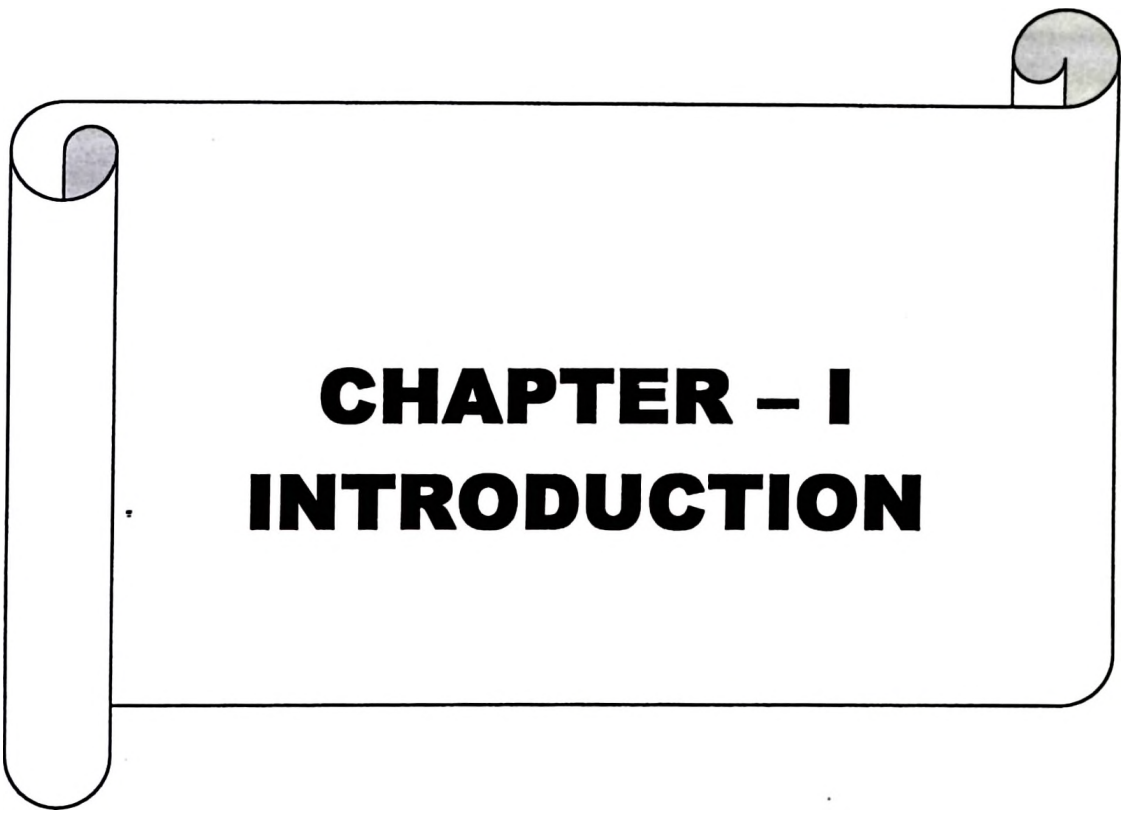
CHAPTER – I
INTRODUCTION



CHAPTER – I
INTRODUCTION

CHAPTER -I
INTRODUCTION

1.0 INTRODUCTION

"Change will come about only when people understand the scientific realities of why we need to fight climate change. If you don't get that message clearly, then obviously you are not going to see any change whatsoever."

R.K Pachauri, chairman IPCC

Climate Change presents a global challenge of a magnitude that human beings have not encountered before. Climate Change has far-reaching repercussions for where people can settle, grow food, maintain infrastructure and rely on functioning ecosystems. It poses a number of interconnected challenges that go well beyond environmental boundaries and include threats to water security, rising pressures on food production, increased risks of natural disasters as well as public health challenges. Facing these challenges will require behavioural changes to adapt and respond to immediate crises while also learning to adopt more sustainable practices to reduce greenhouse gas emissions for the longer term. The global community has recognized that education plays a key role in responding to Climate Change.

The 1992 United Nations Framework Convention on Climate Change (UNFCCC) and subsequent international agreements has recognized that education is an essential element for mounting an adequate global response to Climate Change. Education is critical in helping populations understand and address the impacts of Climate Change, and in encouraging the changes in attitudes and behavior needed to help them address the causes of Climate Change, adopt more sustainable lifestyles and develop skills that support different modules of economies, as well as to adapt to the impact of Climate Change. Education can help policy-makers understand the urgency and importance of putting mechanisms into place to combat Climate Change on a National and Global scale. Communities can learn about how Climate Change will affect them, what they can do to protect themselves from negative consequences, and how they can reduce their own Climate footprint. In particular, education can help increase the resilience of already vulnerable communities who are the most likely to be adversely affected by climate change. Climate Change has gained worldwide attention because of its impact and effects on the social, economic, educational, technological and environmental activities. Thus, seminars, workshops and other public discussions have been

held and are still being held on how to combat any negative impacts on teaching and learning. United Nations Framework Convention (2010) attributed Climate Change to human activity that alters the composition of the Global atmosphere and which is in addition to natural Climate variability. Similarly Buhang, Halvard and Gleditch (2008) as cited in Unamma and Ubochi (2013) conceived Climate Change as the changing state of the earth temperature and average precipitation. Education system is feeling the pangs of atmospheric disruptions that challenge academic activities, administrative tasks and effective functioning of institutional programmes.

1.1 THE CLIMATE CHANGE

Climate can be described as the average temperature and precipitation expected throughout a typical year in a given region. The different temperature and moisture regimes in different parts of the world have given rise to different types of ecosystems called biomes. These biomes according to Hudson (2005) reflect adaptations of plants, animals and microbes to the prevailing weather pattern or climate of a region. The temperature and precipitation patterns themselves are actually caused by the determinants of weather. It is however possible for humans to adjust to any climate but, this is not true of other inhabitants of the particular regions we occupy. If other living organisms in a region are adapted to a particular climate, then a major change in the climate represents a serious threat to the structure and function of existing ecosystems. The subject of climate change is such a burning issue of people across the world, especially in developing countries, are still unaware of climate change despite their high vulnerability to the impacts of climate change (Bostrom et al., 1994; Bord, Fisher and O'Conner, 1998; Pew Research Centre, 2006; Pugliese and Ray, 2009; Godfrey et al., 2009).today because we depend on these other organisms for a host of vital goods and services without which we could not survive. Global attention on climate change was sort for the first time by the Brundtland Report, Our Common Future, which stated that the unsustainable development practices of humankind have pushed the world's climate to a warming trend (UNWCED, 1987). On the contrary, the public's concern on climate change was not triggered by the Brundtland's report, but by the unusual northern hemisphere heat wave and drought of the summer 1988 (Christianson, 1999). Numerous studies conducted since then reveal that the vast majority.

Scientific evidence in Banuri, Weyant, and Akamu, (2001); Behrens, (2009) and Bouwer, (2006) indicates that human activities have contributed significantly to the climate change through the use of energy and emission pollutants in our quest to provide the basic necessities

i.e. food and shelter and other products for worlds overgrowing population. Although, man has since affected the environment but it is only in the twentieth century that the consequences of this action have expanded to a global scale.

Today, cumulative effect of human activities is a significant force driving the changes in the global environment. These changes brought by human activities tend to make life more and more difficult for organisms and even human. There is need for proper education i.e. Climate change education to stop this damaging trend. We have to device the right code of conduct to regulate our behavior towards the environment and the natural resources so that the quality of life we live is not compromised and the ability of our future generations to meet their needs is not affected. As an appeal to human conscience, his ethical convictions and perception about good and bad, the right or wrong is often an effective way to control an unimaginable problems. UNESCO's work on Climate Change Education (CCE) aims to make education a more central part of the international response to climate change. UNESCO is working with national governments to integrate Climate Change Education into national curricula and to develop innovative teaching and learning approaches for doing so. The UNESCO Climate Change Education for Sustainable Development programme also aims to help people understand climate change by expanding CCE activities in non-formal education through the media, networking and partnerships.

It is grounded in the holistic approach of Education for Sustainable Development (ESD) which incorporates key sustainable development issues such as climate change, disaster risk reduction and others into education, in a way that addresses the interdependence of environmental sustainability, economic viability and social justice. It promotes participatory teaching and learning methods that motivate and empower learners to change their behaviour and take action for sustainable development. Based on country experiences and a review of policy documents, UNESCO has developed the following five recommendations for policy-makers on how CCE and ESD can be integrated at the national level: 1. Policy development: ESD is an interdisciplinary, cross-sectoral approach, which aims to prepare people for change by equipping them with a broad base of knowledge, skills, dispositions and values. Governments need to integrate ESD and CCE into all levels and types of education and across the curriculum. 2. Governance and resources. Integrating CCE and ESD into national systems requires high-level support from the government, with cross-sectoral coordination and harmonization. CCE and ESD programmes were found to be more successful when a national coordination structure was clearly defined. 3. Curriculum development: Ministries of

Education and education planners should review develop and strengthen their curricula to ensure that CCE and ESD feature at all levels of the education system. This will entail creating new work units for teachers, and developing new pedagogical approaches with greater emphasis on critical thinking and problem-solving skills. New curricula should be flexible enough to be adaptable to local contexts. 4. Capacity-building of teachers and education planners. Teachers and non-teaching staff need to understand climate change, and have sufficient, locally-adapted materials for classroom use. 5. Public awareness, communication and stakeholder involvement. Governments should support non-formal education opportunities provided by communities, civil society and the media, all of which play an important role in conveying information about climate change mitigation and adaptation.

1.1.1 INDIA AND CLIMATE CHANGE

With a population of 1.25 billion, India is the world's third largest economy as measured by purchasing power parity. It has undergone significant social, economic and developmental transformations, especially over the past twenty years. In 1991, India adopted liberal and free market principles into its economy, which have had a considerable impact on the country's environment. India sees education as key to its development and to overcoming inequalities based on caste or gender. According to the Indian Constitution, both the central and state governments manage education, which is free and compulsory for all children from the age of 6 to 14 years. Higher secondary schools and polytechnics provide vocational education and training. Protection of the environment and cultural heritage is enshrined in the Indian constitution. The impetus to integrate environmental education into the formal education system came from the 1972 Stockholm Conference. The 1986 National Policy on Education further emphasized environmental education. The Supreme Court of India made environmental education compulsory in 1991 and issued a new directive in 2003 highlighting the need for it to be mainstreamed. The 2005 National Curriculum Framework was a landmark policy as it sought to reorient education and make it more relevant to students' lives.

It situated the teaching learning process in a social, cultural and Global context, which reflects education for sustainable development (ESD) concepts. While the Framework does not explicitly mention CCE or ESD, it strongly recommends the integration of environmental issues and concerns in every subject and emphasizes project-based learning to expose students to the natural and social environments in which they live. While the government and

especially civil society organizations promote environmental education, India is yet to completely transition from EE to ESD. Communities and civil society organizations are successfully carrying out several grassroots ESD initiatives in different parts of the country. However, in general, there is little awareness of ESD as a method and pedagogy and of the Decade of Education for Sustainable Development. Similarly, climate change education is reflected in the curriculum on environmental education and ESD, but is not widely known as a conceptual framework. There are a number of institutional structures that support education and environmental education in India. The Central Ministry of Human Resource Development (MHRD) is responsible for educational policy planning. The National Council of Education Research and Training (NCERT) is responsible for formulating the National Framework Curriculum, including the integration of environmental education into the syllabus. NCERT also functions as a resource centre in the field of school development and teacher education. In 1985, the Indian Government established the Ministry of Environment and Forests (MoEF), which was tasked with implementing environmental programmes. Environmental Education was restricted to the MoEF for many years, but the government recognized the need to integrate environmental concerns into all aspects of education. As a result, the government gave the MHRD the principal responsibility of implementing environmental education through the formal educational system, while the MoEF is responsible for Environmental Education in non-formal education. However, there seems to be little coordination between the different ministries on issues of sustainable development and climate change. India has only recently adopted a systems approach which recognizes the links between society, economy and the environment, and moves the country's efforts from the narrow sphere of 'environmental protection' to the holistic framework of sustainable development. The 2006 National Environment Policy (NEP) captures the spirit of sustainable development and reflects the global discourse on sustainable development and climate change. The NEP looks at sustainable development as something that enhances human well-being, a recurring theme in India's development philosophy. The Policy makes a strong case for environmental education, emphasizing the need for environmental awareness and education to lead to the desired behavioral change in both public and private domains. The concept of sustainable development is also reflected in the government's recent Five-Year Plans (FYP). For example, the 11th Five-Year Plan, announced in 2007, identified sustainable development as an important developmental goal. Practitioners and even policy makers are not aware of the prevailing global discourse on ESD. There is lack of policy coherence on sustainable development, climate change and environmental education, and

very little concerted effort has been made to find points where these three issues might intersect. Education in India is largely considered to be a 'developmental' goal and education policies are concentrated on improving enrolment rates and equal access. ESD plays a critical role as it embraces both ensuring access to basic quality education and reorienting education for a sustainable future, and equips people with the skills and knowledge to adapt to rapidly changing economic, social and ecological environment.

1.2 NEED AND SIGNIFICANCE OF THE STUDY

The issue of Climate Change has generated worldwide contention as agencies, educators and Government has consistently organized workshops, conferences and seminars on the process of mitigation and adaptation. It is certain that the impact of Climate Change does not only affect the Environment but it impact is felt on the technology, culture, political Environment as well as Educational practices. Teaching and Learning is reflected on the extent in which the Environment of class room is favourable to attract the attention of the learners. Teacher may have prepared an admirable lesson objectives for the day but such preparation are often disrupted by the sudden advent of Climate Change. For instance, change in the weather in respect of heavy down pour, cloudy atmosphere that does not allow visibility, whirlwind and stormy weather, high temperature accompany with unbearable heat in the classroom, heavy flooding that alter the possibility of learning etc often affect the level of Teaching and Learning in the School System.

Although the significance of both Teachers and written resources in ensuring the success of Climate Change Education in Schools is clear, little research has been conducted in India as to Teachers' Knowledge and Perceptions on Climate Change is concerned. Investigation aims to ensure that prospective Teachers are educated about Climate Change in an accurate and consistent manner. It may better enable Climate Change to be taught in a meaningful way, to enhance knowledge, understanding, awareness of Climate Change and its related aspects. Majority of prospective teachers of Bhopal may have limited understanding of Climate Change and this may affect in delivery of the subject. Therefore, the study sought to assess the level of Climate Change Knowledge and Perception among prospective Teachers of Bhopal.

1.3 STATEMENT OF THE PROBLEM

The present study therefore entitled as: "A STUDY OF KNOWLEDGE AND PERCEPTION ON CLIMATE CHANGE OF PROSPECTIVE TEACHERS OF BHOPAL"

1.4 OPERATIONAL DEFINITION OF THE KEY TERMS

Knowledge

- The fact or condition of knowing something with familiarity gained through experience or association.
- The fact or condition of being aware of something.

Perception

"Perception is the method by which people take all the sensations they experience at any given moment and interpret them in some meaningful fashion." (Glenn Mayer E. Psychology: 2009)

Prospective Teachers

Prospective teachers are those teachers who presently pursuing two year B.Ed., Integrated course of B.A.B.Ed. and B.Sc.B.Ed. from Bhopal.

1.5 VARIABLES UNDER THE STUDY

Gender, Institution and courses

Gender: Male, Female

Institution: Government, private

Courses: B.Sc.B.Ed. , B.Ed.(Science), B.A.B.Ed. and B.Ed.(Language).

1.6 OBJECTIVES OF THE STUDY

1) To study the knowledge on Climate Change of prospective teachers of Bhopal.
2) To study the perception on Climate Change of prospective teachers of Bhopal.
3) To study the relationship between knowledge and perception on Climate Change of prospective teachers of Bhopal.
4) To compare knowledge and perception on Climate Change between male and female prospective teachers of Bhopal.
5) To compare knowledge and perception on Climate Change of prospective teachers of Bhopal studying in government and private colleges.
6) To compare knowledge and perception on Climate Change of prospective teachers of Bhopal with or without science background.
7) To study the ~~interaction~~ influence of Gender, ~~Institutions and~~ Courses and their Interaction on the Knowledge of Climate Change of the Prospective Teachers.
8) To study the ~~Interaction~~ influence of Gender, Institutions ~~and~~ Courses and their Interaction on the Perception on Climate Change of the Prospective Teachers

1.7 HYPOTHESES

1. There is no significant correlation between knowledge and perception on Climate Change of prospective teachers of Bhopal.
2. There is no significant difference between knowledge and perception on Climate Change of prospective teachers of Bhopal.
3. There is no significant difference between knowledge and perception on Climate Change of male and female prospective teachers of Bhopal.
4. There is no significant difference between knowledge and perception on Climate Change of Government and Private Institution prospective teachers of Bhopal.
5. There is a no significant difference between knowledge and perception on Climate Change with or without science background of prospective teachers of Bhopal belonging to science and language background.
6. There is no significant interaction of Gender, Institutions and Courses on the Knowledge of Climate Change of the Prospective Teachers.
7. There is no significant interaction of Gender, Institutions and Courses on the Perception on Climate Change of the Prospective Teachers.

1.8 DELIMITATIONS OF THE STUDY

1. The study was confined to prospective teachers of Bhopal city only.
2. The sample was limited to one hundred and forty prospective teachers only.
3. The Study was confined to four colleges of Bhopal city which includes two government college and two private colleges.