

Effects of Electronic Media like Radio, Television and Community Radio on Climate Change Knowledge, Attitude and Behavior of the People of Bangladesh



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**Effect of Electronic Media like Radio,
Television, and Community Radio on Climate
Change Knowledge and Behavior of People in
Bangladesh**

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Preface

Climate change is a crucial issue for Bangladesh as it is one of the top ten countries vulnerable to climate change. The topography and geographical location of Bangladesh is susceptible to extreme weather events like cyclones, floods, and storm surges. These effects are further aggravated due to its socioeconomic factors, such as high dependency on agriculture, population density and poverty. In Bangladesh, climate change has already affected many sectors including water resources, agriculture and food security, ecosystem and biodiversity, human health and resources. The environmental and development problems are expected to be worsen due to climate change in the coming years. Adaptation to climate change is crucial for development. It is intimately linked with changing human behavior, particularly in areas of Knowledge, Attitude and Practice (KAP). Mass awareness and understanding of climate change largely depend upon media coverage on climate change issues and events. Realizing this fact, the National Institute of Mass Communication (NIMC) undertook a research to reveal the effects of media like television, radio, and community radio on climate related knowledge, attitude and practice of the people of Bangladesh. The study was carried out in four different districts of the country which are highly vulnerable to climate change. This report explored valuable information related to the status of people in terms of KAP with regard to climate change and the effects of selected media addressing climate change issues. This report also revealed availability and people's access and ownership of different selected media in the study area as well as people's preference of media. In addition, it addressed the obstacles faced in reaching different selected media. It is presumed that the findings of this report will assist in designing and implementing effective media related strategies to influence people's behavior towards adaptation to climate change. This would enable concerned policy makers, researchers, students and teachers to have valuable guidelines for their future work. I express my special appreciation to Dr. Md. Mamun-ur-Rashid and all those who helped to make this research a success.



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Abstract

Media can play a decisive role in informing and engaging people in climate change issues. With the aim of evaluating the effect of electronic media viz. television, radio (including FM), and community radio (CR) on climate change knowledge, attitude, and practice (KAP) this research was conducted in four selected divisions of Bangladesh namely Dhaka, Rajshahi, Khulna, and Barisal during the period March, 2019 to April 2019. This research adopts a mixed method approach and performed 605 random structured interviews, 9 Focus Group Discussion, and 18 Key Informant Interviews. The findings of this research reveal that, except for television respondent's use of other two media for climate change KAP is extremely low, although they have a convincing level of availability and access to these media. Use of television and non-electronic media has significant contribution on the variability of climate change KAP. Radio (including FM) has significant contribution only on the adoption of the climate change practice. This research also confirms that respondents have extremely low levels of adoption of climate change practices. Multiple regression analysis shows that the use of television, radio, and CR significantly depend upon respondent's gender, education, and the use of non-electronic media. This article also suggests ways in which the use of electronic media can be enhanced for climate change KAP. This research also reveals that climate change programs are very scarce in the electronic media of the country. Presence of excessive entertainment programs and failure to provide wide publicity for climate change programs hinder many people from receiving climate change information from electronic media. Establishing a separate channel for broadcasting climate change programs as well as giving information in an entertaining manner such as drama, song, short film, cartoons, etc. could be an effective way of linking more people with climate change programs in electronic media.

Key words: Effect; Television; Radio; Community radio; Climate Change KAP

Chapter 1

INTRODUCTION

1.1 Study Background

Bangladesh is one of the top ten vulnerable countries to climate change on the globe. According to the climate risk index, 2017 the country was positioned 9th in the list and experienced 0.41% of GDP loss equivalent to 2826.678 million USD due to climate change (Eckstein, Hutfils, and Wings, 2018). Bangladesh is experiencing a recurrent adverse impact of climate change almost every year, which include floods, flash floods, cyclone and storm surges, salinity intrusion, extreme temperature and draughts, river bank and coastal erosion, erratic rainfall, etc. (Biswas, 2013; Ahmed, 2012). Not only at present, the future projection of climate change impact also exhibiting an upsetting scenario, such as 30% drop of crop production and increase of salinity area to 18% by 2100, coral bleaching, submergence of a massive part of mangrove forest, significant shrinkage of fish production, massive ascend in the number of homeless people, rise in respiratory, dengue, malaria, and diarrhea diseases, injuries, disabilities, psychological stress, and morbidity due to floods, droughts, heat and cold waves, landslides, cyclones, river bank erosion, etc., sea level rise, increased evaporation, and loss of bio-diversity (Biswas, 2013).

1.2 Problem Statement

Scientists are in agreement that humans are the primary driver of global warming and this process is continuing at an unprecedented pace (Williamson et al., 2018). Climate change is caused by the exchange of energy, momentum, and chemicals between the atmosphere, the ocean, and land surface. This process involved oceanic and atmospheric circulation, turbulent mixing, photochemistry, and radiative transfer, which is mainly natural but some, at least, are susceptible to human influence via production of greenhouse gases. The greenhouse gases mainly carbon dioxide including others, such as methane, nitrous oxide, and halocarbons enter the air due to combustion of coal, natural gas and petroleum, and due to other industrial and agricultural activities. Their rate of emission into the air are grossly proportional to the global rate of energy consumption occurred from human activities (Keeling, 1995). In fact, nearly two-thirds of global greenhouse gas emission is directly or indirectly connected to human consumption (Williamson et al., 2018).

Current levels of human consumption in combination with growing population have significant negative impact on the natural environment leading to climate change (Dietz, Rosa & York, 2007; Myers & Kent, 2003). Hence, responsibility of climate change not only lies with

governments and industries, particularly it needs to become everyone's business. What we buy, what we eat, and how we dispose our waste largely shapes the climate change. A research showed that 30 selected behavioral solutions can mitigate 19.9-36.8 percent of the global emission from 2020-2050 (Williamson et al., 2018). Indeed, the adoption of necessary behaviors is the key element in solving climate change challenges.

1.3 Justification of the Study

Mass media campaigns are among the policy tools most commonly apply to influence public opinion. It has been well documented that for most people, the media is a prominent and integral source for acquiring information about climate change (Storch, 2009; Boykoff & Rajan, 2007; Schäfer, 2007; eingart, 2001; Ungar, 2000). Environmental perception, risk perception, recognition of behavioral consequences, awareness of responsibility, and crisis are the key factors influencing environmental behavior. It is obvious that the media play a unique role in activating these perception processes. For example, many environmental problems are barely perceived directly by human senses. Particularly, the causes and long-term effects of environmental problems remain beyond personal experience. On the contrary, some phenomena like extreme weather incidents are observable, but it is not self-evident that they are perceived as indicators of global climate change. To relate a single observation with a general problem is the result of an interpretation process where media can contribute (Arlt, Hoppe, and Wolling, 2011).

Media such as television, the press and online – helps communicating to the public what happens in the world, particularly in those cases in which audiences do not possess direct knowledge or experience of what is happening. However, effect of communication media is not equal all over the world and varies largely depending upon types of media, availability of media, subject of message, message content, message presentation, message repetition, audience behavior, etc. So, location specific evaluation of media is vital for shaping people's behavior for further development. Lamentably, at present studies endeavoring effect of media on the climate change behavior of people in Bangladesh is almost nonexistent. So, it is essential to conduct a study on the effect of electronic media on the climate change behavior of people to know the present status and suggest future strategies to change people's behavior using electronic media.

1.4 Review of Literature

News media has significant potential to influence issue based public understanding and perception. News media coverage is a way of public learning about climate change (Brulle et al.2012; Russell 2008). Brulle et al. (2012) using data from 74 separate surveys over 9 years period of time found that media coverage has important influence on public concern regarding climate change. In assessing the influence of media use in environmental engagement of adolescents in Sweden, Östaman (2013) explored that there is a direct or indirect relationship between frequency of news media use and pro-environmental behavior.

Television news due to its visual immediacy and authoritative presentation is particularly influential. Numerous studies have so far represented that television news can influence public opinion directly or indirectly through processes, such as agenda setting and framing. In spite of a fragmented media environment heavily dominated by online communication, television still hold its position as crucial media via which citizens follow news about science issues (Feldman, 2016). Kalade et al. (2013) in their study on the role of media in creating awareness about climate change – case study of Bijapur city in India revealed that a significant proportion of the respondents knew about climate change from television. In a cross sectional survey on urban adult population in India Padve et al.(2011) found that a substantial percentage (59.78%) of the respondents used television for climate change information. Holbert et al. (2003) in analyzing the connection between environmental concern, pro-environmental behavior and different patterns of television viewing found that fact-based television use had positive effect, while fiction-based television use had no relationship.

Radio is widely used as a mass communication medium, which has a great potentiality in reaching the entire population due to extensive signal coverage. Radio has several advantages over other media, such as television and newspaper as it is handy, portable, and cheap (DFID, 2012). Along with dissemination of information it can enhance public awareness regarding many social, economic, political and environmental issues (Kakonge, 2011). In a study evaluating the influence of radio programs on climate change knowledge Perez-Teran et al. (2015) found an average increase of 22.3% on test scores in climate change and forest topics for an individual, who listens once to one radio program. Rebeca (2016) in assessing the effect of a project on ‘Radio drama as a vehicle of behavior change in climate change adaptation amongst rural smallholder farmers in Northern Nigeria’ claimed that radio drama has the capacity to overcome long held traditions and practices and stimulate real behavior

change, when it is entertaining, of high quality, informative and relevant to their needs.

Amid advent of numerous new media, community radios are still serving a crucial role in reaching, informing, and engaging communities. Community radios are run by community focusing their needs and interest. Climate change is crucial concern for Bangladesh, where almost all the residents are directly or indirectly suffering the effect of climate change. As community radio broadcast programs in local language, so climate and environment related documentaries, interactive talk shows, drama and music, etc., can help people learn and respond to climate change issues (UNFCCC, nd.). Good Climate Change Adaptation Practices Manual published by the Philippines Climate Change Adaptation Project (PhilCCAP) identified community radio as a vital tool for social mobilization for climate awareness and adaptation (Department of Environment and Natural Resources, 2016). Radio Bhundelkhanda community radio in India was successful in convincing villagers in reducing use of synthetic fertilizers and enhanced use of organic manures airing success story of a villager in adapting alternative farming method (Indira, 2014). In Bangladesh, by surveying a very small section of audiences under a community radio called Radio Nalta, Rahman (2013) claimed that the radio played a vital role in enhancing people's climate change awareness in the district of Shatkhira.

1.5 Research Objectives

The general objective of this research is to find out the effect of Radio, Television, and Community Radio on the knowledge, attitude, and practices among the adult individuals (18-64 years). However, the specific objectives of this research are:

- a) To assess the knowledge level, attitude, and practices towards climate change among the people of all levels in the study area.
- b) To explore the effect of electronic media use on the knowledge, attitude, and practices of the people of all levels in the study area.
- c) To reveal the constraints faced by the individuals of all levels for receiving information from radio, television, and community radio.
- d) To find out the most appropriate mode of electronic media based communication for enhancing awareness and engagement in climate change.

1.6 Research Questions

In the process of research this study is going to answer the following research questions:

- Q1. What is the level of people's knowledge, attitude, and adoption of practices towards climate change?
- Q2. What is the effect of electronic media use on people's knowledge, attitude, and practices regarding climate change?

- Q3. What constrains the respondents is facing in receiving information from electronic media?
- Q4. What is the most appropriate mode of electronic media based communication for enhancing people's awareness and engagement in climate change?

Chapter 2

METHODOLOGY

2.1 Study Locale

The climate change effect is visible in almost all the localities of the country. However, this research was conducted in four selected divisions, namely Dhaka, Rajshahi, Khulna, and Barisal, because Rajshahi is suffering from severe high and low temperature along with perpetual drought, Dhaka is experiencing severe levels of human induced climate change effect, Barisal and Khulna due to laying by the Bay of Bengal have the record of perennial occurrence of natural hazards, such as cyclone, tidal surge, high salinity, etc.

2.2 Study Approach

Illustrating the research approach is an effective strategy to increase the validity of social research (Cresswell, 2007). To achieve the objectives precisely, this research adopted mixed method approach. The term mixed method research is used as a simple shorthand to stand for research that combines quantitative and qualitative methods in a single project. In the process of combination, two research methods cross the two research strategies (Bryman, 2012). Mixed method research stressed on collecting, analyzing, and mixing both qualitative and quantitative data in a single study or series of studies, with the aim that combination of both methods will aid a better understanding than the use of a single method (Cresswell, 2007).

2.3 Population and Sampling

All the adult people living in the four selected divisions constitute the population of the study. This study adopted multistage random sampling for determining the sample size (Chart 2.1). In the beginning four districts were randomly selected from four selected divisions. One upazila was randomly selected from each district followed by random selection of two unions from each upazila. From each union two villages were randomly selected, hence a total of 16 villages were selected randomly for data collection. The total population residing in the four selected divisions was 9,22,28,283 according to the population census 2011. At 95% confidence level 4% margin of error the required sample size was 601. Hence, this research considered a sample size equivalent to 604. However, a detail of sampling frame of the study is presented in Table 2.1.

Table 2.1 Sampling frame of the study

Div .	Population	Sample	District	Upazila	Unions	Villages	Samples selected
Barishal	91,45,000	63	Barguna	Amtoli	Amtoli	Chotonilgonj	18
						Tiakhali	15
					Haldia	Uttar Raogaon	17
						Dashkhin Raogaon	15
Rajshahi	2,04,12,000	141	Rajshahi	Puthia	Belpukur	Thadas	33
						Taraish	34
					Baneswar	Namazgram	41
						Khutipara	34
Khulna	17252000	119	Khulna	Koirā	Amadi	Jaigirmahal	27
						Amadi	26
					Moheswaripur	Gilabari	36
						Amtoli	30
Dhaka	4,01,71,000	278	Munshigonj	Munshigonj Sadar	Munshigonj Sadar	Ward no. 1	90
						Ward no. 2	70
					Rampal	Khanka Dalal Para	65
						Panhata	53
Tot.	8,69,80,000	601					604

2.4 Data Collecting Instruments

This research blended both qualitative and quantitative methods for data collection. A structured interview schedule was developed to collect general information, exploring the use, access, and availability of television, radio (including FM), community radio (CR), as well as to find out the determinants and extent of climate change knowledge, attitude, and practice. Use of selected electronic media as well as non-electronic media was measured using a five point rating scale having ratings always (4)...Never (0). Knowledge on climate change was measured mixing four multiple choice questions, four yes/no questions and seeking opinion regarding seven climate change events. For each correct answer, the respondent got 1 and for each wrong answer the respondent received 0, while for not knowing the correct answer the respondent got 0.5. Attitude of the respondents regarding climate change was measured on a five point Likert Scale based on eight items. Climate change adaptation practices were measured based on 12 selected practices seeking the answer whether the respondent uses the practice or not. For the answer yes the respondents were given a score of 1

otherwise he/she got zero. The questions for climate change KAPs were prepared following Final Report of the Survey on Knowledge, Attitudes and Practices Study on the Effects of Climate Change in the Upper Yallahs Watershed in 2013 by Jamaica Conservation and Development Trust; Hope (2016); Tobler et al. (2012); Report of Japan-Caribbean Climate Change Project (2016). However, a detail of the measurement of each variable in the study is presented in Appendix-I, and a copy of structured questionnaire is placed in Appendix-II. Along with quantitative methods this research also used qualitative methods such as 9 Focus Group Discussions (FGD), 18 Key Informant Interviews (KII). The respondents included in qualitative methods were agriculture entrepreneurs, students, government college teachers, community radio station managers, businessman, farmers, university students, etc. A list of questions used in qualitative data collection methods is placed in Appendix-III. It is important to note that before finalizing the questionnaire it was pretested 40 respondents from Amtoli upazila from Barguna. Split half method was used to test the reliability of the questionnaire and a strong correlation was found between the groups in terms of the score of climate change KAP.

2.5 Statistical Analysis

Data collected in this research are described by deploying descriptive statistics, such as mean, median, mode, standard deviation, range, frequency, percentage, weighted mean, etc. As inferential analyses this study used multiple regression analyses. Content and narrative analyses were followed in interpreting qualitative data. All quantitative statistical analyses were performed via SPSS 23.0 software package.

2.5.1 Multiple Regression Models

Regression analysis deals with the study of the independence of one variable, the dependent variable, on one or more other variables, the explanatory variables, with a view to estimating and/or predicting the (population) mean or average value of the former in terms of the known or fixed (in repeated sampling) values of the later (Gujarati et al., 2015, p.15). Multiple regression analysis allows many observed factors to affect Y. The general multiple linear regression model (also called the multiple regression model) can be written in the

population as

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \dots + \beta_k x_k + u$$

Where

β_0 is the intercept

β_1 is the parameter associated with x_1

β_2 is the parameter associated with x_2 and so on. (Wooldridge, 2013)

Based on the above equation the regression models of the research can be expressed as

$$Y_i = \beta_0 + \beta_1 X_{i1} + \beta_2 X_{i2} + \beta_3 X_{i3} + \beta_4 X_{i4} + u_i$$

$$Y_2 = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + u$$

$$Y_3 = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + u$$

Where,

Y_1 = Knowledge about climate change

Y_2 = Attitude towards climate change

Y_3 = Adoption of climate change practice

X_2 = Use of radio including FM

X_3 = Use of community radio

X_4 = Use of non-electronic media

β_0 = Constant term

$\beta_1 \dots \beta_4$ = Co-efficient of respective variable

Chapter 3

Result and Discussion

3.1 Descriptive Statistics of the Respondents

Table 3.1 shows the distribution of all the respondents by age, gender, education, occupation, monthly income, and location of residence. The average age of the respondents was 32.03 years with a standard deviation 11.72. The respondents were male and female in almost equal proportion and had average education up to class 9. In case of occupation, 61.1% respondents were either house wife or student. When comes annual income, an overwhelming percentage of the respondents belonged to the lower middle income category and a great majority (76.2%) of the respondents resided in rural areas. However, a detail of each variable can be observed from the Table 3.1.

Table 3.1 Descriptive statistics of the respondents (n=604)

Variable	Mean	Median	std.	OR	PR
Age	32.03	30	11.72	14	70
Gender	Male = 300 (49.6%); Female= 304 (50.4%)				
Education	9.05	10	4.84	0-18	0-18
Occupation	Service = 36 (6%); Day laborer = 25(4.1%); Business = 78(12.9%); Housewife = 243 (40.2%); Farming = 39 (6.5%); Student = 126 (20.9%); Others = 56 (9.3%)				
Monthly income	Low income = 69 (11.5%); Lower middle = 408 (67.5%); Upper middle = 108(17.9%); High income = 11 (1.8%)				
Residence	City = 122 (20.2%); Villages = 460 (76.2%); Upazila = 22 (3.6%)				

3.2 Use of Television, Radio and CR for Climate Change Information

Use of television, radio (including FM) and community radio (CR) was measured based on a five point rating scale. As shown in Figure 3.1, 54% of the respondents used television from always to rarely where only 14.4% of them used always to frequently. A very small proportion of the respondents used Radio (including FM) (14.6%) and community radio (6.3%), where radio (including FM) was used 8.3% more compared to CR. However overall use of television, radio (including FM), and CR seems to be very low for acquiring climate change information. Availability and frequency of climate change information were very limited on television, radio and community radios. The respondents in different FGDs and Key Informant interviews claimed that ‘Except from

giving regular weather information, day specific discussion and inspiring people for planting trees televisions, radios and most of the community radios didn't have regular programs in informing people regarding climate change issues'. During the field study this research visited four community radio stations and found that one radio station in Dhaka division don't have any program for delivering climate change information other than daily broadcasting of weather news. The concerned station manager opined that 'Climate change is not visible in the territory of the radio coverage; rather climate change is visible only in the coastal areas of Bangladesh'. A reporter of a private television channel explained that the media are more interested in dissemination entertainment programs rather than providing development information for retaining their audiences.

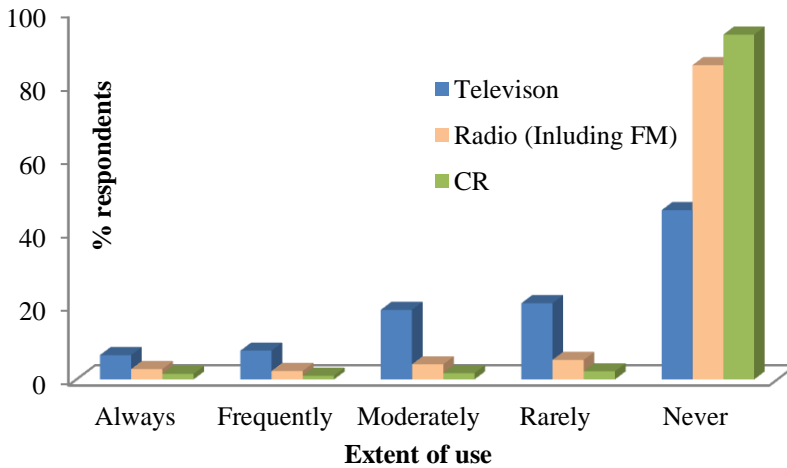


Fig. 3.1 Graph showing respondents distribution based on the use of electronic media

3.3 Availability of Different Electronic Media to the Respondents

Data presented in column 6 of Table 3.2 mirrors that in terms of weighted mean the most available electronic media were television followed by radio (including FM) and CR. A mammoth section of the respondents (82.3%) claimed that television was available to them, while in case of radio and CR, the majority of the respondents (see column 2 &3) claimed moderately available to available.

Table 3.2 Availability of television, radio (including FM) and CR to the respondents (n=604)

Media	Extent of availability					RA
	AV	MAV	LAV	NAV	WM	
Television	497(82.3)	53(8.8)	32(5.3)	27(3.6)	2.69	1
Radio	275(45.5)	275(45.5)	17(1.8)	37(6.1)	2.30	2
CR	252(41.7)	270(44.7)	30(5)	52(8.6)	2.19	3

Note: AV= available; MAV=Moderately available; LAV=Less available; NAV=Not available; RA= Rank

3.4 Access to Different Electronic Media

Access to different media data in Table 3.3 shows that based on weighted mean (column 8) the respondents had highest access to television followed by radio and community radio. The same Table further mirrors that the majority of the respondents (63.7%) had very easy access to television, whereas 64.7% of the respondents had very easy to easy access to radio (including FM) and little more than half (52.3%) of the respondents had very easy to easy access to CR.

Table 3.3 Distribution of respondents based on their access to selected electronic media (n=604)

S	Media	VE	ES	ME	LE	NE	WM	RA
1	TV	385 (63.7)	63 (10.4)	69 (11.4)	35 (5.8)	52 (8.6)	3.14	1
2	Radio	260 (43)	131 (21.7)	96 (15.9)	57 (9.4)	60 (9.9)	2.78	2
3	CR	166 (27.5)	150 (24.8)	108 (17.9)	93 (15.4)	87 (14.4)	2.35	3

Note: VE= very easy; ES= Easy; ME = Moderately easy; LE= Less easy; NE = Not easy; WM = Weighted Mean

3.5 Ownership of Different Media

The ownership of media data displayed in Figure 3.2 represents that almost equal proportion (71.2% and 69.4%) of the respondents

personally own radio and CR. On the contrary, only a small percentage of the respondents (16.7%) personally own television. However, a little more than half (50.7%) of the respondents represented family ownership of television. Only a small percentage (13.9% and 16.1% respectively) of the respondents didn't own radio and CR, while a significant proportion (32.5%) of the respondents didn't own television.

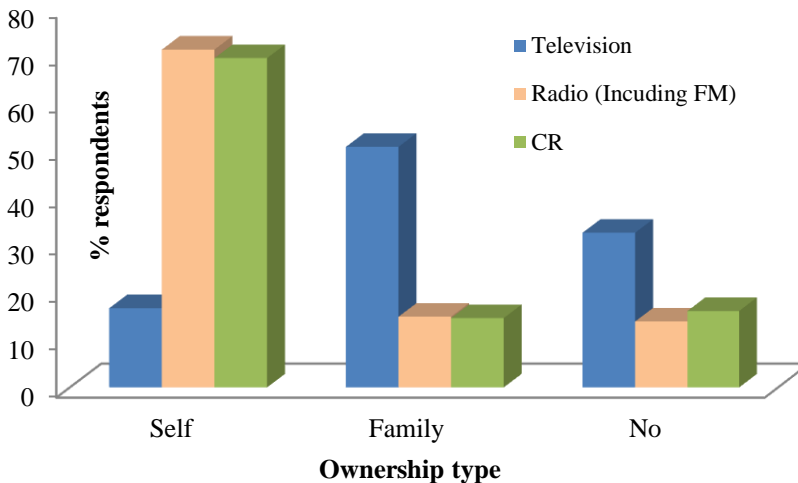


Fig 3.2. Graph showing ownership of different media by the respondents

3.6 Use of Non-electronic Media for Climate Change Information

Use of non-electronic media is discussed on the basis frequency of the respondents in their extent of use of different media. Data displayed in Table 3.4 shows that a little more than half of the respondents (item 8) used school and/or college going children as a source of climate change information, while a little less than half (item 9) used friends, relatives, and neighbors in a varying degree (rarely always) for acquiring climate change information. A significant proportion of the respondents also used newspaper, magazine, leaflet, folder, Books in school, college, and university for acquiring climate change information. A small section of the respondents adopted Bill board, poster, etc., (item 6) and Government organizations (item 1) for receiving climate change information. As shown in column 7 of Table 3.4, very few respondents used community groups, informal discussions, such as seminar, conference; voluntary organizations, e.g. red crescent, rotary club ; and NGOs for obtaining climate information.

Table 3.4 Distribution of the respondents based on the use of non-electronic media (n=604)

Sl	Media	AL	FR	MO	RR	NO	WM	RA
1	Government organizations	3	2	7	31	516	0.104	8
2	NGO	5	4	18	34	543	0.168	6
3	Voluntary organizations e.g. red crescent, rotary club, etc.	4	5	15	15	565	0.125	7
4	Informal discussion such as seminar, conference, etc.	1	1	16	13	573	0.086	9
5	Newspaper, Magazine, Leaf let, folder, etc.	10	26	70	22	476	0.463	3
6	Bill board, poster, etc.	4	16	38	29	517	0.279	5
7	Books in school, college, university	25	45	67	49	418	0.692	2
8	School and/or college going children	12	28	61	28	275	0.466	4
9	Friends, relatives, neighbors, etc.	29	65	111	75	324	1.006	1
10	Community groups	3	5	7	4	585	0.074	10

Note: AL = always; FR = Frequently; MO = Moderately; RR = Rarely; NO = Never, WM = Weighted mean

3.7 Climate Change Effects on the Respondents

Data displayed in Figure 3.3 shows that nearly two third (65%) of the respondents suffered from at least one kind (please see column 2 of Table...) of climate change effect while little more than one third of the respondents (33.8%) didn't experience any kind of climate change effect. The same figure also depicts that a minute section of the respondents (1.2%) were not sure whether they suffer climate change effects.

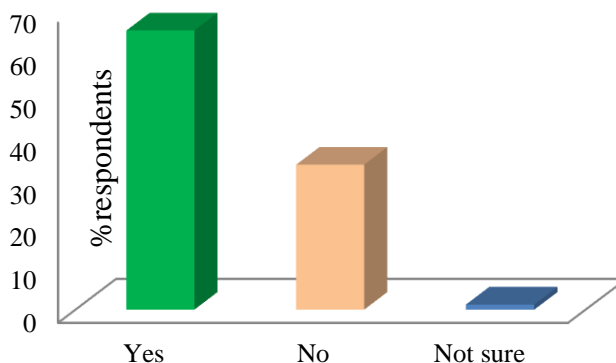


Fig 3.3 Graph showing distribution of respondents suffered from climate change

Data on the types of climate change effects the respondents experienced (Table 3.5) shows that based on the weighted mean (column 10) loss of resources, such as house, ornaments, money, land, etc., were the top sectors of loss followed by suffering from diseases and reduction of agricultural production. The same Table further represents that almost one third of the respondents (32.28%) experienced very high to moderate loss of resources and the decline of agricultural production due to climate change. However, the least effected sectors of climate change were loss of livestock and lack of drinking water, where 73.67% and 67.88% respondents never experienced any loss (item 2 and 6 of Table 3.5).

Table 3.5 Distribution of respondents based on suffering from climate change effects (n=604)

SI	Effect	VH	HI	MD	LW	VL	NS	MS	WM	RA
1	Loss of resources such as house, ornaments, money, land, etc.	67	62	66	51	29	323	6	1.52	1
2	Loss of livestock e.g. cattle, poultry, etc.	32	33	40	31	17	445	6	0.82	6
3	Reduction of agricultural production	64	62	71	31	8	362	6	1.42	3
4	Cease of income	58	58	51	41	21	369	6	1.30	4
5	Suffer from diseases	31	80	90	48	33	316	6	1.46	2
6	Lack of drinking water	29	41	54	43	30	401	6	0.98	5

Note: VH = Very high; HI = High; MD = Moderate; LW = Low; VL= Very low; NS= Didn't suffer; MS = Missing

3.8 Knowledge in Climate Change

The knowledge on Climate Change effect was measured based on eight multiple choice and yes/no questions, as well as seeking opinion regarding the future occurrence of seven climate change events. The Table 3.6 shows that the respondents seemed to be well informed about the contribution of forest destruction, urbanization, and desertification on climate change (item 7, see Table 3.6). A substantial number of people also knew the kind of greenhouse gas produced due to the use of Agrochemicals in agriculture (item 3). A major proportion of the respondents also knew how greenhouse gases are enhancing temperature (item 4). Little more than half of the respondents knew that burning of fossil fuel produces CO₂ (item 2) and along with natural causes human are also responsible for climate change (item 6). A significant (three fourth) proportion of the respondents didn't know what kind of changes

in the weather indicators represents climate change (item 1). Only a small section of the participants showed knowledge that water vapor is a greenhouse gas (item 8).

Table 3.6 Respondent's performance regarding climate change questions (n=604)

Sl.	Questions	Correct Answer	Wrong Answer	Don't Know
1	Climate change means long terms change of weather indicators such as temperature, rainfall, windflaw, etc.	150	247	207
2	Fossil fuel, such as coal, diesel, gas, etc., burning produces CO ₂ gas	318	42	244
3	The greenhouse gas produced due to the use of agrochemicals is N ₂ O	429	82	93
4	Greenhouse gas hinder head emission from the land surface to the atmosphere	382	125	97
5	Sea current, volcanic eruption, etc., an contribute to climate change	312	52	240
6	No human no climate change	301	212	91
7	Forest destruction, urbanization, desertification, etc., can influence climate change	534	35	35
8	Water vapor is a green-house gas	138	92	374

When it came to the opinion of the respondents regarding the possibilities of occurrence of selected events due to climate change, the majority of the participants were agreed that climate change will enhance severe hot and/or cold, cyclone, storm, drought, rainfall shortage, torrential rain, flood, extinction of plants and animals, etc. Little more than half of the respondents (item 5) believed that climate change will also enhance soil erosion, while little less than half of the respondents (item 6) consented that climate change will elevate sea surface.

Table 3.7 Respondent's opinion related to the future occurrence climate change events (n=604).

Sl.	Climate change event	Increase	Decrease	No change	Don't know
1	Cyclone, storm	505	45	7	47
2	Torrential rain, flood	430	84	7	83
3	Drought, rainfall shortage	496	38	10	60
4	Severe hot or cold	506	18	27	53
5	Soil erosion	325	19	28	232
6	Rise of sea surface	282	44	12	266
7	Extinction of plans and animals	450	12	10	132

During qualitative data collection it was observed that a massive section of people in the study area didn't possess clear knowledge regarding climate change. In most of the FGDs arranged in different locations, participant agreed that they have observed a conspicuous change in the climatic indicator such as rain, heat and cold, frequency of storms, etc. Except from few educated respondents most of the respondents particularly from the rural remote areas were completely unaware that human activities can contributed to the climate change.

3.9 Attitude towards Climate Change

Attitude of the respondents towards climate change was measured adopting a five point Likert scale. Data displayed in Table 3.8 represents Table 3.8 Attitude of the respondents towards climate change (n= 604).

Sl.	Questions	SA	AG	NO	DA	SD	MS	WM	RA
1(-)	Climate change impact is not significantly visible in Bangladesh	38	32	22	251	256	5	4.09	2.5
2(-)	Human activities can't contribute to climate change	83	90	41	180	203	7	3.55	6
3(+)	Every human being can play role in mitigating climate change	262	163	29	91	51	8	3.82	5
4(-)	Change in natural environment is the chief cause of climate change	98	116	150	140	90	10	3.01	8
5(-)	We need to think about present, no need to think about future	34	31	12	138	353	6	4.09	2.5
6(-)	Climate change is the curse of the creator, hence can't be avoided	150	67	51	179	152	5	3.19	7
7(+)	Climate change can reduce the living standard of future generations	284	219	51	24	20	6	4.20	1
8(+)	Climate change resilience is not possible without mass people awareness via widespread advertisement	268	140	70	86	29	11	3.89	4

that according to the weighted mean most of the respondents feel that climate change can reduce the living standard of the future generations (WM = 4.20) and not only the present we also need to think about our future (WM = 4.09) generations. They also conceived that climate change impact is significantly visible in Bangladesh (WM = 4.09) and climate change mitigation is not possible without mass people awareness via widespread advertisement (WM = 3.89) in different personal and mass media. In qualitative data collection method it was found that a significant proportion of the participants predominantly from illiterate segment residing in the rural areas took climate change as granted and claimed that people can do little in combating climate change. In a FGD with people making their livelihood from Sundarbans claimed ‘What can we do if Allah punish us with natural disasters’.

3.10 Practices Adopted for Mitigating Climate Change Effect

Data presented in Table 3.9 shows that respondents adopted various practices for mitigating the effect of climate change. It is also clear from the same Table that expect for few practices such as putting off lights, planting trees, throwing waste in garbage bins, more use of organic materials in agriculture than agrochemicals a massive proportion of the respondents did not use other practices. Data presented in row number six of Table 3.9 shows that very few respondents practice less use of fossil fuel based vehicles, such as bus, three wheelers, etc., which is a very important practice for mitigating climate change. Similarly, very few of the respondents used jute or cloth bags instead of polythene bag, stop cutting trees and consumed less animal based food and more vegetables and fruits for mitigating the negative effect of climate change.

A mammoth section of the respondents were concerned that climate change is crucial problem for Bangladesh as well as for the whole world. However, their adoptions of climate change practice were sparse. In a FGD with the fish farmers in Dhadas village under Puthia Upazila of Rajshai the participants claimed that ‘ We all are aware that a noticeable change has already took place in the weather indicators such as rain, temperature, etc., but very few of us adopt practice to mitigate climate change. The adoption of practice is only limited to planting trees.’ Even the highly educated section of society is indifferent in adopting climate change practices. In a FGD with Government college teachers in Munshigonj very few participants were found to adopt climate change practices although all of them were very conscious about climate change.

Table 3.9 Practices adopted by the respondents for mitigating climate change effect (n=604)

Sl.	Practices	Y(f)	No (f)	M(f)
1	Tree planting, social forestry	217	384	3
2	Stop cutting trees	98	503	3
3	Put down lights if not necessary	477	123	3
4	Practice gardening	74	527	3
5	Planting in balcony, roof, etc.	47	554	3
6	Less use of fossil fuel based vehicles, such as bus, three wheelers, etc., and more walk	23	578	3
7	Taking less animal based food and more vegetable, fruits, etc.	70	531	3
8	Thawing waste, empty packets in garbage bins	186	415	3
9	Less use of polythene and more use of jute or cloth bags	49	552	3
10	Preserve and use of natural water	93	507	3
11	More use of organic materials in agriculture than agrochemicals	575	26	3
12	Less use of chemicals as drugs and/or cosmetics, and more use of herbal product instead	21	580	3

Note: f=frequency; M= Missing

3.11 Effect of Media Use on Climate Change KAP

The results of the analyses examining the effect of media use on climate change KAP are presented in Table 3.10. Beginning with climate change knowledge, the results reveal that the respondents those reported higher use of television and other non-electronic media is more likely to have more knowledge on climate change. Similarly, when come climate change attitude, the results in Table 3.10 shows that respondents used more television and other non-electronic media is more likely to have a positive attitude towards climate change. The same Table further mirrors that respondents reported higher use of television, radio (including FM), and other non-electronic media is more likely to adapt more climate change practices.

Table 3.10 Regression analysis result of media effect on climate change KAP

Var.	Dependent variables								
	Climate change knowledge			Climate change attitude			Climate change practice		
	B	SE	β	B	SE	β	B	SE	β
Const.	9.78	0.117		26.78	0.464		0.59	0.147	
UT	0.61	0.145	0.168**	2.54	0.577	0.174**	0.82	0.183	0.174**
UR	0.14	0.228	0.029	-0.86	0.907	-0.042	0.70	0.287	0.105*
UCR	0.10	0.329	0.014	0.90	1.309	0.030	0.14	0.415	0.015
UNEM	0.09	0.020	0.199**	0.46	0.078	0.245**	0.16	0.025	0.265**
R= 0.294; R ² =0.086;			R= 0.322; R ² =0.103;			R= 0.388; R ² =0.150;			
Adj-R ² = 0.080; Durbin-			Adj-R ² = 0.098; Durbin-			Adj-R ² = 0.145; Durbin-			
Watson= 1.81; Cook's			Watson= 1.48; Cook's			Watson= 1.91; Cook's			
distance= 00-0.043;			distance= 00-0.137;			distance= 00-0.076;			
F _{4,599} = 14.76, p<0.000			F _{4,599} = 17.28, p<0.000			F _{4,599} = 26.506, p<0.000			

Note: UT= Use of Television; UR = Use of Radio; UCR = Use of Community Radio; UNEM = Use of Non Electronic Media; **Significant at 1% level; *Significant at 5% level

In qualitative data collection a significant proportion of respondents also confirmed that they became aware of climate change issues from the television. Few respondents also became aware listening radio programs. In an FGD in Dhadas village under Puthia Upazila of Rajshahi, Arifur Rahman, a non-government college teacher claimed '*I have planted trees seeing short drama inspiring tree planting in Bangladesh Television*'. A student of Rajshahi University in an FGD said '*I have suggested my big brother to use organic manure instead of chemical fertilizer by hearing community radio programs.*'

3.12 Determinants of Television, Radio and CR use for Climate Change Information

Based on multiple regression analysis the determinants of selected electronic media are displayed in Table 3.11. The findings in Table 3.11 show that the gender of the respondents were significantly ($p>0.05$) associated with the use of selected electronic media, where the possibilities of using selected electronic media is 33% more if the respondent is a male. The possibilities of the use of selected electronic media will also increase if the respondent had more education. As shown in Table 3.11, lower income respondents had highly significant possibilities of using selected electronic media for climate change information compared to lower middle income respondents.

Table 3.11 Regression analysis of the determinants of selected electronic media use

Variable	B	SE	β	t	p	VIF
Constant	0.504	0.268		1.879	0.061	
Gender	0.332	0.157	0.082	2.122	0.034	1.03
Education	0.043	0.018	0.104	2.334	0.020	1.35
UOM	0.170	0.022	0.327	7.763	0.000	1.22
Low income	-0.182	0.313	-0.028	-0.581	0.562	1.60
HMI	-0.104	0.209	-0.024	-0.500	0.617	1.57
High income	-0.654	0.592	-0.044	-1.106	0.269	1.08

Dependent variable: Use of electronic media; R= 0.399; R²=0.159; Adj-R²= 0.150; Durbin-Watson= 1.634; Cook's distance= 00-0.095; F_{5,578} = 18.229, p<0.000

Note: UOM=Use of other media; HMI=Higher middle income

3.13 Obstacles Faced by the Audiences in Receiving Climate Change Information

Climate change issues are not sufficiently addressed in the electronic media in Bangladesh. Other than broadcasting daily weather news most of the electronic media don't have any regular programs on climate change issues. Televisions and radios occasionally broadcast issue specific climate change awareness programs, such as planting trees, using organic products instead of synthetic chemicals in agriculture, stop using polythene, taking more vegetables instead of animal proteins, etc. in the form of small drama, song, and/or PSA (Public Service Announcement). Day specific (such as world meteorological day, world environment day, etc.) discussion of experts are arranged to make people aware of climate change and environmental issues. Some foreign television channels as well as few native channels also broadcast fact based climate change documentaries irregularly. It is clear that climate change programs are not common in the electronic media. Many respondents complain that they are interested in climate change issues, but numerous channels are broadcasting, entertainment programs at the same time other viewers insist to see entertainment programs. Same problems also happen while enjoying television at home. Most of the family members are interested in watching entertainment programs rather than watching climate change related programs. In many cases, particularly in case of radios including community radios the time schedule of climate change related programs were not well publicized before the programs. So, many interested people failed to enjoy the program, although had high interest. The time schedule of broadcasting climate change programs on several media didn't match with leisure time of the audiences. Irrespective of electronic media most of audiences follow programs broadcast from evening to early night. Lamentably, climate change programs are seldom broadcast within this time.

3.14 Strategies for Linking People with Electronic Media Programs

Climate change has become a crucial concern in the recent years and the impacts of climate change are augmenting rapidly then estimation proposed by the scientists. In Bangladesh majority of the media are predominantly engaged in broadcasting, entertainment programs ignoring climate change programs. Hence, participants in several FGDs opined that government can launch separate television channel for disseminating climate change information. Most of the people enjoy entertainment programs such as drama serials, popular movies, cricket and football match, etc. *‘So, to reach a large section of the people with climate change information we can use the breaks of these programs for delivering climate change information’* (Dulal, age 36, Jhanuka, Puthia, Rajshahi). The majority of the people like to receive information in an entertaining manner. So, climate change information needs to be in the form of entertainment, such as drama, song, short film, documentary, etc. For endurance of climate change KAP among the individuals, it is necessary to involve people with climate change information at early ages. We can link children with climate change KAP by making cartoons.

At present climate change programs are scarce and broadcast at different times in different media. A prior advertisement of the time schedule and content of climate change programs can enhance the viewers and/or listeners of the programs. A synergistic use of media like television, radio and community radio can circulate the climate change program schedules and content to involve a large number of audience and/or listeners from all corners of the country. Time schedule can also be popularizing via facebook advertisements.

As a media, radio faces more challenges in retaining its listeners, as it supports only audio communication. To make radio programs more attractive to the audience, the radio stations, both national and community radio needs to prepare participatory programs. A Chief Scientist of a research station in Munshigonj opined *‘Rather than broadcasting studio based programs radio can develop participatory programs going to the climate change vulnerable areas’*.

Chapter 4

CONCLUSION & RECOMMENDATIONS

4.1 Conclusion

This study highlights the effect of electronic media like television, radio (including FM), and community radio (CR) in climate change knowledge, attitude, and practice (KAP) in Bangladesh. From the findings, it was clear that people had a decisive level of knowledge and attitude regarding climate change, but adopt a minimal number of climate change adaptation practices. Despite high to moderate availability and easy access to television, radio, and CR, respondents' use of radio and CR is very negligible, whereas their use of television is comparatively high. Climate change programs are conspicuously neglected in the media selected in this study. It was also observed that television and non-electronic media have a significant effect on climate change KAP, while radio has only significant effect on the adoption of climate change practices. The findings also revealed that the probability of using television, radio, and CR will be increased if the respondent is a male have more education and use non-electronic media for climate change KAP.

4.2 Recommendations

In the light of findings this research suggests following recommendations:

4.2.1 Television play important role in influencing people's KAP. Hence, government can use television based climate change information dissemination for influencing audience's KAP regarding climate change.

4.2.2 Radio and CR were available and easily accessible to the respondents. Lamentably, radios failed to influence public knowledge and attitude regarding climate change. The government needs to strengthen radio based climate change programs, so that the radios can significantly contribute to listeners' knowledge and attitude towards climate change.

4.2.3 The women were significantly lagged behind the male in using electronic media for climate change information. So, electronic media should adopt innovative strategies to increase the number of female listeners in climate change programs.

4.2.4 Use of non-electronic media had a highly significant contribution in the respondent's use of electronic media for climate change information. So, widespread information dissemination via non-electronic media is necessary, so that the people use electronic media for further information.

4.2.4 Broadcasting information in an entertaining manner in separate television and radio channels is necessary for involving more people with climate change campaign via electronic media.

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Appendix-I

Measurement technique of different variables of the study

Sl no.	Variable	Variable Type	Unit of measurement	Definition of the variable
1.	Age	Continuous	Year	Age of the respondent
2.	Sex	Dummy	Male /Female	Sex of the respondents
3.	Education	Continuous	Year of schooling	Education level of the member
4.	Occupation	Categorical	Service/day laborer/business/housewife / farmers/student/others	Occupation of the respondents
5.	Family income	Categorical	low/lower middle/upper middle/high	The amount of total yearly income earned by all the family members in Taka
6.	Location of residence	Categorical	urban/rural/sub-urban(upazila)	Location where the respondent reside
7.	Use of media for climate change information	continuous	Rating scale (Always=4; Frequent = 3; Moderate = 2; Rarely = 1; Never = 1) against 14 selected media	Frequency of respondent's use of communication media for receiving climate change related information.
8.	Availability of electronic media	Continuous	Rating scale (Available = 3; Moderately available = 2; Less available = 1; Not available =0) against three selected media	Availability of electronic media within the reach of respondents
9.	Access to electronic media	Continuous	Rating scale (Very easy=4; Easy=3; Moderate=2; Less easy=1; Not easy=0) against three selected media	Listen community radio for any program(s).

10.	Ownership of electronic media	Continuous	Rating scale (Personal ownership=2; Family ownership=1; Don't own=0) against three selected media	Community radio listening device owned either by the respondent or by family
11.	Suffer from the effect of climate change	Continuous	Rating scale (Very high=5; High = 4; Moderate = 3; Low =2; Very low = 1) against 6 selected climate change events	Respondent ever suffer from loss due to the negative effect of climate change

Appendix -II



জাতীয় গণ মাধ্যম ইনস্টিটিউট

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার, তথ্য মন্ত্রণালয়

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সাক্ষাৎকার অনুসূচী

বিষয়: বাংলাদেশের মানুষের জলবায়ু সংক্রান্ত জ্ঞান এবং আচরনের উপর ইলেকট্রনিক মিডিয়া যেমন: টেলিভিশন, রেডিও, কমিউনিটি রেডিওর প্রভাব

সহযোগিতার জন্য আপনাকে অগ্রিম ধন্যবাদ। উল্লিখিত গবেষণাটি জাতীয় গণমাধ্যম ইনস্টিটিউট কর্তৃক পরিচালিত। এ বিষয়ে তথ্য প্রদানে আপনি সম্পূর্ণ স্বাধীন। আপনার প্রদানকৃত তথ্য শুধুমাত্র গবেষণা কাজ ব্যতীত অন্য কোন কাজে ব্যবহার করা হবে না। প্রদানকৃত তথ্যের বিষয়ে বিব্রত বা স্বাচ্ছন্দ্য বোধ না করলে বা আপনার প্রদানকৃত সাক্ষাৎকার প্রত্যাহার করতে চাইলে নিম্নলিখিত ঠিকানায় মুখ্য গবেষকের সাথে অনুগ্রহপূর্বক যোগাযোগ করুন।

ড. মো: মামুন-উর-রশিদ, অধ্যাপক, কৃষি সম্প্রসারণ ও গ্রামীণ উন্নয়ন বিভাগ,
পটুয়াখালী বিজ্ঞান ও প্রযুক্তি বিশ্ববিদ্যালয়
মোবা: ০১৭১২১৪৩২৩৬, ই-মেইল: murashidpstu@gmail.com

আইডি নং:

উপজেলা

কোড: AMT/KOIR/MUNS/PUT

জেলা: Barguna/Dhaka/Rajshahi/Khulna

গ্রাম:

ইউনিয়ন:

মোবা: নং:

(দয়া করে নিম্নলিখিত প্রশ্নগুলোর উত্তর দিন)

১. আপনার বয়স: ----- বৎসর।

২. জেন্ডার: ক. পুরুষ খ. মহিলা গ. অন্যান্য

৩. আপনি কোন শ্রেণি পর্যন্ত লেখাপড়া করেছেন। (বৃত্তদ্বারা চিহ্নিত করুন)।

১ ২ ৩ ৪ ৫ ৬ ৭ ৮ ৯ ১০ ১১ ১২ ১৩ ১৪ ১৫ ১৬

১৭ ১৮ +

৫. আপনার পেশা: (টিক চিহ্ন দিন যে কোন একটি ঘরে)

ক. চাকুরী খ. দিনমজুর গ. ব্যবসা ঘ. গৃহিনী ঙ. কৃষিকাজ
 চ. ছাত্র/ছাত্রী ছ. অন্যান্য

৬. পারিবারিক মাসিক আয়: (টিক চিহ্ন দিন যে কোন একটি ঘরে)

নিম্ন আয় (<৭০০০) নিম্নমধ্যবিত্ত (৭০০০ - ২৭,০০০/-) উচ্চ মধ্যবিত্ত (২৭,০০১- ৮৩,০০০/-) উচ্চ আয় (>৮৩,০০০/-)

৭. বসবাসের স্থান: ক. খ. গ. উপজেলা
 শহর গ্রাম সদর

৮. জলবায়ু সংক্রান্ত তথ্য সংগ্রহের জন্য যোগাযোগ মাধ্যমের ব্যবহার: (টিক চিহ্ন দিন প্রতি টিমাধ্যমের জন্য সংশ্লিষ্ট ঘরে)

ক্র:	যোগাযোগ মাধ্যমের নাম	ব্যবহারের মাত্রা				
		সবসময়	প্রায়শই	মাঝেমাঝে	কদাচিৎ	করিনি
ইলেকট্রনিক যোগাযোগ মাধ্যম						
১	টেলিভিশন					
২	রেডিও (এফএমসহ)					
৩	কমিউনিটি রেডিও					
৪	ইন্টারনেট ভিত্তিক ভিডিও, ওয়েবসাইট, ইত্যাদি					
অন্যান্য যোগাযোগ মাধ্যম						
৫	সরকারি প্রতিষ্ঠান					
৬	এনজিও					
৭	সেচ্ছাসেবী সংগঠন যেমন: রেড ক্রিসেন্ট, রোটারি ক্লাব, ইত্যাদি					
৮	আনুষ্ঠানিক আলোচনা যেমন: সেমিনার, কনফারেন্স, ইত্যাদি					
৯	খবরের কাগজ, ম্যাগাজিন, লিফলেট, ফোল্ডার, ইত্যাদি					
১০	বিলবোর্ড, পোস্টার, ইত্যাদি					
১১	স্কুল, কলেজ, বিশ্ববিদ্যালয়ের পাঠ্য বই					
১২	স্কুল-কলেজগামী ছেলে-মেয়ে					
১৩	বন্ধু-বান্ধব, আত্মীয়-স্বজন, প্রতিবেশী					
১৪	কমিউনিটি গ্রুপ					
১৫	অন্যান্য (যদি থাকে) -----					

নোট: *সবসময়= অন্তত ১বার/৩০দিন, প্রায়শই= অন্তত ১বার/২ মাস, মাঝে মাঝে= অন্তত ১ বার/৩ মাস, কদাচিৎ= অন্তত ১ বার/৬ মাস, করিনি= গত ছয় মাসে করিনি

৯. ইলেকট্রনিক যোগাযোগ ম্যাধ্যমের সহজলভ্যতা (টিক চিহ্ন দিন প্রতিটি মাধ্যমের জন্য সংশ্লিষ্ট ঘরে)

ক্রঃ	মাধ্যমের নাম	প্রবেশগম্যতার মাত্রা			
		সহজলভ্য	মোটমুটি সহজলভ্য	কম সহজলভ্য	সহজলভ্য নয়
১	টেলিভিশন				
২	রেডিও (এফএমসহ)				
৩	কমিউনিটি রেডিও				

১০. ইলেকট্রনিক যোগাযোগ ম্যাধ্যমে প্রবেশগম্যতা (টিকচিহ্ন দিন প্রতিটি মাধ্যমের জন্য সংশ্লিষ্ট ঘরে)

ক্রঃ	মাধ্যমের নাম	প্রবেশগম্যতার মাত্রা				
		খুবই সহজ	সহজ	মোটমুটি সহজ	কম সহজ	সহজ নয়
১	টেলিভিশন					
২	রেডিও (এফএমসহ)					
৩	কমিউনিটি রেডিও					

নোট: খুবইসহজ = চাইলেই শুনতে পারি; সহজ = চাইলেই নিদৃষ্ট সময়ে শুনতে পারি; মোটমুটি সহজ = চাইলেই কিছুদিন পরপর শোনা যায়; কম সহজ = সহজে শোনা যায় না; সহজ নয় = ব্যবহারের সুযোগ নেই

১১. ইলেকট্রনিক যোগাযোগ মাধ্যমের মালিকানা

ক্রমিক	মাধ্যমের নাম	মালিকানার ধরণ		
		নিজ	পারিবারিক	নেই
১	টেলিভিশন			
২	রেডিও (এফএমসহ)			
৩	কমিউনিটি রেডিও			

১২. জলবায়ু পরিবর্তন বিষয়ক জ্ঞান:

ক. সঠিক উত্তরে টিক চিহ্ন দিন

- জলবায়ু পরিবর্তন মানে হচ্ছে আবহাওয়ার নিয়ামক যেমন: তাপমাত্রা, বৃষ্টিপাত, বায়ুপ্রবাহ, ইত্যাদির দীর্ঘ মেয়াদী / দৈনিক/স্বল্প মেয়াদী পরিবর্তন জানা নেই
- ফসিল ফুয়েল যেমন: কয়লা, জ্বালানী তেল, গ্যাস, ইত্যাদি জ্বালানোর ফলে কার্বনডাই অক্সাইড/মিথেন/নাইট্রাস অক্সাইড গ্যাস উৎপন্ন হয় জানা নেই
- কৃষিতে রাসায়নিক সার ব্যবহারের ফলে যে গ্রীণ হাইজ গ্যাস উৎপন্ন হয় তার নাম জেনন/হাইড্রোজেন/নাইট্রাস অক্সাইড জানা নেই
- গ্রীণ হাউজ গ্যাস ভূপৃষ্ঠ থেকে বায়ুমন্ডলে তাপ শোষিত হতে/ বেড়িয়ে যেতে/ ছড়িয়ে পড়তে বাধা প্রদান করে জানা নেই

খ. নিম্নলিখিত বিষয়গুলোর ব্যাপারে আপনার মতামত হ্যাঁ/না দ্বারা চিহ্নিত করুন

● সমুদ্র শ্রোত, আগ্নেয়গিরির অগ্নিৎপাত জলবায়ু পরিবর্তনে ভূমিকা রাখতে পারে	হ্যাঁ	না	জানা নেই
● মানুষ না থাকলে জলবায়ু পরিবর্তন হওয়ার কোন সম্ভাবনা থাকবে না।	হ্যাঁ	না	জানা নেই
● বন ধংস করা, নগরায়ন, মরণকরন জলবায়ু পরিবর্তনে ভূমিকা রাখতে পারে।	হ্যাঁ	না	জানা নেই
● জলীয় বাষ্প একটি গ্রীণ হাউজ গ্যাস।	হ্যাঁ	না	জানা নেই

গ. জলবায়ু পরিবর্তনের ফলে সম্ভাব্য নিম্নলিখিত ঘটনা গুলোর ব্যাপারে আপনার মতামত সংশ্লিষ্ট ঘরে টিক দ্বারা চিহ্নিত করুন

ক্র:	জলবায়ুজনিত ঘটনা	মতামত			
		বেড়ে যাবে	কমে যাবে	পরিবর্তন হবে না	জানা নেই
১	সাইক্লোন,ঝড়, ইত্যাদি				
২	অতিবৃষ্টি এবং বন্যা				
৩	অনাবৃষ্টি এবং খরা				
৪	অতিরিক্ত গরম বা ঠান্ডা				
৫	ভূমিক্ষয়				
৬	সমুদ্রপৃষ্ঠের উচ্চতা বৃদ্ধি				
৭	বিভিন্ন উদ্ভিদ ও প্রাণী প্রজাতি বিলুপ্ত হয়ে যাওয়া				

১৩. জলবায়ু পরিবর্তনের ফলে আপনি কি কোনভাবে ক্ষতিগ্রস্ত হয়েছেন?

ক. হ্যাঁ খ. না গ. নিশ্চিত নই

উত্তর হ্যাঁ হলে নিম্নলিখিত প্রশ্নগুলোর উত্তর দিন

ক্র :	ক্ষতির ধরন	ক্ষতির মাত্রা					
		খুবই বেশী	বেশী	মোটামুটি	কম	খুবই কম	হইনি
১	সম্পদ যেমন: ঘর-বাড়ি, অলংকার, টাকা-পয়সা, জমি, ইত্যাদি						
২	গবাদিপশু যেমন: গরু-ছাগল, হাঁস-মুরগি, কবুতর, ইত্যাদি						
৩	কৃষি উৎপাদন কমে যাওয়া						
৪	আয় কমে যাওয়া						
৫	রোগ-ব্যাধি অসুখ-বিসুখ						
৬	সুপেয় পানির অভাব						
৭	অন্যান্য (যদি থাকে)----- -----						

১৪. জলবায়ু পরিবর্তনের ব্যাপারে দৃষ্টিভঙ্গি

ক্র:	প্রশ্ন	মতামতের মাত্রা				
		ক	খ	গ	ঘ	ঙ
১. (-)	বাংলাদেশে জলবায়ুর পরিবর্তনের প্রভাব তেমন লক্ষ্যনীয় নয়					
২. (-)	মানুষের কর্মকাণ্ড জলবায়ু পরিবর্তনে উল্লেখযোগ্য ভূমিকা রাখতে পারে না					
৩. (+)	প্রত্যেকটি মানুষের পক্ষে জলবায়ুর পরিবর্তন মোকাবেলায় উল্লেখযোগ্য ভূমিকা রাখা সম্ভব					
৪. (-)	পরিবেশের প্রাকৃতিক পরিবর্তনই জলবায়ু পরিবর্তনের প্রধান কারণ					
৫. (-)	বর্তমানে বেঁচে থাকাই বেশী গুরুত্বপূর্ণ ভবিষ্যত নিয়ে ভাবার তেমন প্রয়োজন নেই					
৬. (-)	জলবায়ু পরিবর্তন শ্রুষ্টির গজব কাজেই এ থেকে পরিত্রাণের কোন পথ নেই					
৭. (+)	জলবায়ুর পরিবর্তন আমাদের ভবিষ্যত প্রজন্মের জীবনযাত্রার মান কমিয়ে দিতে পারে					
৮. (+)	ব্যাপক প্রচার-প্রচারণার মাধ্যমে মানুষের মধ্যে সচেতনতা সৃষ্টি ছাড়া জলবায়ুর পরিবর্তন মোকাবেলা সম্ভব নয়					

নোট: ক=পুরোপুরি একমত; খ= একমত; গ= একমতও নই দ্বিমতও নই; ঘ= দ্বিমত; ঙ= পুরোপুরি দ্বিমত

১৫. জলবায়ুপরিবর্তনের সাথে খাপ খাওয়ানোর জন্য আপনি কোন পদক্ষেপ নিয়েছেন?

ক. হ্যাঁ খ. না গ. জানা নেই

উত্তর হ্যাঁ হলে আপনার পদক্ষেপগুলো চিহ্নিত করুন

ক্রঃ	পদক্ষেপ	মতামত		পদক্ষেপ সম্পর্কে জানার উৎস				
		হ্যাঁ	না	ক	খ	গ	ঘ	ঙ
১	বৃক্ষ রোপন, সামাজিক বনায়ন							
২	গাছ কাটা বন্ধ করা							
৩	প্রয়োজননা থাকলে বাতি নিভিয়ে রাখা							
৪	বাগান করা							
৫	ব্যালকনি, ছাদ, বারান্দা ইত্যাদি স্থানেবৃক্ষ রোপন							
৬	ফসিল ফুয়েল ব্যবহার করে চলে এমন যানবাহন যেমন: বাস, তিন চাকার যান-বাহন, ডটভিটি, ইত্যাদি কম ব্যবহার করা এবং বেশী হাঁটা							
৭	প্রাণীজ উৎস থেকে উৎপাদিত খাবার কম খাওয়া এবং শাকসব্জি, ফলমূল, ইত্যাদি বেশী খাওয়া							
৮	ময়লা-আবর্জনা, খালি প্যাকেট গারবেজ বিনে ফেলা							
৯	পলিথিনের ব্যবহার কমিয়ে পাট বা কাপড় জাতীয় দ্রব্যের ব্যবহার বেশী করা							
১০	প্রাকৃতিক পানি ধরে রাখা এবং ব্যবহার করা							
১১	কৃষিতে রাসায়নিক দ্রব্য কম ব্যবহার করে জৈব দ্রব্য বেশী ব্যবহার করা							
১২	প্রসাধনী হিসেবে এবং রোগ-ব্যাধি চিকিৎসায় রাসায়নিক পদার্থ বা ঔষধ যথাসম্ভব কম ব্যবহার করে হারবাল পদার্থ বা ঔষধ বেশী ব্যবহার করা							
১৩	অন্যান্য (যদি থাকে) ----- -----							
১৪	অন্যান্য (যদি থাকে) ----- -----							

নোট: ক= রেডিও; খ= টেলিভিশন; গ = কমিউনিটি রেডিও; ঘ= অন্যান্য মাধ্যম; ঙ= মনে নেই

সাক্ষাৎকার প্রাদানের জন্য আপনাকে ধন্যবাদ

সাক্ষাৎকার গ্রহনকারীর স্বাক্ষর ও তারিখ

Appendix-III

গুনগত তথ্য সংগ্রহের জন্য প্রশ্নাবলী

১. আপনি কি জলবায়ু পরিবর্তনের প্রভাব সম্পর্কে জানেন? এটা আসলে কি?
২. জলবায়ুর প্রভাব মোকাবেলার জন্য আপনি কি কোন ব্যবস্থা গ্রহণ করেছেন?
৩. জলবায়ুর প্রভাব সম্পর্কে সচেতনতা সৃষ্টির জন্য কোন কোন যোগাযোগ মাধ্যম সবচেয়ে গুরুত্বপূর্ণ ভূমিকা রাখতে পারে বলে আপনি মনে করেন?
৪. জলবায়ুর পরিবর্তন সংক্রান্ত জ্ঞান বিস্তার, সচেতনতা সৃষ্টি, এবং প্রভাব মোকাবেলার ব্যবস্থা গ্রহণে রেডিও, টেলিভিশন এবং কমিউনিটি রেডিওর সম্ভাবনা কেমন বলে আপনি মনে করেন? বিস্তারিত বলুন।
৫. জলবায়ুর প্রভাব সংক্রান্ত কোন ধরনের তথ্য মানুষের দৃষ্টি বেশী আকর্ষণ করে এবং কেন?
৬. রেডিও, টেলিভিশন, বা কমিউনিটি রেডিওতে প্রচারিত কোন তথ্য কি আপনার দৃষ্টি আকর্ষণ করেছে? বিষয়টি কি ছিল? কেন বিষয়টি আপনার দৃষ্টি আকর্ষণ করেছে? এর ফলে জলবায়ু সংক্রান্ত আপনার জ্ঞান, দৃষ্টিভঙ্গি, বা কর্মকাণ্ডে কোন পরিবর্তন হয়েছে কি?
৭. কোন কোন মাধ্যমে প্রচারিত তথ্য আপনার কাছে সবচেয়ে বেশী বিশ্বাসযোগ্য মনে হয়?
৮. রেডিও, টেলিভিশন এবং কমিউনিটি রেডিওতে প্রচারিত জলবায়ু সংক্রান্ত তথ্য গুলোর মান কেমন?
৯. এসব মাধ্যম থেকে তথ্য পেতে আপনি কি কোন সমস্যার সন্মুখীন হন? বিস্তারিত বলুন।
১০. এসব মাধ্যমে প্রচারিত জলবায়ু সংক্রান্ত তথ্য আরও কার্যকরী করতে আপনার পরামর্শগুলো বলুন।