a channel for education in each of the 40 cities. As a result, a number of private stations began to come up, the first of which was Radio City, in Bangalore, in 2001. Even though ultimately only 22 channels could get operationalized covering 12 cities, they revolutionized radio listening in the country thus creating a demand of more channels in Phase II.

Responding to the demand for more channels, FM Policy Phase II was notified in 2005 during which 225 additional FM channels came up across India, raising the total number of channels to 245 in 86 cities. As things stand today, Phase III policy has already been notified in 2011, with the intention of raising the total number of stations to 839 across 294 cities in India but its roll-out is awaited.

1.4 Community Radio: Evolution

Community radio is the third tier of radio broadcasting in India – the first two being public service and private broadcasting. Thus community radio is that sector of radio which is owned by localized geographical communities, wherein participation, ownership and daily management of the radio station is by the same community the radio seeks to serve.

A typical community radio station is characterized by programmes which are produced by local people, in the local language or dialect, and talks about locally relevant issues. It is different from public radio because public service radio

typically caters to a much larger audience, and most of the programming is done by broadcasting professionals. In community radio, the audience is limited to a few villages or localities, and the programming is done by local people, who mostly have had no prior experience in radio. Finally, community radio is a medium which is recognized globally, in helping the community/marginalized people express their opinion on various matters concerning the community, as well as talk about local development issues. Both of which, private and public service radio can only do to a very limited extent.

Community Radios had already become a reality in many parts of the world. The 1995 Supreme Court judgement that airwaves are public property also generated a discussion within civil society organizations working on community driven media. Neighbouring nations such as Nepal had already experimented with community radio since the early 1990s, and many CR stations were doing sterling work by then. Could India not have a process to set up CR stations?

Civil society activism resulted in a joint activism and advocacy agenda called the Pastapur Declaration in 1998. The declaration was so named after the venue – Pastapur in Medak District, Andhra Pradesh - where discussions were held and the declaration adopted. This became the framework for further discussion with the Government.

Sustained advocacy with the Government of India resulted in the first Community Radio Policy in 2002, which allowed educational institutions across the country to set up small scale local radio station. Supported by several international agencies such as UNESCO and UNDP, civil society organizations and government functionaries continued thrashing out revisions to the 2002 policy, which was only partially enabling. This resulted in the revised CR Policy Guidelines of November 2006, which allowed registered civil society organizations also to apply for CR licenses; and which forms the current framework for CR in India.

1.4.1 Concept and Role of CRS

The Indian sector of community radio is perhaps the only one in Asia which is separate and distinct from private and public radio broadcasting. This sector, as per current policy guidelines is mainly framed in terms of development and improving quality of life for communities radio seeks to serve. This includes women's issues, health, education, culture, local music, economic and social development, to name a few. The details about the Community Radio Policy in India are given in Unit 3 of this module.

Concept of Community Radio

The key concept of Community Radio (CR) is that of giving the voiceless a voice. Even in places where there is extreme poverty, it has been shown through many studies that what people value the most is to have a voice. This means that they value their right to speak out on what is affecting them, speak out on their

identity, and speak to document their ways of life, cultures and traditions. Therefore, community radio is often seen as giving a voice to those who are often voiceless. This means that community radio should always prefer those who are marginalised in society and give them an opportunity to speak. For example, in India, community radios could provide opportunities to communities belonging to the Dalits, minorities, sex workers, people with disabilities, senior citizens, tribals, etc..

In addition to this, the concept of community radio is strongly associated with many other values including that of better governance, documenting and using languages, oral histories and cultures, promoting gender equality and sensitivity, as well as educating and entertaining its community.

Finally, the concept of community radio can be summed up in the words of Louie Tabing, a community radio pioneer from the Philippines, who said community radio can give a community member the opportunity to "Be you, Be New and Be True".

Playing diverse roles – A global picture

One of the first community radio stations to be started in the world was a radio station started by miners in Bolivia in the 1940s. The radio station was mainly supposed to represent the issues related to the mining industry in Bolivia from the workers point of view. Since then, community radio has spread rapidly to most parts of the world, with South Asian countries (like India, Pakistan, Sri Lanka, Afghanistan, Bhutan) being relatively late entrants.

In Latin American countries like Brazil, Guatemala, Argentina, community radio stations are heavily political in nature. They are connected to people's movements, which are usually connected to issues concerning people's rights on topics such as the right to choose a political candidate, right to education, etc. Further, the social and developmental role of the church has been recognized, and religious institutions like the church have been allowed to broadcast on radio. In European countries, the community radio movement has been mainly seen as a strong alternative to mainstream media. Often these community radio stations represent view points and opinions of the people on the street, which are often missing in mainstream and private media. These radio stations also give opportunities to independent musicians and folk artistes who do not get a chance to play their music on other media. In Africa and now in Asia, community radio has been largely seen as a medium which can help in development of the people and improve their quality of life.

1.4.2 Community Radio in India Today

At present, there are about 145 functioning community radio stations in India. At present Delhi and Tamilnadu have maximum number of community radio stations and the numbers are slowly increasing in Uttar Pradesh and Bihar. Of the total

number of community radio stations, about 100 of them are licensed to educational institutions or agricultural centres (Krishi Vigyan Kendras). The rest of them are licensed to community-based organizations or civil society institutions. There are many community radio stations that are broadcasting only fresh content on a daily basis, but majority of them are repeating content from the same day or previous day broadcast.

There are government advertisements (from various ministries) available, but CR stations have to empanel themselves with the Directorate of Audio Visual Publicity (DAVP) to avail of the advertisements. Sponsored programmes are also available via DAVP. In addition, CR stations can also broadcast commercials related to local goods and services. Ministry of Information and Broadcasting is planning to introduce a centrally administered scheme to fund community radio stations through various activities including setting up and capacity building.

One of the problems with community radio stations in India is its uneven distribution across the geography of the country. Most of the community radio stations are located in urban centres or semi-urban centres. There are none, or very few, community radio stations in very remote, rural, conflict, border and coastal areas of the country. For example, at present there are no community radio stations in Jharkhand, or large parts of the North East.

Activity 1.2

> This activity is meant to enable you to identify and recognise the three tiers of radio broadcasting in India. You may need about 45 minutes to one hour to complete this activity. Tune into your radio set on AM and FM separately and list out available radio stations of each of the following categories:
>
> a) Public Service
> b) Private FM radio stations and,
> c) Community radio stations

1.5 Some CR Initiatives

This section uses a few examples of community radio from around the world to illustrate some basic principles and/or some processes that could be beneficial to community radio stations in any part of the world. (For the purpose of more detailed study, case studies of these community radio initiatives have been included as 'Additional Reading' material).

The Tambuli Project in the Philippines

Tambuli project is a typical example of Community Radio Station at a place (Olutanga Island) where Government services related to community welfare such as education, health, law enforcement, banking facilities and communication system are poor. Visitors to the island are therefore astonished to find that this island, eight hours away by boat from the city of Zamboanga, operates a radio station. The islanders, themselves, were incredulous when the Tambuli project proposed the facility to them in 1993. They became even more doubtful when full control of the station was given to them.

The station runs mainly news and public affairs programmes anchored by a main personality. Other producers and reporters join in with features, news, tips and regular programme segments. It was surprising that inspite of the poverty of the island, large number of people owned portable VHF amateur transceivers. These transceivers are being gainfully employed for most of inputs concerning news and public affair programmes.

This project is easily recognized as one of the earliest promoters and pioneers of community radio in Asia. Louie Tabing, one of the founders of the Tambuli project has written a case study which demonstrates one of the most fundamental aspects of community radio stations – community participation, management and ownership. In this case study, Mr. Tabing involved community participation and opinions on even whether there should be a community radio established in their region at all. After multiple rounds of discussion in the community, the project also facilitated the establishment of a separate council called the Community Media Council with its own management.

From that step onwards, the case study is very useful to showcase how community groups can be involved in every step of operationalizing a community radio station. The project involved community groups in identifying the location of the studio, building the studio, and finally building capacities of local people to work as staff for the new radio station. The programming which resulted in this radio station is also a model example in terms of how it involved ordinary community people from various class, literacy and religious backgrounds.

The Radio Sagarmatha Project in Kathmandu

This project, like Tambuli, is also perhaps one of the most well-known and pioneering initiatives in the sub-continent. The Nepal Forum for Environmental Journalism (NEFEJ) was one of the driving forces behind the creation of Radio Sagarmatha. Astonishingly, even today, Nepal does not have an explicit policy for community radio. However, due to a liberalization of the airwaves, community groups as well as private corporations are allowed to apply for licenses on equal terms. From 1993 to 1997, Radio Sagarmatha existed as a physical space with audio equipment, trained staff and a bank of local programming. It was only after Radio Sagarmatha threatened to go live without a license that the government of

Nepal granted them a license. The Sagarmatha case study illustrates the power of advocacy organizations, the utility of community radio in an urban setting, and also the benefit of a structured radio station in terms of social and financial sustainability. The radio station is headed by a seven member board with representation from all partner NGOs. It has a staff of a programme director, six full time producers, two technicians, a music librarian, an engineer, an accounts officer and a station helper. Additionally, at the time of writing, the station also had about 26 volunteers, who are reimbursed for actual expenses and/or paid a small honorarium.

Unlike the Tambuli project, the Radio Sagarmatha also functions as an effective public service broadcaster. The Tambuli project did indeed provide public service through its operations but was much more focused on its own community. Radio Sagarmatha on the other hand provided a much more universalist kind of programming which suited its urban presence.

The Radio Ujjas Project in Kutch, Gujarat

Radio Ujjas is an initiative by the Kutch Mahila Vikas Sanghatan (KMVS), a non-profit organization based in Gujarat, India. This model is partly similar to the Radio Sagarmatha project to the extent that it was also operating without an operational and explicit community radio policy. However, Ujjas Radio was one of the first initiatives to produce locally relevant programming but distribute the programmes via the local All India Radio station in Bhuj.

The Ujjas Radio initiative is known for its strong emphasis on women participation as well as focus on gender in its programming. This is reflected in the focus on women's participation in the parent organization KMVS itself. They work in Kutch District, one of the largest districts in India, but also with one of the lowest literacy levels. The radio station has been known to make effective use of local folk songs, traditions, art and culture in their radio programmes to create a strong bridge with their listeners.

The radio station requires its reporters and volunteers to organize community level meetings and discussions where the community places forward its requirements, needs and concerns. Based on this information, the Radio Ujjas team produces programmes in the local language and dialect. After the programme has been aired, the reporters collect feedback through personal interactions, letters, phone calls etc. Of late, the radio station is also known to air programmes on governance, utilization of welfare resources, disaster management and other such areas. This case study is effective in understanding how women's participation can play a strong role in activating a community radio's presence and sustainability. It is also useful to get a glimpse into how arts, culture, local language and dialects can be leveraged usefully by a community radio station.

1.6 Let Us Sum Up

In this Unit, you have learnt to distinguish between public service radio, private radio and community radio. Further, you have also learnt how community radio came about in India, including what role it plays and what is its concept. You have also come to know about the history of development of radio broadcasting in the country including a brief idea about the various modes of broadcasting including that of Private Broadcasting & Community Radio.

1.7 Model Answers to Activities

The information gathered in the activities presented in this module should be your own experiences. Both activities are hands-on activities.

1.8 Additional Reading

- UNESCO (2001). *Community Radio Handbook*. Retrieve from http://www.unesco.org/webworld/publications/community_radio_handbook.pdf

- Radio Ujjas: Giving Voice to the Women of Kutch, Best Practice Documentation (2001), Retrieve from http://tinyurl.com/nv8edde

- Tabing, L. (2002). *How to do community radio: a primer for community radio operators.* UNESCO. Retrieve from http://unesdoc.unesco.org/images/0013/001342/134208e.pdf.

UNIT 2

Context, Access and Equity

Structure

Commonwealth Educational Media
Centre for Asia

2.1 Introduction

In this Unit you will develop further on the basic understanding of community radio, which you studied in Unit 1 earlier. You will go deeper into how community radio is fundamentally linked to concepts of development and tool for social change. Further, you will also study how the concept of local participation is central to community radio.

This Unit is, like the previous one, purely theoretical and to complete this Unit, you will need to familiarize yourself with concepts of development, community participation, voice to the voiceless and gender equity. As a special activity you will be reading up on existing community radio stations and try to measure them against concepts which are mentioned in this Unit.

2.2 Learning Outcomes

After going through this Unit, you will be able to:

- define community radio in the context of development, voice to the voiceless and community participation.
- list and describe how communities can participate in community radio with respect to gender equity and culture and identity.
- analyse community radio with respect to voice for the marginalised and the Right to Information.
- appreciate the conceptual underpinnings of community radio in terms of larger concepts such as development, free speech, gender equity and notions of participation.

2.3 Developmental Implications of CR

In this section, you will study about the theme of development and how it can be linked to the community radio sector. You will further study about the concept of development itself, and how community radio can be used for social change.

2.3.1 Concept of Development

Development, in this case, refers to human development. It was perhaps the renowned economist Amartya Sen, who first laid out a framework for human development. In the 1980s the leading development approach closely linked a country's economic progress to the increase in its citizens' quality of life. The Human Development approach arose partly as a result of growing criticism to this

approach. The need for an alternative approach to human development became clear due to several reasons - the wealth created with economic progress was not 'trickling down' to the poorer sections of the society; crime, ill-health and lack of education continued to spread in many countries in spite of economic growth.

Amartya Sen said, "Human development, as an approach, is concerned with what I take to be the basic development idea: namely, advancing the richness of human life, rather than richness of the economy in which human beings live, which is only part of it."

In 1990, the United Nations Development Programme (UNDP) published their Human Development Report, known as HDR 1990. The publication of this report expanded the understanding of the term development and sharpened the discourse on human development.

Over the years, the UNDP along with prominent economists like Mahbub Ul Haq, developed the Human Development Index (HDI), a measure of human development primarily based on indices of life expectancy, education and income.

It is worth pausing how community radio can contribute to human development either through the primary indices of the HDI or through other contextually relevant indices – ranging from human rights or civil liberties to cultural rights and so on.

The fundamental assumption within the community radio sector is very closely tied to the capabilities approach developed by Amartya Sen. Community radio, as a key enabler of people's voices and their participation in their affairs, allows communities to exercise their choices by giving them a voice and an agency. A community radio station, in an ideal scenario, will work together with its community to identify and refine locally relevant indices of human development, and prioritize the most pressing needs of the community.

2.3.2 CR and Social Change

While social change is a term often bandied about in the communication for development sector, it is rarely defined in specific terms for community radio stations to apply the concept on the ground. It is widely accepted that some of the terms and concepts, central to the notion of human development, are economic growth, participation and freedom, equity, security, social progress and sustainability. While these terms could be applied to virtually any community, it must be remembered that community radio is a concept which is applied at a local level. Therefore it is insufficient to work with such broad concepts and terms while trying to use community radio to bring about social change.

How then, does one go about using community radio for social change?

Participatory Research

Community radio stations involve their communities in a process of participatory research (mostly ethnographic action research) using tools such as focus group discussions, interviews, public meetings and so on. The people living in the coverage area of the radio are expected to contribute with a list of the main problems which obstruct their quality of life and development. Sometimes, the issues could be related to transparent governance while at other times it could be lack of health or education infrastructure. The staff of the community radio stations should have enough skills to engage their communities in a fruitful dialogue and discussion to accurately identify the most pressing of the people's problems.

Participatory Programming

Once the problems are identified, the community radio station then initiates a multi-stakeholder process by involving them in production programming. Most social problems are complex and involve the cooperation of various stakeholders – different community members, government departments/agencies, civil society organizations and so on. Community radio stations can either produce one-off programmes or develop a campaign wherein different dimensions of the same social problem can be addressed in depth through the participation of the various stakeholders

Feedback from the Community

While the programmes are being aired, it is vital for a community radio station to gauge the response from its listeners. Most traditional media outlets take feedback from their audiences after the programme is completed, and some media outlets publish the responses as well. However, due to the localised nature of a community radio station, it is imperative that audiences be engaged with the programming on a continuous basis, so that all programming is shaped by community responses as much as possible. This not only gives a sense of ownership to the community, but also ensures that the programming done is locally relevant and contextual.

2.4 Freedom of Speech

All citizens of India are granted the fundamental right to freedom of speech and expression as enshrined under the Article 19 (1) A of the Indian Constitution. Traditionally, the discourse of human development was seen as separate from that of political rights and civil liberties, including that of freedom of speech. However, more recent trends have included the right to free speech as an important part of the development process.

Community radio, as an independent, objective, and non-profit medium, is expected to provide a platform educating people about the various aspects of Freedom of Speech.

Let us now look at two ways in which freedom of speech or giving a voice to the voiceless can be seen as development within the community radio context.

2.4.1 Voice for the Marginalised

Communities of interest or those defined by geography, are never uniform or homogenous. Even within a small village, there are poor and rich people, people of different castes, men and women, senior citizen and children, able and disabled people. While some people may have the power and the resources to be articulate, it is very often the case, that those without the resources, or those who have been historically, socially, or culturally marginalised tend to remain silent.

The role of community radio is not only to ensure the participation of the community in general terms, but also to give a special priority to the marginalised groups and/or individuals within a given community.

Similar to the process of participatory research mentioned above in the previous section, community radio stations should identify the most marginalised groups and individuals within a community. This process of identification can be done by mapping information flows, caste-based spatial understanding of a community, interviews, statistical data gathered from government agencies, and so on.

Once marginalised groups and individuals are identified, it is the duty of community radio stations to ensure that they are given a voice on the platform of radio. Dalits, tribals, women, people with disabilities, sexual minorities, senior citizens, minority religions, children and people below the poverty line are some of the commonly marginalised groups in most communities. However, community radio stations should get more specific with the identification of these groups through a thorough research process and provide a voice to them.

Having a voice, or the ability to speak out is power in itself, and when community radio gives power to the people who have remained voiceless, these marginalised communities are transformed into valid citizens and a valid constituency whose needs must be recognized and acted upon.

2.4.2 Right To Information

The Right to Information Act has come into force in late 2005, and is a landmark piece of legislation. Prior to this Act, most government related information was not readily available to the general public, as it was protected under the Official Secrets Act, 1923. However, after the passing of the Right to Information Act, all government departments were asked to be transparent with their information, and provide information to any member of the public who requests it.

The Right to Information Act is applicable to both the Central government as well as the State government and their respective agencies, bodies, ministries etc. As part of the Act, any citizen of India can request any government body or public authority for information. The said body is mandated to provide the information within a maximum period of 30 days.

Community radio stations often function as community hubs for dialogue and as meeting spaces. Community radio stations can play a valuable role by educating the community members about the RTI Act and helping them to use the facility whenever necessary.

2.5 Community Participation

Community participation is a concept that is fundamental and central to community radio. The participation of the community is one of the main features through which this radio can be distinguished from private mainstream radio or public service radio. However, community participation is a complex concept which has many dimensions, all of which need to be adhered and addressed to.

Full time staff

It is fairly common for community radio stations to have full time staff who are retained with salaries, supported either through donors or through community funding. The staff may comprise either members of the community or media professionals hired from outside the community. Even if the full time staff are from the community, it complicates the notion of participation. The staff think that they are representing the community when they go out into the field, but the community may see them as representatives of the radio station, which in turn is represented by an educational institution or a non-profit organization. Thus, community participation is only partially fulfilled even when community members join the radio on a full time basis.

Production

Another common pattern is to involve the community members in the production of radio programmes. As you will see from Units later in the module, the production of radio programmes has two aspects – technical and content. A radio station can involve the community in technical aspects by inviting them to handle the microphones, mixing console, digital audio workstation etc. The content aspect pertains to involving community members who lend their voices to programmes – be it a radio drama or an interview. However, even within production, the participation of the community can be enhanced beyond these aspects. With respect to the technical aspect, the radio station can invest in a capacity building process, where community members are not only just involved in handling the equipment but are also empowered to maintain the equipment and make informed choices about new equipment or upgrading existing

equipment. With respect to the content aspect, the radio station can involve the community members in decision making regarding the topic of the programme, the format of the programme, lending their voices to the programme, identifying niche audiences for the programme, and finally selecting an appropriate time to broadcast the programme.

Management

A key feature of community radio is the management of the radio station by the community that it seeks to serve. Most community radio stations make do with a program advisory committee which 'advises' the community radio station on matters related to programming. Of course, the management of a community radio station goes beyond programming. The other aspects of management are administrative, personnel, technical, financial and social. A community radio can seek to be true to its name only when it appoints a management committee which retains complete control over all these aspects of management. Community management of the radio station is important in terms of the community feeling empowered, giving them authority, to shape the vision and functioning of the radio station, and finally, ensuring that the priorities of a community radio station remain locally relevant and contextual.

Community radio stations need to constitute a community based management committee which is fair, objective, skilled at management and representative of the community who will not abuse their positions of power. There are no standardized rules, regulations or norms towards constituting a management committee for a community radio station. However, community radio stations, apart from learning from their peers' experiences, can also devise strategies based on their particular context and their community.

Thus it can be said that the concept of participation cannot be limited to the mere presence of the community at specific points of the functioning of a radio station. Instead, participation should be quantitatively and qualitatively enhanced to mean handing over power and decision making to individuals who are representative of the larger community.

2.5.1 Gender Equity

While there are many issues which are specific to a particular place (lack of schools, health issues etc), there are other aspects of social change which are universally applicable in any context. In India, one can safely assume the universal aspects of social change worthy of attention to include gender dynamics, caste, class and religion.

While caste and religion may be aspects that are unique to India's diverse population, the issue of gender dynamics is a global issue and cuts across different social contexts. Community radios can play an important role in

educating the members of the community about the gender equality but at the same time they have also to ensure that they follow the principle themselves.

Thus, while a community radio station may have done the participatory research, involved community groups at all levels – from research to management - it is still critical for a community radio station to evaluate community participation and its own functioning from a gender perspective.

At every stage, whether it is in terms of focus group discussions towards identifying programming topics, or constituting a management committee, a community radio station may set basic guidelines to ensure gender equity.

2.5.2 Culture and Identity

Globally, it is accepted that there is a strong link between culture, identity and the media. The UN Convention (of 2005) on the Protection and Promotion of the Diversity of Cultural Expression states that:

> *"Cultural diversity is strengthened by the free flow of ideas, and that it is nurtured by constant exchanges and interactions between cultures; freedom of thought, expression and information, as well as diversity of the media that enables cultural expressions to flourish within societies"*

One of the most under-explored areas with respect to a community radio station is the area of culture and identity. Both, culture and identity are terms which are often contested and reinterpreted constantly in various contexts. With India gaining independence in 1947, the priority of the national government at the centre was to build a national identity. Prime Minister Jawaharlal Nehru wanted to create a feeling of Indianness through various ways – including the setting up of the All India Radio and Doordarshan, which went a long way in showcasing the cultural, social and political identity of India as a whole. However, it must be acknowledged that India is a diverse country, with more than 25 states, and more than a hundred languages and dialects spoken all over the country. In terms of religion as well, India is one of the most diverse countries. Community radios can, therefore, play a great complimentary role in this direction.

India is also known for diverse landscapes, castes, food cultures, terrains and landscapes, political cultures and so on. At every level of societal formation, if there is one thing that is consistent in India, it is diversity and pluralism. There is hardly any community in India which is completely homogenous in terms of culture and identity. In this context, it is the responsibility of a community radio station to reflect the cultural diversity of its community and respect various identities of its people.

One of the primary tasks of a community radio station is to identify and map the cultures and identities of its communities. This can be done through a mapping of various religions, castes, languages and dialects spoken in the community which

the radio station seeks to serve. After this initial layer of mapping, the radio station can add another layer of diversity in terms of cultural practices. Different religions and castes tend to have their own set of cultural practices. Another possible layer could be various practices associated with each culture – including festivals, rituals, folk tales, etc.

This kind of intensive mapping will reveal a wealth of information which is unrelated to the wider paradigm of social development, and is yet extremely relevant to the social fabric of any community.

Community radio stations can embark upon collecting oral histories and testimonies as a way of documenting the culture and identity of its community members. However, the purpose of their oral histories and testimonies should not be to keep these locked up, but to broadcast them and use them in such a way as to keep the culture and identity of a community alive through daily interaction and exchange.

Activity 2.1

List out 5 programme ideas for community radio stations, based on Right to Information, Gender Equality, and Promotion of Cultural Diversity.

To do this activity, you may need about 90 minutes.

2.6 Let Us Sum Up

As you have seen, the concept of community radio is towards serving the interests of the community in which it operates. To serve a community well, it is imperative for the community radio station to understand the social, political and cultural context in which it is operating, and further to be sensitive to this context in its day-to-day working. Further, community radio stations also have a responsibility to promote equality in gender relations and the diversity of cultural expressions within its community.

You have also seen how community radio can be contextualized to framework related to development for social change. Development for social change includes the right to freedom of speech and expression which can become an enabler towards other aspects of social change, including economic development, literacy and well-being, seeking justice and so on.

2.7 Model Answers to Activities

2.1 Please fill your ideas against the themes as given below:

SI	Programme Ideas	Theme
1	A radio drama on a villager, who wants an information regarding the consumption of electricity in his village. He visits the office of the competent authority, but doesn't get the information. Finally, he gets the information through Right to Information Act, 2005.	Right to Information
2		Gender Equality
3		Promotion of Cultural Diversity.

UNIT 3

Community Radio: Policy Guidelines

Structure

3.1 Introduction

At the backdrop of what was discussed in the preceding two units, this unit will help you to understand the community radio policy of the Ministry of Information and Broadcasting, Government of India. We have focused on how the policy framework affects the technology of community radio as well as the programming and structure of community radio.

The Unit will also give you a sense of the community radio movement and how the current policy has evolved over the last decade to become what it is now. You will not need to do any hands-on work in this Unit, but it is recommended that you access select reading materials. You may need approximately seven hours to complete the Unit, including working on the three Activities given in Section 3.3.

3.2 Learning Outcomes

After going through this Unit, you will be able to:

- examine the basics of the community radio policy in India.
- explain how specific clauses in the community radio policy affects technology as well as content on community radio.
- discuss on how policy has evolved, and what further improvements can be made to the policy framework on community radio.

3.3 CR Policy Guidelines and Implications

This section will provide a broad explanation of the current community radio policy framework, how it has evolved over the years, and how policy framework has been shaping community radio sector in India.

3.3.1 Historical Background

You have already read in Unit 1 the brief history of radio broadcasting in India including the emergence of Public Service Broadcasting and Private Broadcasting. You have also been introduced to the concept and role of Community Radios and their present position in India. You will now read more about community radios in this Unit from the point of view of policy related to them. As mentioned in Unit 1, in 2002, after various civil society declarations, and multiple consultations with UN organizations and government agencies, Ministry of Information and Broadcasting announced policy guidelines for community radio. However, the

community was defined and restricted to educational institutions only. However, this policy did not satisfy the vision articulated by many, and the pressure continued on the government to make the policy more accessible and friendly towards civil society groups. On November 16, 2006, the Ministry released a revised policy guideline which opened up community radio broadcasting to NGOs, educational institutions and agricultural institutions.

Early days of community radio in India

Even before Community Radios came up as a result of Government Policy, Community groups were beginning to use community radio in various parts of the country by different means. For example, women's collectives in Karnataka and Andhra Pradesh had started initiatives like Namma Dhwani and Sangam Radio, respectively. In Jharkhand, community groups were using the local All India Radio station to voice their concerns through an initiative called "Chala Ho Gaon Mein". In Uttarakhand, community groups calling themselves "Heval Vaani" and "Mandakini Ki Awaaz" were using WorldSpace satellite radio to express themselves. These groups were also now demanding that they be given licenses to broadcast on FM so that they need not depend on other media.

As a result of the various initiatives as indicated above there was serious evidence that community broadcasting (even if via AIR or WorldSpace) can bring about benefits to the marginalised communities. At the same time, community members were also vigorously advocating for an independent community radio platform. Government examined the various aspects of the issues and came up with a policy in 2002. However, this policy defined community as only educational institutions which were affiliated to State or Central governments. Under this policy, Anna University in Chennai city, became the first "community radio" station in the country in 2004. While this opening up of the airwaves to educational institutions was welcomed, community groups all over the country made it very clear that this was not community radio. According to them, Community Radio meant community ownership of the means of programme production, and until community groups could obtain a license from the government, the definition of community radio would always be incomplete.

In 2006, the government released an amended set of policy guidelines which opened up community radio to three broad sectors – educational institutions, non-profit organizations and agricultural institutions. The basic principles of this policy are as follows:

> *It should be explicitly constituted as a 'non-profit' organisation and should have a proven record of at least three years of service to the local community. The CRS to be operated by it should be designed to serve a specific well-defined local community.*
>
> *It should have an ownership and management structure that is reflective of the community that the CRS seeks to serve.*
>
> *Programmes for broadcast should be relevant to the educational, developmental, social and cultural needs of the community. It must be a*

Legal Entity i.e. it should be registered under the Registration of Societies Act or any other such Act relevant to the purpose.

Activity 3.1

Visit a public, a private and a community radio in your locality and try to compare the merits and demerits of all three categories of radio.

3.3.2 Policy related to Content

The policy guidelines contain advisories on content and technical issues related to community radio. This section will take a look at some of the content related advisories for community radio.

- From the policy guidelines given below, it may be seen that the content code is basically the same for all radio stations in the country except that the programme needs to be of relevance to the community:

  1) *The programmes should be of immediate relevance to the community. The emphasis should be on developmental, agricultural, health, educational, environmental, social welfare, community development and cultural programmes. The programming should reflect the special interests and needs of the local community.*

  2) *Atleast 50% of content shall be generated with the participation of the local community, for which the station has been set up.*

  3) *Programmes should preferably be in the local language and dialect(s).*

  4) *The Permission Holder shall have to adhere to the provisions of the Programme and Advertising Code as prescribed for All India Radio.*

  5) *The Permission Holder shall preserve all programmes broadcast by the CRS for three months from the date of broadcast.*

  6) *The Permission Holder shall not broadcast any programmes, which relate to news and current affairs and are otherwise political in nature.*

- Further, the content regulation section also states that there shall be nothing in the programme broadcast which:

  1) *Offends against good taste or decency;*

  2) *Contains criticism of friendly countries;*

  3) *Contains attack on religions or communities or visuals or words contemptuous of religious groups or which either promote or result in promoting communal discontent or disharmony;*

4) *Contains anything obscene, defamatory, deliberate, false and suggestive innuendoes and half truths;*

5) *Is likely to encourage or incite violence or contains anything against maintenance of law and order or which promote anti-national attitudes; contains anything amounting to contempt of court or anything affecting the integrity of the Nation;*

6) *Contains aspersions against the dignity of the President / Vice President and the Judiciary;*

7) *Criticises, maligns or slanders any individual in person or certain groups, segments of social, public and moral life of the country;*

8) *Encourages superstition or blind belief;*

9) *Denigrates women;*

10) *Denigrates children ;*

11) *May present/depict/suggest as desirable the use of drugs including alcohol, narcotics and tobacco or may stereotype, incite, vilify or perpetuate hatred against or attempt to demean any person or group on the basis of ethnicity, nationality, race, gender, sexual preference, religion, age or physical or mental disability.*

• The Permission Holder shall ensure that due care is taken with respect to religious programmes with a view to avoid:

1) Exploitation of religious susceptibilities; and

2) Committing offence to the religious views and beliefs of those belonging to a particular religion or religious denomination.

One of the major controversies that the policy has generated is related to the restrictions on broadcasting of news and current affairs on community radio. However, in practice it is informally understood that broadcast of any non-political information will not be penalized. The Government's hesitation in allowing political programming on community radio is based on the fact that community radio stations can inflame passions by broadcasting wrong information or handling the situations insensitively.

 Activity 3.2

> What are the strengths and weaknesses of the policy related to content regulation. What changes would you make and why? Discuss in your own words in about 350 words.
>
> *To complete this activity, you may need about 90 minutes.*

3.3.3 Policy related to Technical Parameters

Community radio operates in the FM (Frequency Modulation) band, and purely on technical terms, it is no different from those AIR stations and private radio stations that also operate on FM.

Earlier, All India Radio used to operate only in MW (Medium Wave)-AM (Amplitude Modulation) band of the spectrum. While, at this point, it may not be important to fully understand the technical difference between AM and FM bands it would suffice to know that FM band-2 in which FM broadcasting takes place in India, is between 87-108 MHz and Medium Wave (MW) band for broadcasting is between 562.5-1606.5 KHz. While various aspects of Radio Wave propagation would be discussed in detail in Module 2, it would be of interest to know that FM has many advantages over MW(AM). It is because of these advantages that it is increasingly being used by AIR in conjunction with MW for domestic broadcasting and has also been chosen for private and community broadcasting. These advantages are:

- High fidelity
- Stereophonic quality
- Uniform day and night coverage
- Freedom from noise
- Capture effect
- Saving in power requirements
- Value added services possible

Within the FM band, let us look at the technology related conditions that are stipulated in the policy guidelines:

CRS shall be expected to cover a range of 5-10 km. For this, a transmitter having maximum Effective Radiated Power (ERP) of 100 Watts would be adequate. However, where the applicant organisation is able to establish that it needs to serve a larger area or the terrain so warrants, higher transmitter wattage with maximum ERP upto 250 Watts can be considered on a case-to-case basis, subject to availability of frequency and such other clearances necessary from the Ministry of Communication & IT. Requests for higher transmitter power above 100 Watts and upto 250 Watts shall also be subject to approval by the Committee constituted under the Chairmanship of Secretary, Ministry of Information & Broadcasting.The maximum height of antenna permitted above the ground for the CRS shall not exceed 30 meters. However, minimum height of Antenna above ground should be at least 15 meters to prevent possibility of biological hazards of radiofrequency (RF) radiation. Universities, Deemed Universities and other educational institutions shall be permitted to locate their transmitters and antennae only within their main campuses. For NGOs and others, the transmitter and antenna shall be located within the geographical area of the community

they seek to serve. The geographical area (including the names of villages / institution etc) should be clearly spelt out along with the location of the transmitter and antenna in the application form.

Activity 3.3

Log on to the internet and download the following documents. They are community radio policies of India and the neighbouring country Bangladesh.·

- Indian policy: **http://tinyurl.com/ozc8ccu**·

- Bangladesh policy: **http://tinyurl.com/nwxso8y**

Now, compare the two policy documents and list out the similarities and differences. Discuss the relative strengths and weaknesses of each policy document in terms of basic principles, content and technical regulation.

3.4 Let Us Sum Up

In this Unit, you have learnt the basic policy of Community Radios in India including the regulatory sections related to both content and technology. You now have a good idea of the basic principles governing community radio in India. You have also learnt what are the areas of programming that are allowed and what is not. Further, you have got a basic understanding of what kind of technology is allowed to operationalise community radio in India.

3.4 Model Answers to Activities

The information gathered in the activities presented in this module should be your own experiences. All the activities are hands-on activities.

UNIT 4

Technology for Community Radio: Guiding Principles

Structure

4.1 Introduction

In this Unit, we will discuss the core principles of community radio technology, including the key decisions that have to be taken by the CR technician responsible for setting up and managing the technological setup and process within a CRS.

The Unit will present a systematic set of decision points on the basis of which equipment must be selected by the CR technician. Such selection is to ensure the continued viability of the station by minimizing downtime and maximizing flexibility of operations.

4.2 Learning Outcomes

After completing this Unit, you will be able to:

- examine the availability of different types of technology for Community radio.

- differentiate between indigenous and imported equipment.

- explain the serviceability of these equipment.

- analyze the issues related to warranty and back-up.

- assess the cost factors involved in selecting appropriate technology for CRS.

4.3 CR Technology: The Basis of Selection

In the previous Units, you have already examined the philosophy and guiding principles of community radio, as well as some examples of community radio from around the world. You would also have understood the key components of the community radio guidelines that govern the establishment of CR in India. But how do all these impact the decisions we make regarding the technology and the equipment that we will use in the CR station? What must we keep in mind when we select equipment? How do we decide the technologies that will most suit our CR station and the community that will own, run and manage it?

In this section, we will examine the fundamental decisions we will have to make when we proceed to set up a CR station. We will understand how we must weigh different technological options available to us considering our needs and budget, and then, within that framework the basic principles for making a choice of technical equipment to be used at our station.

4.3.1 Technological Options

Selection of technology is an important step in the planning for any project, what to say of Community Radio Stations, which are low cost ventures. The very first aspect which has to be taken into consideration, while going for a technology, is whether it is a proven one or is only at a teething stage. Secondly, it has to be ensured that the chosen technology not only meets the requirements but is also suited to the environment in which it is to be used.

In the case of Community Radio, however, the choice of technology is not that far and wide taking into consideration the stipulations in the Government policy in respect of transmission mode and a very wide usage of certain type of technology on the programme production side. On the transmission side, it is already mandated that they would be on FM in Analog mode. Moreover, because of low permissible ERP, Community Radios broadcast mono and thus use only mono-compatible transmitters. As far as programme recording and production is concerned, the use of digital technologies and computer aided broadcasting setups have become universal. Digital Audio Workstations (DAWs), which are computer based systems designed to record, edit and playback audio, are thus being used by all the radio stations including Community Radios. Even for field recordings of audio and other events outside the studio environment, portable digital recorders are being used. As such the choice before a CRS planner boils down to the selection of equipment within the framework of technology.

4.3.2 The Importance of Robust and Low Cost Equipment

While we keep in mind the social and cultural impact of community radio, it is important to remember that radio is a technological medium: Everything that is going to be said or heard over radio passes through a series of technological steps that creates the scientific miracle of modern day broadcasting. Of course, this also means that if a single link in that chain fails, the entire process may come to a grinding halt!

It is true that modern digital technologies and the computerization in broadcasting has made this challenge less daunting. Computers now let us perform functions that in earlier times would have required several devices. You can now use a computer to record sound in a studio, as well as adjust the audio and edit it. But this can also, sometimes, cause problems. A few years ago, the failure of a specific component, meant replacing it with a new one. Today, the fact that a variety of functions are handled by a single computerized unit means that we will have to suspend all the activities on that unit while the problem is fixed.

Community Radio seeks to provide a voice to the voiceless and the marginalized, and lets communities to share information within themselves. In line with this philosophy, community radio stations are often located in areas that have lower media penetration, and where economically weaker communities may reside –

since these are precisely the areas and communities that are most in need of such a medium in order to express themselves. Often, as a result, CR stations operate in remote areas, in places where availability of electrical supply and repair facilities present a continuous challenge; and where exposure to disaster – floods, fires, landslides – may be a reality in the life of the people who live there. Simultaneously, CR is typically a low cost activity, often funded by community contributions, and managed and run by volunteers from the community.

So, here we have a practical challenge: not only do we have to select technologies and processes that cost less to purchase and maintain (since funds are scarce) but we also have to find technical equipment that are also inherently less prone to breakdowns, and which will continue to work under stressful climatic and usage conditions! Figure 4.1 illustrates the search for the elusive sweet spot between these two decision points.

Where our technology choices need to be !

Low Cost Technologies

Robust Technologies

Figure 4.1: The twin challenges of robustness and cost

So, as you can see, the choice of technologies and equipment is critical to the process of community radio. It is for this reason that we will continuously examine and evaluate every piece of equipment and technological process on the basis of five key considerations:

a. The availability of any existing equipment, and that of space within the proposed station site for installation, along with that of electrical and civil infrastructure.

b. The kind of programmes that the station intends to produce and broadcast.

c. The funds at the station's disposal (for the initial investment, and recurring expenses).

d. The availability of trained maintenance manpower and/or repair facilities for the equipment.

e. The pros and cons of buying locally manufactured equipment versus imported equipment; and of selecting between authorized dealers and the unauthorized ("grey") market.

Let us now look at each of these considerations in some detail, so that we can understand the implications of each of these factors.

4.3.3 Current Availability of Equipment, Space and Infrastructure

The very first part of our decision-making process is to review the status of available equipment and space to set up our studios so that we can make optimum use of the available resources in terms of space and equipment. We also have to analyse possible equipment choices in terms of what is physically available in the market and what other stations are using for their setups. Asking around, and consulting resources on the internet – perhaps even conducting a few site visits to other stations may help to fix our ideas.

In other words, we have to start by asking ourselves:

a. Do we currently have any equipment that could be used for the CRS? (recorders, computers, furniture)

b. Do we currently have access to a space where we can set up transmitting, recording and editing spaces? (If yes, how much space is this, how do we want to utilize this and what is the minimum we can make do with)

c. What is everyone else using? Why? How much does it cost? Is any of it clearly redundant?

Hopefully, if you are careful and honest in asking yourself these questions, you will realize that there are items you can spare from other processes, or which could easily be donated for the CR process by friends and well-wishers (computers, for instance). You will also understand the reasons why other CR stations have acquired the equipment and setups that they have; where they made their purchases from, and how much it cost them. You can use this information to build an equipment and infrastructure wishlist.

At this stage, don't worry about how realistic your wishlist is. It is likely that you will have much more on that list than you will eventually be able to acquire. It will give you a place to start from in terms of continuing your assessment, and whittling down to a list that actually fits within your other plans and budgets. The important thing will be to have a clear list of items you require, with a clear understanding of their purpose within your setup – and the understanding is the critical part of this initial investigation. If we buy equipment A from this manufacturer, do we necessarily have to buy equipment B from the same manufacturer to ensure compatibility? What grade of cable did Station X buy, and how much better did it do than the one bought by station Z? Which one complained more about frequent cable replacement? Did Station Y buy this just because it looks good, or because it offered best value for money?

Similarly, it is best to assess possible space and infrastructural availability right

away. Computerization has meant that large working spaces are no longer the norm for a radio station, with accessibility and placement within a community being of greater importance. But, if a lot of production work must go on at the same time when a studio recording is taking place, multiple editing and recording setups are vital. No matter how small, multiple computers will take up some space!

Again, if one expects to record a lot of folk music and local singers, a larger studio will be required, because local troupes often consist of several members. And if the programming hours are likely to be for several hours right from the start, then a second working space may be called for, as other production work cannot stop when the broadcast is happening. Additional construction and waterproofing work may also be called for if an existing structure is poorly built.

Needless to say, electrical infrastructure is also key to the whole process, and it is important to assess how much the electrical demands of our station is likely to be, both from the point of view of the raw consumption, and from the point of view of the costs we are likely to incur. This is intricately linked to our decisions regarding working flexibility (two studios are likely to result in a greater electrical load, as are multiple editing setups, for instance).

Assuming an electrical connection is available, and once we have assessed the basic load we are likely to place on this connection, it is important to assess whether electricity is available on a continuous basis or not. If not, we may have to provide for electrical backup system and depending on the type of system one selects, this may place additional consumption loads on the connection (in the case of inverters and UPS systems); or may require fuel and maintenance (direct generation systems); or large capital investments (for solar power systems or wind energy systems, for instance.)

Once you have this basic information organized, you can begin to think of some of the other factors outlined below, so that you can hone your list into a more workable and practical list.

Activity 4.1

Visit or speak to at least three community radio stations, and enquire about the field recording units that they are using. Find out the following details in each case:

1. What make and model are the units?
2. What media do their recorder units record on? (cassette, SD card, internal memory?)
3. Why did they select this make and model? (What are the key features that they like in it?)

4. What has their experience with the equipment been? (Have there been any failures or repairs? Would they buy something else if they could?)

5. Which dealer did they buy the recorders from? How did they identify this dealer?

6. What is the cost of the recorder unit(s)?

Create a table reflecting this information so that you can compare the recorder units.

4.3.4 The Station's Programme/Content Mix

At first glance, it may appear a bit confusing. Aren't we jumping too far ahead? Doesn't programme production come *after* we have everything in place? How could the programmes we intend to make possibly be related to the specific technological choices we make? As it happens, the two are linked in a very fundamental way.

Every CRS is unique in its choice of the kind of programming that it develops and broadcasts. Some stations depend totally on live studio situations, and prefer to broadcast directly from the studio or the field. Such stations tend to require less by way of equipment for recording and editing, since most of their programming does not need editing. It should be obvious that buying several computer workstations for the purposes of editing content would be pointless in such a situation.

Other stations may depend more on pre-developed ('pre-produced' or 'canned') programming, with fewer programmes going directly out of the studio as live programmes. Not having an adequate number of editing setups in such a situation would be equally counterproductive.

Similarly, some CRS setups may come up in communities where the availability of mobile phones is high. In such cases, making interactive programmes where the listeners can call in and participate in programmes, or leave feedback, becomes an important way for the station to connect to its audience. On the other hand, creating an elaborate infrastructure for live 'call-ins' becomes pointless if the local availability of mobile phones is low, and there is no one who could call in!

The first step, therefore, to deciding what kind of equipment to acquire is to assess the content that will be developed. Depending on the kind of content, we will then decide to invest in a greater proportion of field equipment or more editing systems (where we expect to do a larger proportion of pre-edited programming), or more telephone lines (where we expect to do more phone-in programmes), or even additional studio spaces (where we expect to do a lot of studio-based productions or live programming).

It is worth noting that this is not a one time process – content evolves over time, and may require changes in technical infrastructure to keep in step with changing realities. To continue our previous example, if the number of mobile phones within the station's listenership goes up over time, one must plan for the incorporation of systems that allow the station to connect with these listeners as mobile phones become more commonly available.

4.3.5 Budgetary and Cost Factors

Deciding how much you want to spend on the CRS's technology infrastructure is central to our decision-making process on CR technology. In some ways, it's like building a house. You can build a one room cottage, or a 20 room mansion, and both would be houses - though of very different kinds. So which one should you aim for?

The 20 room mansion always looks attractive – but are you really going to use the extra room? On the other hand, the one room cottage may be easy to build with the funds you have right now. But, you can't get over the feeling that you might run out of space soon. What a quandary!

As always, it helps to be systematic and rational while taking this call. To continue the house analogy that we used, the key is to deciding how much space you need to live right now and how much you can build right now with available funds. You can then plan for the space you will need in future, and plan your immediate construction in a way that lets you expand it as time and money allow in future.

One way to work this out where equipment for a CRS is concerned is to draw up a phased budget for equipment and studio infrastructure. Ask yourself these four questions:

a. How much money is available immediately from the funds in hand?

b. How much can we borrow or receive from somewhere for this purpose and is the rate at which we will have to return it reasonable?

c. How much do we expect to spend each year on repairs and maintenance?

d. How much can we dedicate each year for upgrades and new equipment/ infrastructure?

Answering these questions will give you clues to two parts of your phased budget: (a) and (b) will help you understand how much you can spend right now; and (b), (c) and (d) will let you plan your recurring costs – the costs that you will undertake on a monthly or annual basis as part of your station's running costs in order to expand and modify your technical setup. As a general rule, you might like to spend 15% less than what you have budgeted, so that you can make some funds available for related accessories, budget over-runs and fluctuations in prices.

At this point, a word of caution is in order. Many people tend to see the available budget as the only deciding factor in selecting technical equipment for a CRS. In some ways, this is true. It is a fact of life that we can only purchase something if we have the money to buy it with or can arrange for the money, in a way that allows us to pay it back from our income. But to look at affordability alone would be a mistake. Buying the lowest cost item often means ignoring factors like audio quality and robustness, both of which are vital considerations to small setups with limited means. Would you buy the cheapest motorcycle on the market if you also knew that it gave the least mileage, or if it had a reputation for breaking down twice a month? Of course not. You would choose the motorcycle that has the best reputation for toughness and fuel economy, even if it costs a little more. You would then decide the maximum you could spend without stretching yourself so far that you would be deep in debt, or could not afford other necessities in life. In short, your decision would be based on the **total cost of ownership**, rather than the up-front cost.

Decisions regarding technical equipment are decided on a similar basis: a **lifecycle cost** for each piece of equipment, rather than the basic cost. Audio recorder X may be available for half the price of recorder Y but may also fail thrice as fast, making it much more expensive to run across a period of time. Computer A may be cheaper than Computer Y, but may consume more electricity, making it costlier to run in the long run.

4.3.6 Serviceability and Maintenance Support

A key component of our decision-making will also be based on the twin concepts of serviceability and availability of maintenance support for the technical equipment we acquire.

By **serviceability**, we mean how easy is it to fix the equipment if something goes wrong with it? And by **maintenance support**, we mean are there qualified technicians and spare parts available easily nearby to help attend to issues with the equipment in our CRS?

Since many CR stations are likely to be in areas where equipment manufacturers are unlikely to have direct offices, these are very important considerations. Imagine a situation where our primary transmitter unit fails with the closest service centre three days away. It is unlikely for you to resume broadcasting within a week! Similarly, since many of the pieces of equipment you use may be imported, spare parts may be dependent on international shipping schedules – which may mean delays of weeks or months even with a service centre handy.

The ideal situation would be to use equipment that has service support directly from the manufacturer no more than a day's journey away, and, where simple problems can be attended to easily by individuals within the CRS itself with basic tools and easy fixes. (This is not always possible, of course, but is a factor one must pay attention to while acquiring equipment.)

Thus, an equipment supplier willing to train team members in 'preventive maintenance' – regular maintenance that prevents equipment from suffering major failures – is always to be preferred to one who is merely willing to offer warranty coverage. Similarly, a supplier who offers on-site service at no cost to the station is preferable to those who offer 'carry-in' support. Finally, where warranties and guarantees are concerned, it must be obvious that equipment that carries longer duration coverage or one that covers all (or nearly all) parts is far better than one that offers partial/shorter period coverage.

A linked consideration, in case service support will be hard to come by, is the investment that may be required in training the CRS team members in key maintenance tasks; and in keeping relevant spares in stock.

Preventive maintenance and robust equipment go a long way towards sparing one the shocks of equipment failure and the consequent heartbreak of down-time. Adequate thinking on these counts could make the difference between a station which struggles everyday and one which makes the business of broadcast look as effortless as the process of listening to the radio.

Activity 4.2

Visit your local market or shopping centre and locate at least three radio and TV repair shops. Discuss the capabilities of the repair technicians at each shop and examine them on the following parameters. Try and score each capability on a scale of 1 to 10.

1. What kind of equipment and utilities can the shop handle repairs for?

2. Is the shop an authorized service centre for any brand or item? (8 points out of 10 for being an authorized centre for any brand; 9 for being authorized by two manufacturers; 10 points for more than that.)

3. Do the repair technicians there have any kind of formal training? (ITI, repair course, training from any branded company?) (7 points for ITI trained; 8 for a diploma from any well known course; 9 for a degree holder.)

4. If they see a new item which they have never handled before, how do they assess whether they can perform the repairs?

5. Are they willing to share the contact details of some customers, so that you can conduct a customer satisfaction check? (5 points if they share; one additional point for each good review.)

If they are willing to respond to point (5), call the individuals whose contact details you have received and ask for their feedback on the shop's performance.

Rank the shops in decreasing order of capability, as revealed by your total points.

4.3.7 Modularity and Redundancy

An additional important step to take while planning your CR setup is to plan your equipment in a manner that allows work to continue even if portions of the setup fail. We do this by planning systems and equipment which can perform dual roles, and which can be re-configured if necessary, to cut out the equipment that has failed.

Modularity

Within the course materials that you are being provided for this course of study, there are a number of individual 'modules', each covering a specific subject or sub-topic within the larger discussion of technology for CR. As time goes by, specific Units can be revised and updated to keep the course up-to-date. This is more effective in terms of time and effort than revising the whole course matter each time. In other words, the course has been planned in a modular fashion, allowing us to adjust and change individual parts with some flexibility.

In the same way, equipment and technology for CR can be modular at two levels:

a. The individual equipment unit itself could be manufactured in a modular fashion by the manufacturer, allowing one to upgrade sections of it easily to increase its capabilities or fix faulty parts.

b. Our equipment planning can be modular in nature, allowing us to restructure the way different parts of it are connected together in case equipment malfunctions or if we need to expand our setup in future.

The first aspect above, is important from the maintenance and service point of view, as seen in sub-section 4.3.6. If there are sections of the equipment which we can remove and replace with a new part easily, we will be able to get a longer working life out of the unit. From this point of view, you may like to consider assembled computer systems for your work, rather than branded systems. Branded systems often carry proprietary components that are hard to replace or upgrade; or replacing which may need warranties. Assembled systems, on the other hand, allow the flexibility of building a system with components that you can handpick without compromising and which can then be replaced individually for upgrades and repairs.

Planning your equipment setup in a modular fashion is equally important. If your entire setup is set in stone, and nothing can be moved without sacrificing essential functionality, chances are that your process could be crippled if any single part of its goes down. A modular setup allows you to avoid such an event. For example, you may have a computer that plays out your broadcast programming, and a playback unit that plays CDs or USB drives for pre-recorded programming. A good setup would be one where these components are connected through a patch panel, which allows you to bypass the computer if it

fails, and play pre-recorded programming directly off a CD or DVD in an emergency.

Redundancy

By now, it should be clear that the more modular a piece of equipment, and the more modular your setup is as a whole, the easier it will be to manage and maintain your technical infrastructure. Which brings us to a related concept – redundancy. **Redundancy**, at its simplest, is to be able to have more than one unit of equipment performing the same function.

At one level, one could consider having as many units of a single item available as the budget and practicality allows, so that you are protected from the failure of one of those units. Thus, if you can afford it, it is always a good idea to have more than one field recorder available. This way, not only can recordings happen at different places simultaneously but it also means that we will never be threatened if any one recorder needs repair or servicing. (Of course, the practicality lies in balancing out the number of units against the budget and a realistic assessment of how many units could ever be needed simultaneously: If there are only two people in the team to conduct field recordings, it may not make very much sense to get 10 field recorders just to be safe!)

At the other level, there are often pieces of equipment which overlap in functionality. A computerized Digital Audio Workstation (or DAW) can be used for recording and editing audio and can also be used as a playback system to play programmes stored on its hard disk drive. Some digital field recorders also have functions where they may be used as a studio microphone to be connected directly to a DAW for recordings. When the need arises, the secondary functionality of such units could be used to fill in when a primary unit fails: the DAW for playback instead of a CD player, for instance.

If our planning for equipment setup can include such multi-functional units, this obviously allows us to mix-and-match our equipment more flexibly, which is a good thing. But it should be noted that this means the equipment needs to be purchased with these features in mind, which calls for a high degree of knowledge about each unit. It also calls for a certain nimbleness of mind, that allows us to see the possibilities for re-deploying a specific unit for a different purpose. Hopefully, after completing this course, you will have both, the knowledge and the insight, to be able to do this successfully!

4.3.8 Indigenous or Imported? Authorized Dealer or Grey Market?

If you have successfully negotiated your way through selecting the complement of equipment that you need to acquire, it is time to start thinking about where you will make these purchases from, and considerations linked to this decision.

Choosing between locally manufactured and imported equipment

One of the things that a technician working for a CRS has to face continuously is the lack of options with regard to equipment manufacturers for radio. Most manufacturers who make high quality audio equipment are based in the developed world, which means most of the equipment is imported. This means duties and excise charges make equipment very expensive. It also means that repair and maintenance facilities for such equipment may be hard to come by. And this sometimes skews the process of equipment selection.

In some ways, this process has actually become more difficult over the last decade or so. As import procedures and regimes have been eased steadily over the last two decades, and many manufacturers have set up local sales and service offices to support their products, the availability of equipment and brands has certainly gone up. But this has not always translated into efficient after-sales service.

This situation poses a challenge when we source equipment for a CR station, since the larger part of the available equipment is still manufactured abroad. Good quality equipment does not always mean good after-sales service. Can we choose the best equipment for the task, when we know our investment may be doomed if the equipment fails?

A good rule to follow in this case, is to not go by the raw specifications and quality of the equipment, but by its reputation in local conditions. It may be imported, and service may be hard to come by; but some pieces of equipment acquire a good reputation in local conditions and reveal themselves to be hardy and robust when exposed to dust and moist conditions, as are often found in India. In the interests of affording the equipment with the greatest number of features and possibly the highest possible quality for the price, a certain amount of risk may be inevitable during the selection process. Preventive maintenance and a handling protocol that can be taught to individuals handling the equipment – including simple things like cleanliness and checklists for equipment accessories – can go a long way towards mitigating some of these risks and giving years of trouble-free usage.

Alternatively, if you do not wish to risk anything at all, and cannot do without assured repair facilities - all other things being equal - always select the equipment that can be repaired without too much effort.

 Activity 4.3

Locate the closest authorized dealer to your location for the following audio equipment brands:

1. Sennheiser
2. Sony
3. Tascam

Note the contact details for each, and contact each of them to note the following pieces of information:

1. Ordering procedure (Do they need a purchase order? Do they need payment in advance? What is the anticipated delivery time once an order is placed?)
2. Payment mechanism (Do they need 100% payment in advance? Will they accept payment on delivery? How will they accept payment – cheque, demand draft, bank transfer?)
3. What service support and standard warranties do they offer on their equipment?

4.4 More on Maintenance and Servicing

In the previous section, we have seen some of the things we must keep in mind when selecting the technical equipment that we will use in our CRS. One of the important considerations, as discussed in Section 4.3.6, is the vital role of service and maintenance backup in keeping the technology humming smoothly.

As you must have already understood, the larger question of adequate service and maintenance support is linked to issues like buying equipment from authorized dealers, and of decisions related to selecting between imported and locally made equipment. Of these, two considerations require special attention from any person tasked with handling the technology in a CRS: Warranties and Annual Maintenance Contracts; and the importance of backups and fail-safes.

4.4.1 Warranties

When a manufacturer sells you a piece of equipment, they usually promise to correct manufacturing defects or other faults in the equipment for a specified period of time from the date of sale. This promise is called a **warranty**.

Warranties may be as short as a couple of months, or as long as 5 or 10 years. The most common durations are 1 to 2 years. For most audio equipment, warranties are limited to 6 months.

Warranties may be **limited** in which case only specific components or faults may be covered; or **comprehensive** which means anything which could go wrong will be covered and rectified. Similarly, they may promise **onsite service** which means

you can call the manufacturer or service agent if a fault arises, and they will come to where the equipment is installed at their cost to fix it; or offer **carry-in service** which means you must take the equipment to the nearest service centre yourself.

An important thing to remember is that warranties are only applicable if there is proof of the date of sale. This means you must always get a bill from the supplier when you buy equipment, so that this provides proof of the start date for the warranty. Some manufacturers require that the warranty card enclosed with the equipment be completed and returned to them with the dealer's stamp. Others may require you to register the details of your purchase over the internet. Enquire about this at the time of purchase, and keep the bills and warranty cards in safe custody.

4.4.2 Annual Maintenance Contracts (AMCs)

Many equipment suppliers and service agencies offer a contract under which they charge a flat annual fee that covers any and all faults and repairs that may arise in a piece of equipment, or an equipment setup as a whole. The amount charged under this contract is calculated on the basis of the likelihood of a fault arising, and the travel and time they would have to invest to fix problems that arise. The amount is charged irrespective of whether a fault arises or not, and is usually payable in advance for the period of coverage. Such contracts are called annual maintenance contracts, or AMCs.

AMCs, it must be noted, only promise to keep the equipment in good running orders. They don't necessarily promise that any parts that may need replacement will be replaced with original spare parts made by the original manufacturer. So use your judgment before entering into such an arrangement with anybody.

Another thing to remember is that AMCs should only be considered once the basic warranty offered by the manufacturer is over; otherwise the AMC is just a waste of money on repairs that would have been carried out for free anyway.

AMCs are usually a good idea for equipment that undergoes a lot of wear and tear, like battery-based power inverters, or Uninterruptible Power Supply (UPS) units, or air conditioner units. The parts in these units are reasonably standardised and there are usually service agents in most places who can offer AMC services for these items.

AMCs for audio equipment are rare, and it would be wise to check what items and faults are covered by the AMC if such an arrangement is offered. Often, turnkey service providers who set up whole studios offer AMC arrangements on request. Sometimes, manufacturers provide a kind of AMC arrangement directly from the company. You pay a flat fee on an annual basis for an 'extended warranty' arrangement, where the company offers to fix faults for a period beyond the original warranty period.

Always check on the background of the person or organization offering the AMC, to ensure that it is has a good history of providing quality service. Talk to existing clients of the agency to verify whether their experience has been good. Extended care or extended warranty plans from the manufacturer, though often expensive, may assure you of original parts and technicians who know the equipment well – so keep that in mind.

4.4.3 Back-ups and Fail-safes

In Section 4.3.7, we have already seen the importance of redundancy in equipment, as a method to protect your CRS from failure of equipment. A related concept is the maintenance of backups, and the creation of procedures to fail-safe your technical processes and equipment.

Back-ups can be of two types:

a. Backups for data and content creation; and
b. Backups for essential infrastructure

Content and data backups

We must not forget that the key output of a community radio station is the content and programming that it creates. When we produce programmes and broadcast them, we should also provide for mechanisms to keep the produced programmes safe. This includes both pre-recorded programmes, as well as live programmes.

Since most CR stations today use modern digital equipment, where audio is stored as files on computers, it is a good idea to create a regular system by which these files are copied onto an external device or medium as well. A usual practice is to maintain one set of the recordings and programmes on one of the working computer systems in the CRS; and to have a backup on an external hard disk drive, which is attached to the primary computer system on a daily or weekly basis in order to copy the recently created programming and recordings. Some CR stations backup their produced programmes on DVD or CD media as well. This way, if a computer fails ('crashes') or recordings are mistakenly erased from the main systems, there is always a spare copy of the recordings and programmes that you can retrieve from. (Imagine doing an interview with the Prime Minister, and finding that you erased it by mistake!)

Content and programming backup is also important from the point of view of the community radio policy, which mandates that every CRS should preserve the programming broadcast over the previous 90 days. This is mandated so that if there is a complaint received from a listener regarding objectionable content, the programming can be produced before the appropriate authorities for a decision. This makes the continuous and systematic backup of programming doubly

important, because the CRS can be penalised for not being able to produce the programme in question.

But don't make the mistake of assuming only the programmes and recordings need to be backed up: CR stations also store a lot of essential data connected with their programmes. This could include listener data, programme ideas, scripts, volunteer records, financial data, and reports to donors. All of this also needs to be backed up regularly, as losing any of it could be disastrous.

Backups for essential infrastructure

Of all the key backups we need from an infrastructural point of view, the most important of all is the provision for electrical backup. Continuous supply of electricity remains a challenge in many parts of the country and even a moment's loss of electricity for a radio station can mean an abrupt halt in the middle of a broadcast.

CR stations therefore provide for power failures by installing inverters and UPS systems, both of which use batteries to store electricity, and release it when the power gets cut off. Some have additional backup by also installing direct generation systems (DG sets or generators), which run on diesel, petrol or kerosene, and use a motor to generate electricity. In this way, the stations assures itself of having a continuous supply of electricity throughout any kind of interruption which is very important in times of natural disasters, because radio stations often act as information lifelines during emergencies.

Other kinds of infrastructural backup could involve the development of spare studio spaces; or the availability of secondary telephone or internet connections – a wireless internet connection to back up a wired DSL internet connection, for example. A key backup concept could also be the creation of a pool of volunteers or team members within the CRS who can conduct simple repairs and essential maintenance, to avoid dependence on the availability of external assistance.

Activity 4.4

Visit or speak to at least three community radio stations, and enquire about the electrical backup systems they are using. Find out the following details in each case:

1. What systems are they using currently? (Inverters, UPSs, DG sets, or all three?)

2. Why did they feel the need to install these systems, and how much power backup do they need in a day?

3. What are the challenges they notice for the system(s) they are using?

4. What did the basic setup cost them (raw equipment cost), and what are the recurring costs (replacement of batteries, fuel)?

Draw up a table reflecting the relative merits and demerits of each of these types of electrical backup systems.

4.5 Let Us Sum Up

In this Unit, we examined the important principles that we must keep in mind while deciding the technological and equipment setup for a CRS. Our decision must revolve around the twin concepts of low cost and robustness. While deciding what kind of technical equipment to acquire, we need to take into consideration a variety of factors, ranging from what is already available to the station, to the kind of programmes the station intends to make; the funds that can be raised; the availability of service and maintenance facilities and technicians; how modular the systems are; and how much redundancy we can build into our selection of equipment. Choosing between locally manufactured and imported equipment; and authorized and grey market suppliers are also important decision-making points.

Special attention also needs to be given to service and maintenance related concepts like warranties and AMCs, as well as extended warranty processes offered by manufacturers. Most importantly, CR stations must plan for adequate safety of their content, programming and data; as well as the availability of key infrastructure backups like electrical power and technical manpower.

4.6 Model Answers to Activities

The information gathered in the activities presented in this module are best presented in the form of tables. This will allow you to compare your results easily. In each case, a sample is filled in for you to see how you can complete each table.

Activity 4.1

Sl. No	CRS Name/ Make	Unit Name	Storage	Cost	Dealer	Reason for selection/ remarks
1.	Radio Awaaz	Zoom H-2	SD Card (Upto 4 GB)	Rs.13500	Rivera Digitec Pvt. Ltd. 409, Nirman Kendra Off. Dr. Edwin Moses Road, Mumbai 400011, India Tel: (91) 22-24939051 Fax: (91) 22-56604461 E-mail: rivera@bom3.vsnl.net.in (Contact person: Mr.Subhash Khandelwal, Mobile: 09820075805)	- Recommen-ded by other CR stations when eqnuiries were made - Uses regular AA cells - Easy to use - Accepts external microphones - High quality recording at moderate price

Activity 4.2

Sl. No.	Name of Shop	Can Repair	Autho-rized Service for	Formal Training	Assessment of Capacity	Customer Review	Overall Points
1.	Sarvesh Radio	Radio sets TVs Ampli-fiers & audio equip-ment (6 /10)	Philips (8 /10)	Yes / ITI trained electro-nics repair techni-cians (7 /10)	Methodical approach to repair. Informs customer about costs before undertaking repair. Willing to learn new technologies, have a plan for updating skills (8 /10)	2 reviews Good, some times slow in response. Excellent and dependa-ble (7 /10)	36 /50

Activity 4.3

Sl. No	Brand	Authorized Dealer/ Service	Order Process	Payment Terms	Standard Warranties & Coverage
1.	Tascam	Setron India Private Limited E-2, Greater Kailash Enclave -1, N. Delhi-110048 Tel: +91-11-26242250, 26241150/601 Fax: +91-11-26242150 E-Mail: sales@setronindia.com (Sales + Service)	Purchase order along with advance payment (hard copy required) Delivery within 15 days of receipt of order by courier	100% advance by DD/Cheque/ Bank Transfer Shipping cost extra (enquire before placing order for quotation)	All equipment warranties as per manufacturer Standard warranties are 1 year Extended warranty available for specific items: Request for quotation where available

Activity 4.4

Sl. No	Type of power backup	Pros	Cons
1.	Generator (DG set)	Power capacity high Relatively low maintenance on a day-to-day basis Usable for extended hours Stable power source	Fuel costs high High initial cost Stocking fuel cumbersome Servicing a challenge Cannot be used indoors Larger capacity units will need a lot of space Sometimes noisy + exhaust

Additional Readings

- UNESCO (2001). *Community Radio Handbook*. Retrieve from http://www.unesco.org/webworld/publications/community_radio_handbook.pdf

- Tabing, L. (2002). *How to do community radio: a primer for community radio operators.* UNESCO. Retrieve from http://unesdoc.unesco.org/images/0013/001342/134208e.pdf.

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Glossary

AM Radio:	Amplitude Modulation.
AMC:	Annual Maintenance Contract. A contract with a repair agency or the original supplier whereby the agency providing the AMC offers to fix all faults that crop up and keep the equipment in running order for a flat annual fee payable irrespective of whether service is actually required or not.
Authorized dealer:	A dealer or supplier of equipment permitted officially by the manufacturer to supply their equipment.
Backup:	An alternative or safety measure. Used as a term with reference to power supply (meaning inverters, generators, etc.); spare equipment (a second field recorder, say); data (an additional copy of a programme or recording, say); or an alternative plan.
Budget:	The allocated amount of funds available for a particular purpose or purchase.
Community broadcasting:	Broadcasting, which is owned by communities, and also operated by the very communities it seeks to serve. While community radio stations advance public good and public interest, their scope is usually limited to their communities defined either by geography or communities of specific interests.
Effective Radiated Power (ERP):	ERP is a calculated measurement that takes into account the peak output of a transmitter. For example, a transmitter of 50 Watt power can have an ERP of 100 Watts.
Extended warranty:	An optional extension to the original warranty period, usually at additional cost to the buyer.
Fail-safe:	A secondary or alternate plan, or device or process, in case the primary device or plan fails.
FM Radio:	Frequency Modulation.
Gender equity:	A concept based on UN Declaration of Human Rights that believes that all genders should be treated equally both in legal and social institutions irrespective of their race, ethnicity, language, degree of ability and income etc.
Grey market:	The unauthorized market for equipment, where equipment is usually available through channels that bypass official customs duties and taxes.

Imported equipment:	Equipment that has been manufactured in a foreign country and brought into the country of use.
Indian Telegraph Act:	A law that governs the use of telegraphy, phones, communication, radio, telex and fax in India. It gives the Government of India exclusive privileges of establishing, maintaining and working telegraphs.
Indigenous manufacture:	Manufacture of an item within the country of use.
Low cost equipment:	Equipment that costs less to purchase than other comparable units.
Maintenance support:	Availability of technicians to fix problems and keep equipment in good running order.
Modularity:	A measure of how a process or equipment setup has been arranged, such that portions or sections can be changed without affecting the rest of the structure.
Narrowcasting:	It is a process which involves playback of programmes through loudspeakers, or audio cassettes or any other such medium for a controlled group of people who can then discuss and give feedback on the programmes immediately.
Non-profit organisation:	Usually an NGO that uses its surplus revenues to achieve its goals rather than looking it as profit for distribution as dividend.
Participatory research:	Research that includes the active involvement of the subjects of research. It involves a systematic inquiry, with the collaboration of those affected by an issue under study.
Private radio broadcasting:	Broadcasting, which is owned by private individuals or companies. Programming may be influenced by the owners, and usually are decided on a commercial basis.
Programme & content mix:	The proportion of various types of issues and programme formats in a radio station's broadcast.
Public service broadcasting:	Broadcasting, which is funded by public money, works on an autonomous basis and independent of the government, and works towards advancing public interest and public good.
Redundancy:	The concept of building in safety margins or alternate processes or equipment into a setup, such that the functions of one unit can be taken over by another in case of emergency or failure.
Robust:	(Equipment) Tough, hardy, able to withstand difficult conditions.

Serviceability:	The ease of obtaining repair and maintenance support (for equipment).
Social change:	Alteration in the social order of a society including change in social institutions, social behaviour and social relations. Social change is a dynamic concept as against development which suggests that a society has reached a goal.
State List:	It is a list of items on which the State governments can take decisions. Examples include law and order, agriculture, prisons, public health etc. A concurrent list is also provided for in the federal nature of the Indian Constitution under which both Central and State governments can take decisions. For example, education.
Union List:	It is a list of items on which only the Central government can take decisions. Examples include defence, communications, citizenship, railways, banking etc.
Volunteer:	In the context of community radio, these are usually members of the community who work with the community radio. Across the world, there are volunteers who work on paid and non-paid basis. Some volunteers work on technical aspects, while others work on programming, or capacity building, marketing and so on.
Warranty:	A written guarantee, issued to the purchaser of an article by its manufacturer, promising to repair or replace it if necessary within a specific period. Usually applies if the fault can be shown to be a manufacturing defect.
Women's collectives:	Self-help groups of women, who come together, save small sums of money and help each other out in order to improve the quality of life.