Chapter 7
The Role of State Broadcasting Media and Education in Addressing Climate Change in Bangladesh

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Abstract Media and education undoubtedly play an important role in alerting and preparing people from many kinds of natural calamities and disasters. This is especially true for disasters that are caused by climate change. Through media and education people not only become more aware of the changes happening in nature, but are also empowered to minimise the risks associated with it. This chapter discusses several strategies in the domain of media and education to effectively tackle climate change impacts. It includes approaches taken by multiple stakeholders, including the Bangladesh Government and different non-government organisations. The Bangladesh Government's preferred invisibilist approach of knowledge dissemination versus different community organisations' supported visibilist approach of local knowledge integration has been discussed. Different forms of public media and, most importantly, state broadcast media are currently engaged in this process. Educational interventions coordinated by government and non-government organisations are also addressing the issue. This chapter provides examples of different forms of communication interventions that can assist in creating and raising public awareness to combat the impacts of climate change in Bangladesh. However, the combined roles of media and education in addressing climate change and community wellbeing need to be investigated further in future impact evaluation studies.

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7.1   Introduction

The geographical location of Bangladesh makes the country susceptible to natural disasters. Climate change has increased this susceptibility (MoFDM 2007), further complicating the already precarious socio-economic and demographic conditions of the country. Current and future generations will suffer from increasingly intense climatic events throughout their lives.

Climatic events such as cyclones and their associated storm surges, droughts, floods, waterlogging, saline water intrusion, river erosion etc., are experienced in many parts of Bangladesh. The coastal areas of Bangladesh are regularly hit by tropical cyclones, which cause loss of valuable lives and property. Statistics indicate a probability of 1.12 cyclones hitting Bangladesh in any given year (Sarker/Azam 2007). Low-lying depressed basins (*Haors*) in northeastern Bangladesh experience flash floods. These damage crops and cause a decline in fish populations (Anik/ Khan 2012). In the same areas, soil erosion in the monsoon period damages infrastructure, causing the break-down of roads and embankments. Prolonged drought is a common phenomenon in northwestern parts of the country and cause even greater damage to crops than flooding and submergence (World Bank 2013b).

Those people impacted by climatic disasters are taking action to adapt to the changing climate patterns. Adaptive activities and measures include, but are not limited to, early warning systems, multipurpose cyclone shelter construction, cluster housing patterns and house fortifications, resilient plantations in coastal areas, livelihood diversification and agricultural extension services to improve agricultural practices (Sarker/Azam 2007). These are multi-stakeholder efforts designed to build resilience among vulnerable populations.

The need to raise public awareness and understanding of climatic risks through disseminating accurate information is important to building long-term resilience to climate change (UNISDR 2015). Such understanding is crucial to establishing and developing innovative adaptive and responsive measures, such as those indicated above. Yet, climate change and its long-term multiple effects are not always directly or easily perceivable. External descriptions of climate risks are primarily produced by scientists, and often communicated in a complex way. This makes it difficult for the general public to understand these risks. Instead, audience-specific messaging and framing for active engagement (Moser 2010) between multiple stakeholders can better support understanding. In addition to this, knowledge of local communities and their adaptation techniques needs to be integrated to the overall communication and education programmes for better uptake of the delivered messages within communities.

The role of media and education for building climate and disaster resilient communities is recognised at the global level. For example, the role of media has been advocated by initiatives such as the Sendai Framework for Disaster Risk Reduction (2015–2030). This framework emphasises the utilisation and strengthening of all kinds of media, including traditional media such as television, radio, newspapers, magazines, newsletters, tax press and other print publications (Zhao et al. 2011; UNISDR 2015), to support successful communication of disaster risk.

The role of education is key to a holistic response to climate change, enhancing knowledge and offering innovative ideas to increase resilience and build security from local to national and international levels (UNFCCC 2007; UNISDR 2015). Recognition of *Climate Change Education* (CCE) is growing and, in recent years, has developed its own identity through UNESCO's campaign for Education on Sustainable Development[1] (UNESCO 2006; Læssøe et al. 2009). In Bangladesh, communication of climate change knowledge can help prepare vulnerable people and enable them to respond to related challenges. However, it is crucial that information is disseminated in a simple, transparent and accessible manner, by engaging media and other stakeholders, including the authorities at all levels.

This chapter discusses several strategies and provides examples of different forms of communication interventions through media and education, which help to create public awareness. Although different types of media are mentioned, particular emphasis has been given to state broadcasting media, as they are the main recipients of initial warnings and government standing orders to ensure rapid transmission to the general public. However, other private print and electronic media also play an important role in transmitting important messages (Habib et al. 2012). This chapter aims to assess different initiatives taken by the government, non-government and community-based organisations. It will ground these initiatives in a theoretical framework surrounding how people perceive climate change in order to determine the primary means of communicating and disseminating knowledge of climate change in Bangladesh.

7.2 Communicating Perceptions and Understandings of Climate Change

There are two predominant schools of thought on human perceptibility of climate change. The *invisibilist* approach considers perceptibility of climate change to be dependent on the dissemination of climatic information via scientific, technical or institutional networks (Mormont/Dasnoy 1995). On the other hand, the *visibilist* approach contributes importance to the reporting of climate change by local people who are experiencing its effects (Riedlinger/Berkes 2001; Green et al. 2010). A new emerging school of thought, known as the *constructive visibilism* approach, argues that reports on climate change should reflect both local peoples' knowledge and external information on climate change (Marin/Berkes 2013). Importantly, the receiver of external information must perceive the information to be credible in order for them to pay it any attention. Perceived credibility is dependent on the source of the information. In a bureaucratic and hierarchical society such as Bangladesh, it is observed that the higher the authority of the official source

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[1]UNSESCO led a decade long campaign from 2005 to 2014 that aimed to develop locally relevant high quality, holistic Education on Sustainable Development to foster critical thinking and problem-solving (UNESCO 2006).

(e.g. that from government ministries or departments), the greater its appeal (Allan 1999; Denham 2010). This consideration must be built into communication approaches in order for information to impact upon its receiver.

There are various approaches in operation to communicate perceptive and external climate change preparedness knowledge. Media is the main source of information for lay people as well as decision-makers (Arlt et al. 2011; Stamm et al. 2000). Over time, media has shaped people's perceptions and understanding of climate change-related disasters and impacted the scientific and policy discourse at national and international levels. Education is also used to enhance knowledge and incite innovative ideas that increase resilience within communities (Bonifacio et al. 2010; UNISDR 2005). It can provide people with practical knowledge for immediate and long-term responses to climate change, for example by sharing adaptation knowledge for livelihood improvement, or by sharing mitigation knowledge to mitigate the impacts of disasters. While these different types of knowledge can prepare society to deal with the challenges posed by climate-induced disasters, without effective and functional communication systems, information cannot be translated into action and the knowledge on these critical issues could be lost (Olausson/Berglez 2014). Communication mechanisms such as media and education need to complement one another to provide a comprehensive system for reciprocally communicating knowledge between the public domain, the scientific arena and other pools of knowledge from alternative stakeholder groups.

In Bangladesh, however, little research has been done to examine the range of adaptation measures using different types of education and media. The Bangladesh education system is complex (World Bank 2013a). Research on different adaptation measures appropriate for different educational contexts such as general education, madrasah education, English-medium education and vocational or technical education has not been done yet. This is also true for different types of media, such as print and electronic (audio and audio-visual) media. Individual experiences and existing foreknowledge play an important role in human learning processes stated in the moderate constructivism learning theory (Kattmann 2003). Therefore, knowledge transfer via media and knowledge-sharing through a certain degree of educational instruction is needed for reconstruction of concepts in the target group (Riemeier 2007; Riede et al. 2017). Research is needed in this domain to examine the combined role of media and education and its influence on policy decisions regarding curriculum development and knowledge dissemination. A developed curriculum can ensure that students at all levels are provided with technical knowledge of adaptation and mitigation options. On the other hand, dissemination of knowledge to the mass population can be achieved by effectively using different forms of media – e.g. through "edutainment"[2] (Rey-López et al. 2006). How these types of interventions achieve broader positive impacts on community wellbeing in Bangladesh needs to be examined.

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[2]"Edutainment" refers to educational content that has entertainment value or vice versa. This form of media has been used by the governments in different countries since 1970. It is used to disseminate information on health and social issues to impact on viewers' opinions and behaviour (Rosin 2006).

7.3 Media and Climate Change

7.3.1 Media Operations

Media are means of communication that distribute content – such as text, pictures and sound – to an anonymous and spatially diverse public via technical means (McQuail 2010). There are both traditional and new types of media. Traditional media includes both printed and electronic media, such as newspapers, magazines or books, and broadcast media, such as radio, television or film. The new media includes publicly accessible websites such as online newspapers, blogs, wikis, video games, and social media (Klöckner 2015). Media outlets and different stakeholder organisations (e.g. political parties, non-governmental organisations (NGOs), private companies and social media operatives) form a different segment of media.

7.3.2 The Use of Media in Bangladesh

The uses of media in Bangladesh are varied and consist of both traditional and new media. However, traditional media is more visible than new media, as very few people have internet access in Bangladesh. The total number of internet subscribers reached 67.2 million in 2017 and this number is increasing as more people start to use internet through mobile phones (BTRC 2017b). On the other hand, traditional media includes both print and electronic media, which consist of both state and privately-owned audio and audio-visual media. *Bangladesh Sangbad Sanngstha* (BSS) is the country's national news agency. In addition, 2 state-owned broadcasting media channels (Bangladesh Television and Bangladesh Betar), 26 private satellite television channels, 25 FM broadcasting channels and 16 community radio channels are in operation in Bangladesh (BTRC 2017a). Although different types of media have been mentioned, particular emphasis has been given to state broadcasting media such as BSS, Bangladesh Television and Bangladesh Betar. These are the main recipients of initial warnings and government standing orders for rapid transmission to the general public. However, other private print and electronic media also play an important role in this regard.

Radio and television are two central media types that enable communication of information to the masses. Radio has been considered a primary medium through which information is communicated to the mass public in Bangladesh. However, ownership of a radio in Bangladesh has halved, from 8 percent in 2011 to 4 percent in 2014 (NIPORT 2015). This is reflected in listening rates. According to the Bangladesh Demographic and Health Survey of 2011, the proportion of women who listen to the radio every week has declined sharply from 19 percent in 2009 to only 5 percent in 2011. Similarly, the proportion of men who regularly listen to radio has almost quartered, from 38 percent in 2007 to only 10 percent in 2011 (NIPORT 2013). In contrast, TV ownership has increased significantly over the last 20 years

Fig. 7.1 Increase of TV ownership over 20 years in Bangladesh. *Source* NIPORT (2013)
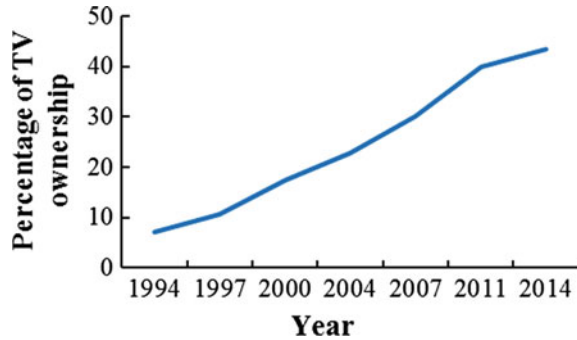
(see Fig. 7.1). By 2014, 43.5 percent of the population of Bangladesh owned a television (NIPORT 2015), and 52 percent (82.4 million people) were estimated to watch television (BBC 2014). The decline in the use of radios might have been a result of this increased access to and use of televisions, mobile telephones and the use of internet in those phones. The total number of mobile phone subscription in Bangladesh reached around 122 million by the end of January 2015 (BTRC 2017c).

As an audio-visual type of media, television has great appeal. It enables viewers to understand information regardless of their level of literacy. Thus, television can influence a much wider audience. In this respect, state public broadcasters such as *Bangladesh Television* (BTV) and Bangladesh Betar, can play a significant role in raising public awareness on critical issues. BTV is the only terrestrial TV Channel in Bangladesh. As a state-owned television channel, it has a greater reach than other private satellite channels. A media survey conducted by BBC Media Action in 2014 found that out of the 82.4 million people who watch television, 49.4 million (60 percent) watch BTV and 14.32 million (17 percent) watch BTV exclusively (BBC 2014). Figure 7.2 indicates the broadcasting rates of different categories of television programmes broadcasted on BTV between 2009 and 2014. This provides an example of the composition of different programmes usually aired by state broadcasting authority. This further corroborates the commitment of a state broadcasting agency towards building of a learning society. The figure shows that news, education and informative programmes dominate the BTV broadcasting schedule, with 52 percent of programmes fitting into these categories.

7.3.3 Media Communication for Climatic Responsiveness

The media framing of climate change combines policy, science and public perspectives. It is important for influencing audiences and stimulating their subsequent motivation to take action (Swain 2012). For most adults in Bangladesh,[3] media, and particularly local television news programmes, are among the major sources of
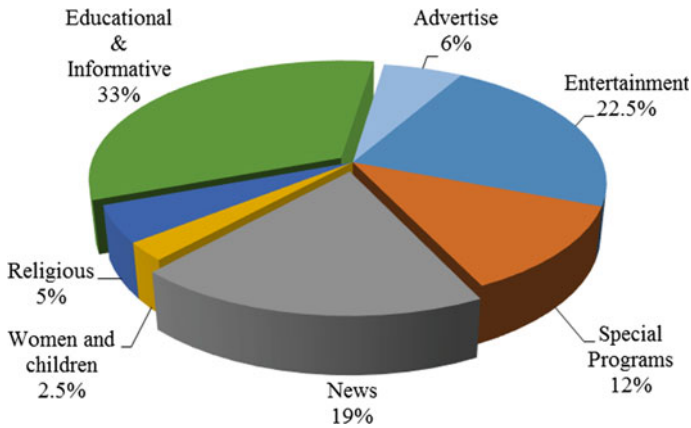
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[3]Aged 21 years and above.

Fig. 7.2 Distribution of BTV programmes from 2009 to 2014 (The data for this figure is based on hourly distributions of programmes collected from programme cue sheet and TV guides). *Source* Authors using data from BTV

environmental information, providing regular weather updates through special weather bulletins. A BBC Media Action study found that 93 percent of the audience of BTV regularly watch "*Raat At tar Sangbad*" (News at Eight) (BBC 2014). Due to the link between news and environmental information provision, this viewing preference has significant implications for enhancing viewers' awareness of environmental issues (Coyle 2005; Kohut/Remez 2008). BTV could provide an important source of information on climate change, natural disasters and hazards for its viewers, helping to build awareness on different types of disasters in the community. Other private television channels are also playing an important role in this regard.

The role of broadcasting channels in disseminating information in pre-, post- and during disaster periods has proven to be vital for community preparedness to disaster risks. In addition to news shows, both BTV and Bangladesh Betar telecast special education and awareness programmes related to disaster risk reduction and climate change that help to build the resilience of communities before disasters occur. These are produced in coordination with the Bangladesh Meteorological Department, Disaster Management Bureau and Ministry of Disaster Management and Relief. They include daily broadcasts of weather news and year-round government disaster notices, instructions and standing orders to reduce the risks of natural disasters. During disaster periods, hourly forecasting and warning news enables people to respond to rapidly changing situations. In the run up to cyclonic events, BTV and Bangladesh Betar telecast precautionary signals provided by the Meteorological Department. They explain the meaning of these signals to viewers. BTV also telecast special weather bulletins that provide audio briefings from the cyclone forecaster of the Storm Warning Centre (SWC) and narrated video representations of radar and satellite pictures. They telecast Danger Signals every 30 min, increasing to

every 15 minutes when there is a "Great Danger Signal".[4] They continue these signals beyond normal broadcasting hours.

Given resource constraints and the lack of infrastructural facilities in Bangladesh, the cyclone warning dissemination process and pre-disaster preparedness through BTV and Bangladesh Betar are hugely valuable. They have been successful in alerting people to potential threats and recommending emergency measures for natural disasters. Historically, cyclones have left Bangladesh with devastating loss. Cyclones in 1970 left between 300,000 and 500,000 people dead and in 1991 a cyclone took 138,000 lives. The casualty caused by cyclones in earlier times was high due to the lack of coordinated warning dissemination to the people living in the coastal regions. Since the nineties many types of media have played a significant role in alerting the public and creating mass awareness on disaster related issues. Public awareness campaigns have been provided by different media groups (MRDI 2010). Print media reports mainly assisted on-ground efforts by different stakeholders during and after the cyclone. Although special issues on climate change, editorials and roundtable discussions with experts are regularly published, the coverage of reports on climate change are insufficient in Bangladeshi print media (Haque et al. 2010). A report published by UNDP in 2008 states that 260 press releases on disaster risk reduction and climate change were published across all print media of Bangladesh (NAARI 2010). However, print media is utilised to provide widespread news coverage before and after major cyclones (MRDI 2010). The result of these different media efforts was exemplified in 2007 when Cyclone Sidr struck Bangladesh. Five days before Sidr made landfall, the Bangladesh Government began to broadcast warnings on radio and television and it issued emergency evacuation orders almost twenty-seven hours before landfall. This helped a successful evacuation of coastal residents from the cyclone's projected path (Paul/Dutt 2010; Paul 2009). As a result of this and other different factors such as cyclone preparedness programmes, cyclone warning systems, public cyclone shelters etc. (Paul 2009), the death toll was less than 4000, a huge reduction from the hundreds of thousands of lives lost in previous years.

7.4 Education and Climate Change

7.4.1 The Relationship between Climate Change and Education

There is a two-way relationship between climate change and education. Climatic impacts, particularly disasters, have a direct and physical impact on education systems (GoB 2008). They damage school buildings and severely affect the lives and

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[4]This is one of the 11 types of cyclone warning signals used in Bangladesh. Different classifications of weather signal are issued based upon the increasing intensity of the storm. The "Great Danger Signal" is issued when the severity of the storm exceeds the level of the "Danger Signal VII".

livelihoods of students and teachers alike. An estimated 5,927 educational institutes were fully or partly damaged by Cyclone Sidr. As a result, school children could not complete their education on time. Their physical and mental growth was also affected and many children suffered from diarrhoea, dysentery and malnutrition (Kabir et al. 2016; GoB 2008). These hinder the educational progress being sought in Bangladesh as part of the country's overarching development objectives. However, at the same time, education can support and promote climate change preparedness and response. It can be used as a tool to raise awareness and understanding of climate change and provide tangible solutions to climatic challenges. In Bangladesh, formal and informal educational activities for citizens of all ages are being adopted to combat climatic impacts. Key stakeholders, including communities, governments, development organisations and media, are working together in educational contexts to apply innovative solutions. For example, the Ministry of Education is undertaking a joint development programme in collaboration with the Ministry of Food and Disaster Management, and other relevant ministries and agencies, to establish academic building-cum-cyclone shelters in the high-risk zones of the coastal areas (GoB 2008).

7.4.2 Responding to Climatic Impacts on Education

School systems in Bangladesh are detrimentally impacted by climate change and need to be adapted to withstand climatic changes. There are several initiatives underway to integrate provisions for education into adaptation methods. For example, in cyclone prone areas, cyclone shelters are being used as schools during the periods that they are not in use. This helps to maintain the shelters while also providing a space for educating local students. Monsoon rains submerge many localities in the Northwestern and Northeastern parts of Bangladesh for around six months each year. In these flood prone areas, floating education systems have been introduced (see Case Study 1). These enable students to continue their education despite significant flooding and long-term water logging, which have previously disrupted the use of educational and other facilities.

Case Study 1: Floating Schools

Parts of Bangladesh are vulnerable to seasonal flash floods, which are intensifying as a result of climate change. Such climatic phenomena are disrupting children's ability to attend school, particularly for those who live in remote places such as Char and Haor areas. NGOs working in these areas are responding to this by converting traditional boats into schools, libraries and training centres (Yee 2013). The boats have open spaces that can cater for the needs of 30 children. They have waterproof roofs, equipped with solar panels, which make the boats self-sufficient. These "Floating Schools" are used to collect children from their homes. They are docked at suitable

destinations while teachers conduct on-board classes. At the end of the month, student progress is assessed through examinations, followed by open progressive discussions. The floating education system also includes late evening classes for working children and women. The teachers are from the local community and they are trained to facilitate learning using different types of publications, including national curriculum books. Tutorials, training materials, presentations and books are based upon community needs, customised to different target groups, including literate and illiterate children, men and women. Some NGOs also provide wireless internet on-board the boats, enabling young people to learn and practice their computer and internet skills. The floating library is also used by adults in the community, who have meetings on global warming, rising sea levels and the impacts of climate change on farming communities. Educational activities have provided farmers with adaptation ideas and techniques. For example, farmers have implemented floating gardens as a result of the floating education systems, which in turn contribute to the health and nutrition of the community. This educational system also integrates media communication approaches, providing the opportunity for people to watch documentaries on adaptive cropping, poultry and fishing methods on-board the boat. These types of initiatives have helped thousands of families to overcome the educational obstacles that they are exposed to due to their residential location.

7.4.3   Using Education to Combat Climate Change

Climate Change Education (CCE) can reduce the climatic vulnerability of school children (Anderson 2012). Children living in poverty, especially in low-income countries with weak governance and poor education system are among those most affected by climate change. Disasters induced by climate change can destroy school facilities. CCE delivered in schools and learning centres provide education on immediate and long-term responses and on community-level sustainable development (Anderson 2012). This can include adaptation knowledge, which is instantly usable for livelihood improvement, and mitigation knowledge geared towards lifestyle changes for reduced carbon footprint, which can help to reduce the future challenges faced by society. Children get 83 percent of their environmental information from the media (Stahl et al. 1996). However, they are likely to rely on the first information they encounter and ignore subsequent conflicting information. This is due to an absence of instruction on how to critically analyse and question information received. In this instance, CCE has a role both in providing its audience with reliable and usable information and in developing students' analytical skills to enable critical thinking about information from various sources (Vaughter 2016). Moreover, linking students' knowledge to action on climate change will be more

successful if educational institutes have operational policies that allow students to practice action competence. This would help new behaviours persist as they are practiced enough to become habits (Knussen/Yule 2008).

In Bangladesh, an official CCE curriculum is supported by specific books on the topic that aim to raise student awareness and, ultimately, contribute to the reduction of local and national vulnerability. The Government's National Education Policy 2010 includes a series of books, entitled "Bangladesh and Global Studies" for secondary and lower secondary school curricula. These were published in 2012, and adopted as compulsory textbooks for Classes 3 to 10 by the National Curriculum and Textbook Board. The books are printed in Bengali and English and distributed free of cost to all students. They provide comprehensive information on the science of global warming and climate change, the occurrence of natural hazards in Bangladesh and disaster risk reduction in the national and global context, with chapters focusing on both impacts and responses. The books take a forward-looking perspective to prepare learners for the future. The content is balanced and relevant, taking an interdisciplinary approach to CCE.

NGOs and development partners have also created books to support CCE. For example, "*Bangladesher Prakritic Durjog*" (The Natural Calamities of Bangladesh) was published by the Deutsche *Gesellschaft fur International Zusammenarbeit* (GIZ) GmbH and the *International Union for Conservation of Nature* (IUCN) in 2014. The use of the book is being piloted in the coastal regions of Bangladesh, under the *Coastal Livelihood Adaptation Project* (CLAP) (GIZ/IUCN 2014). This book targets primary and secondary school children. It provides engaging examples of adaptation and mitigation exercises, hazard mapping, early warning systems and disaster preparedness activities in the local context through creative approaches, such as drama and eco-activities, to provide readers with an alternative insight into issues of climate change and disasters. The handbook, "*Jolbaiyu Poribartan Ovijozon Bishoyok Handbook*" (Climate Change Adaptation Related Handbook), was published by Save the Children and Uddipon in 2014, under the *Integrated Children Centric Climate Change Adaptation Project* (ICCCCAP). It provides a comprehensive overview of adaptation techniques in rural Bangladesh and real-life lessons from the field (Uddipon 2014). The handbook focuses on creative solutions to enhance the knowledge of school children, providing customised solutions to the impacts of climate change on members of the community. Such books represent tangible progress in addressing climate change through education, and a starting point for introducing increasingly effective and wide reaching CCE approaches.

Education at the university level can complement CCE at primary, secondary and higher secondary levels. In 1992, a total of eight public universities offered environmental-related courses under different departments. However, since 1995, environmental studies in the higher education system curricula has developed significantly (Masum/Akhir 2010). Some public and private universities in Bangladesh such as the Institute of Disaster Management and Vulnerabilities Studies at Dhaka University, *Centre for Climate Change and Environment Research* (C3ER) at BRAC University etc., now have centres for CCE and offer relevant master's programmes. The curriculum contents are comprehensive, and

material is delivered to the learners through intensive and extensive training sessions (Masum/Akhir 2010).

Youth are the decision-makers of tomorrow. In addition to the formal education activities described, informal education activities can be used to engage youth in every sphere of the society. Bangladesh can benefit from its young demographic (Matin 2012) to achieve a wider societal reach, greater public understanding of climate change and sustainable coping solutions. Case Study 2 highlights the contribution of youth action to educating and creating mass awareness on climate change and its associated disasters in Bangladesh.

Case Study 2: The Climate Youth Initiative

Bangladesh has made considerable progress in meeting the targets of the *Millennium Development Goals* (MDGs), however climatic disasters hinder the country's development. According to the Department of Youth Development of the Government of Bangladesh, one third of the total population in Bangladesh is aged 13–35 and therefore falls into the 'youth' category. This important portion of the population can be of great strength to Bangladesh. The British Council (2010) reports that 98 percent of young people think that they should be involved in social work and 95 percent of young people are willing to address local and community issues. However, the problem that stands is that the majority of the youth (94 percent) cannot identify an organisation or movement that specifically focuses on their generation's needs (British Council 2010).

In response to this, the *International Centre for Climate Change and Development* (ICCCAD) has established a Climate Youth Initiative Programme. The objective of this programme is to spread climate knowledge and awareness through media and educational institutions. The youth of Bangladesh are a central stakeholder in this programme. They engage in knowledge exchange and capacity-building activities to identify and put into action efforts that address the pressing needs and challenges faced by their communities.

A platform has been established for young people to discuss climate change topics or issues among themselves and prepare to present the results of their discussions to the experts at different levels. Within this platform, discussions among young professionals, activists, university students and other interested young people are organised to gain their perspectives on climate change and potential solutions. The programme then connects youth with different stakeholders such as different government departments and NGOs, so that their voices can be heard. In addition, capacity-building activities, such as training and mentoring on efficient climate-response practices enable young people to convert their knowledge into realistic actions. For example, the youth can offer their services as volunteers or

interns within various organisations. The various forms of multi-stakeholder engagement sought through the Climate Youth Initiative Programme elicits support from respective stakeholder groups.

Government support for this generation could maximise the strength and creativity of Bangladesh's youth, enabling them to have greater positive impact.

7.5 Discussions and Conclusions

Bangladesh is taking a holistic approach towards combating climate change. The Bangladesh Government follow the invisibilist approach to climate change perceptibility (Mormont/Dasnoy 1995), which emphasises that information should be disseminated via institutional networks, so that the authenticity of the information is ensured. They emphasise the need to build strategic partnerships that enable different stakeholder groups in the domain of media and education to work together to provide climate-related information to the mass population. To support this, the Government of Bangladesh has formulated the National Broadcasting Policy 2014, which makes a provision for telecasting emergency weather bulletins and producing climate change awareness programmes (Chap. 3; Article 3.2; Clause 3.2.3) (GoB 2014). However, effective communication can be challenged by limitations in communication within different institutions, which is needed in order to successfully implement the Government Standing Orders. The strategic institutional framework for government ministries to interact on climate change issues is not clearly articulated in the *Bangladesh Climate Change Strategic Action Plan* (BCCSAP) (Molla 2016). Moreover, the information provided is not always grounded in the reality of citizen experience. The visibilist approach is supported by other stakeholders, such as community based organisations and NGOs working on community-based adaptation. This gives credit to the knowledge of people living with, and frequently impacted by, climate-induced disasters. This includes a wealth of traditional knowledge that has been preserved for generations alongside locally adaptive mechanisms for survival. These knowledge sources and reporting of climate change by the local people are being integrated within media and education-related interventions to appropriately support effective climate adaptive resilience within communities.

While the public need to have access to accurate information regarding climate change and disasters, it is equally important that they have the required level of ability to enable their comprehension and assimilation of disseminated information into their lives, in order to make positive and timely decisions. This is where multi-stakeholder education can support action. Bangladesh's National Education Policy 2010 emphasises the need for climate change education and the need to build a clear

understanding of nature and socio-environment related matters among the public
(Chap. 1; aims and objectives, 18) (GoB 2010). Educational institutions and com-
munities across the country should be engaged to find gaps between existing edu-
cational policies and practices and be assisted to develop and mobilise national
models of exemplary mitigation and adaptation approaches for the communities.
Besides these, existing monitoring and evaluation mechanisms of the relevant
implementing organisations should be strengthened to track progress of any inter-
ventions that create resilience within local communities by creating awareness on
adaptation and mitigation. A long-term impact evaluation study can also be designed
to generate evidence that can later direct and influence related policy decisions.

Different types of communications interventions, implemented via media and
education activities, can promote behavioural changes needed to enhance an
effective response to climate change. Since the causes of climate change are partly
linked to human actions, learning to change consumption patterns using renewable
forms of energy and designing greener technologies, transforms the general public
into conscious consumers and responsible citizens (Anderson 2012). These modes
of communications have critical roles to play in redefining peoples' lifestyles and
can raise awareness of climate change issues among the mass public. These also
promote long-term sustainability of interventions and build the capacity of a pop-
ulation to respond to environmental and developmental challenges (UNCED 1992).
Such activities directly benefit people who are particularly vulnerable to disasters
associated with climate change because of their locations. Therefore, people should
be made aware about the particular environment in which they live and work.
Current media activities, including frequent radio, TV programmes and publication
in local, national, and international newspapers and magazines are beneficial in
targeting those who have received a formal education as well as those who have not
(Cuc 2014). Articles written in daily newspapers reach a wide range of audiences
and can support and supplement radio and TV programmes. School and university
systems and curricula further support awareness-raising and response. Schools can
go further to promote "science literacy" (Nelson 1999) to enable students to make
educated decisions about information they receive on climate change, DRR and
preparedness. Within all of these awareness activities, the knowledge of local
communities and their adaptation techniques needs to be integrated to support the
contextual relevance of communication and education programmes.

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