Geography
Curriculum Framework

Class PP-XII

Royal Education Council
Paro
Bhutan
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Foreword


The Geography Curriculum Framework (Class PP-XII) attempts to provide an overview of geography education in Bhutan. The framework is intended to serve various purposes. It shall provide teachers, learners, educators and employers with clear statements of what learners are expected to achieve as a result of geography education for class PP-XII. It is, therefore, a document of statement (communication) to all stakeholders in our society, so that they understand the aims of geography education at each key stage and also see how this is achieved.

In the framework, the geography learning experiences are organized into four strands: three content strands (strands 1, 2 and 3) and one skill strand (strand 4) as follows:

1. Time and Space
2. Physical Environment
3. People and Environment
4. Essential Skills

The framework also encompasses various components of the subject, such as Background and Rationale, Guiding Principles, Strands, Goals, Learning Standards, Learning Objectives, Assessment Approaches and Enabling Conditions.

We believe that this framework will be very useful for all stakeholders including teachers, students, parents, education officials, policy makers and development partners.

Kinga Dakpa

Director
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Chapter One: Introduction

“Our education system built and nurtured with your hard work and dedication has served us well. But we must understand that the times have changed here in Bhutan and all around us in the world. We cannot face new challenges with the same tools. The private sector is adjusting itself to new challenges and opportunities; the bureaucracy is finding its place in a new system of governance; the entire country is adapting to new roles in our young democracy. Thus, every person and institution must evolve to meet the aspirations of our people and the changing needs of our nation.” (His Majesty the King, 3rd Convocation Address RUB, 17th February 2009.) Drawing inspiration from the speech of His Majesty, the King, there is a genuine need to have in place an education system and curriculum which is relevant, practical and progressive in this ever changing world.

An effective curriculum increases students’ understanding about the world around them and prepares them to live in the 21st century. It enlarges students’ experience and sharpens their awareness. It helps them deal with profound issues through great literature; become effective citizens through an understanding of important geographical events and ideas; explore varying perspectives and points of view. (Defining the Effective Curriculum, ASCD.)

In light of the above statement, a high-quality geography education should inspire in learners a curiosity and fascination about the world and its people. It should instil and equip learners with knowledge, skills and values about diverse places, people, resources and natural and cultural environments. Further, as learners’ progress, their growing knowledge about the world should help them to deepen their understanding of the interaction between physical and human processes, formation and use of landscapes and environments.

The Geography curriculum has not been reviewed so far except for the introduction of “A Geography of Bhutan” in the late 1980s with an aim to Bhutanise and contextualize the curriculum. The curriculum framework had been the outcome of the National School Curriculum Conference of 2016 which resolved to have in place a curriculum framework for all subjects.
During the conference, a group of experts from the field reviewed the curriculum from Class VII –XII with an aim to understand and find out the gaps, overlaps, repetition of contents in the existing curriculum. The findings of the conference had been crucial in the development of the curriculum framework which is clear and comprehensive. This will guide us in the development of text book for various levels and grades.

The Geography Curriculum Framework (Class PP-XII), therefore attempts to provide an overview of geography education in Bhutan. The framework has various purposes.

The framework is intended to:

- provide teachers, learners, employers and educators higher education institutions with a clear statement of what learners are expected to achieve as a result of their geography education from class PP-XII. It is, therefore, a document of communication to all stakeholders in our society, so that they understand the aims of geography education in Bhutan and at each stage, they can see how these are achieved,
- bring co-ordination, consistency and coherence to the geography and social studies curriculum,
- guide curriculum developers in designing meaningful learning experiences for learners that are enriching, challenging and relevant to learners and to the country’s needs and aspirations, and
- provide geography education that is developmentally appropriate and reflects a systematic, progressive approach throughout pre-primary, primary and secondary education.

The geography learning experiences are organized into four strands: skills strands (strand IV) and three conceptual strands (Strands I, II and III) which are as follows:

- **Strand I**: Time and Space
- **Strand II**: Physical Environment
- **Strand III**: People & Environment
- **Strand IV**: Essential Skills
The strands run across all the levels (classes). Developing stage appropriate skills outlined in Strand IV is not to be taught separately but rather integrated as learners engage with the concepts and ideas in Strands I, II and III. The descriptions for each strand outlines the expected skills, knowledge and understanding that learners should acquire by the completion of their course.

For the purpose of setting standards, the learning experiences are organized into five key stages which are as follows:

- **Key Stage I** — Class PP to III
- **Key Stage II** — Class III to VI
- **Key Stage III** — Class VII to VIII
- **Key Stage IV** — Class IX to X
- **Key Stage IV** — Class XI to XII

Each key stage is elaborated with learning standards for all the strands, which can be found in chapter six. Specific learning objectives, according to class levels in chapter seven describes the knowledge and understanding on the conceptual strands that learners are expected to attain in each level.
Chapter Two: Rationale

2.1. Rationale

Geography as a school discipline was adopted into Bhutanese education system in 1960s from the Indian syllabus. Ever since its introduction, the geography curriculum had not been reviewed. However, in 1989, A Geography of Bhutan was introduced for class VI and subsequently in other classes in an effort to provide opportunity for our learners to study geography of our country.

Nonetheless, over the years, there had been a lot of issues concerning the subject with regards to currency, relevancy of contents and clarity of illustrations. Thus, the need for a curriculum review was felt essential.

Accordingly, in the 11th Five Year Plan (FYP), the review of social science curriculum was planned and priority was accorded by the government. The review of social science curriculum was further reiterated during the national school curriculum conference in 2016.

As such, the designing of geography curriculum framework had been initiated with the mandate to guide the curriculum developers, planners, educationists and stakeholders to develop a standard curriculum which is relevant to cater to the changing needs and aspirations of the nation.

The philosophy of Gross National Happiness (GNH), Purpose of School Education and the national goals and aspirations have been the guiding principles for designing the geography curriculum framework.

The modern education in Bhutan formally started in early 1960s. The school curriculum until the mid-1980s was borrowed from India and all the teaching and learning materials were those prescribed for Anglo-Indian schools, except for Dzongkha.

However, the then Education Department started Bhutanising the education system to make learning and teaching in accordance with national needs and aspirations. The development of a relevant curriculum and curriculum materials for schools throughout the country began following this important policy change in mid-1980s.
With the introduction of the New Approach to Primary Education (NAPE), the emphasis was given to activity-based learning, shifting the focus from ‘teacher-centred’ to ‘learner-centred’. The introduction of Bhutanese history and geography for class VI in 1989 and Class VII and VIII in 1990, and for class IX and X in 1993 brought change in the field of social science whereby the students were expected to acquire knowledge, skills, values and attitudes through this change in order to develop pride in being Bhutanese. (Gyamtso and Dukpa, 1998).

Subsequently, with the Bhutan Board of Examinations (BBE) taking over the conduct of class XII examination from the Council for the Indian School Certificate Examination (CISCE), New Delhi from 2006, the Ministry of Education introduced Bhutan Geography in Bhutanese education system for higher secondary level from 2005.

### 2.2. Nature and Scope of Geography

Geography in the past was recognized as a description of the world and its inhabitants. The geographers then felt satisfied when they divided the Earth’s surface into number of units either on the basis of physical configuration or cultural development or combination of both these elements. The main purpose was to describe and interpret regions separately depending upon physical configuration.

Today geography is not merely a description or interpretation of the regions of the world but also is an enquiry, a study of causes, an attempt to find out ‘why’, ‘where’ and ‘how’ all those factors influence life on Earth. Geographers seek to understand the ways world works and why it appears as it does. This involves explaining the processes operating inside, on and above the Earth’s surface and the ways in which these processes have created the landscapes around us and continue to change them.

Through geography we seek to understand differences in patterns of human distribution, interrelationship between human society and the physical environment, people’s use of the Earth in time and space, and how these differences are related to people’s culture and economy.

The growth in technology has greatly aided geographers in their tasks. It has given them increasingly refined techniques for gathering and interpreting data, whether in the field by means of Global Positioning System (GPS) or by using aerial photographs and satellite images. Spatial relationships are at the heart of geography. The use of technologies like Geographic Information System (GIS) and Remote Sensing techniques has greatly assisted geographers to analyse spatial
relationships among geographical features and phenomena.

People might attempt to modify and control the environment but in the long term, nature would prevail and determine the human destiny. Therefore, geography attempts to bridge the widening gap between the changing physical, biological and cultural phenomena.

Geography now has become interdisciplinary subject, which has a wide range of scope. It provides holistic understanding of the world and inspires curiosity about the diversity of the world’s places, peoples, cultures and environments. Without geography, the relevance of discoveries made by those studying the natural sciences could be lost as the applications of their findings to the real world might not be fully explored.

Geography provides learners with opportunities to develop a wide range of general skills, capabilities and dispositions that can be applied in everyday life and at work. It helps to develop skills in using information and communication technology. Further, it promotes critical and creative thinking, develop appreciation and respect for social, cultural and religious diversity.

Geographic techniques like GIS and GPS play important role in geospatial intelligence. These techniques are used far and wide in the fields of geology and mining, defense, environmental science, transport and communications, land use, survey, election, industries, disaster management, hydropower, and urban planning.

The applied dimension of geography affects daily lives and serve as a powerful medium for the development of knowledge, skills and values, thus contributing to citizenship and cultural awareness.
3.1. **Goals**

The following are some of the goals of geography education.

Geography enables learners to equip with geographic perspective, knowledge, skills and values to engage in ethical action with regard to self and others. It helps to understand Earth’s diverse cultural and natural environments to prepare responsible citizens inspired by national and universal values and practices.

The national curriculum for geography aims to ensure that all learners are able to:

1. understand the Earth as a unique planet, its movement in space in relation to other celestial bodies in the solar system and how it affects lives.

2. develop contextual knowledge of the location of places - both terrestrial and marine- defining physical and human characteristics and how these provide a geographical context for understanding the actions of processes.

3. generalize and draw conclusion on physical environment to prepare them for harmonious existence.

4. realize the importance of relationship among the people and environment to become environmentally responsible citizens and make informed decisions in life.

5. appreciate Earth as the home of living beings and provide insight for wise decisions on resource management.

6. participate in critical and informed debates on the key concerns and issues that may affect their lives locally and globally.

7. foster love for learning geography.

8. apply knowledge, skills and values to understand, interpret and address the emerging geographical and social issues.

9. develop an understanding of GNH through geographical perspectives and apply them for making informed decisions.
3.2. Geography Curriculum Conceptual Framework

Guiding Principles

Developmental Appropriateness  Skills Based Learning  Learners and Learning  Effective Pedagogy

Geography for GNH  Community Involvement  Use of ICT  Interdisciplinary Nature

Strands

Time and Space
1. Describe the characteristics of the earth as a unique planet.
2. Discuss the cause and effect of earth’s movement in space in relation to other celestial bodies in the solar system
3. Apply geographical knowledge to understand the complex relationship between places and regions that may affect activities on the earth

Physical Environment
1. Demonstrate knowledge of time, places, regions and planets to interpret various geographical phenomena.
2. Explain the complex interaction amongst the spheres of the earth and their impact on all forms of life.
3. Examine the exogenetic and endogenetic forces that influence processes and formation of different physical features

People and Environment
1. Acquire wider global perspectives on human and environment relationship to become environmentally responsible citizens.
2. Demonstrate informed decision making skills in resource management practices for sustainable development.
3. Evaluate the consequences of population change on the physical and cultural environment for effective planning.

Essential Skills
1. Analyse the importance of interrelationships of natural and cultural environment for harmonious coexistence.
2. Evaluate the consequences of human interference on the environment to mitigate disasters.
3. Exhibit positive practices for preservation and promotion of environment.
4. Communicate geographical information and ideas in different forms including the use of ICT and geographic technologies.

Key Stages

Key Stage I
In the early years of this key stage, learners will develop observation skills using their senses to gather and record information, identify patterns, and talk about their ideas. At this key stage, learners will explore and work with materials to develop basic knowledge and skills of their immediate surroundings including the use of ICT and geographic technologies.

Key Stage II
Learners at this stage are capable of making mental operations, think logically, and are ready for a deeper understanding of concepts. They discover a wide range of things and phenomena, though still predominantly focused on their immediate environment and concrete every day experiences. Simple models and theories are used to explain and make links between ideas.

Key Stage III
During this key stage, learners build on their environmental knowledge and understanding to make simple connections with different phenomena. They use basic ideas and models to explain geographical features, phenomena and events. Basic geographical knowledge are applied to improve the health of the environment and the quality of life.

Key Stage IV
Learners, at this key stage, demonstrate significant developments in terms of logical and abstract thinking; and are able to comprehend complex situations. A wide range of techniques including ICT are used to carry out investigation and draw conclusions. They discover a wide range of ideas that support geographical studies in greater depth for solving issues and problems.

Key Stage V
At this key stage, learners acquire cognitive abilities and an understanding of the natural world around them. They will be able to use geographic technologies and ICT to plan and manage complex investigations for addressing geographical issues and problems.

Figure 1. Geography conceptual framework
Chapter Four: Guiding Principles

The guiding principles that are essential for framework development, curriculum and assessment are illustrated below in Figure 2.

4.1. Developmental Appropriateness

For any form of learning to take place, understanding the learners’ level of cognitive and physical development is crucial. A neonate, right after birth, makes an attempt to interact with the environment by crying when hungry, uncomfortable or sick. As the child grows, he or she is able to process more complicated ideas and makes sense of the world around him or her. This indicates that complex learning in the child progresses with the cognitive and physical developmental stages.
In the early stages, a child mostly learns through play which involves more of psychomotor skills. As the child grows, one develops the ability to process more complex information and a sense of self-identity. The child gradually develops the affinity for abstract and logical thinking, ability to articulate information and take one’s own decisions.

Therefore, the geography curriculum framework lays emphasis on the organization of the learning experiences in conformity to the globally accepted child developmental trends.

4.2. Learners and Learning

Learning and interaction with the environment starts at an early age and continues as a lifelong process. Learners come from diverse background with different learning styles. They have a fair amount of understanding about the immediate environment and the world. Learners start developing their personal beliefs, concepts and skills about the environment and the world, which may not always be consistent with the geographical ideas and facts.

In order to address issues and cater to diverse learning needs and styles, a number of constructivist approaches to geography learning are incorporated. The constructivist approach, including inquiry learning, investigation, project, etc., engage learners in different learning experiences to facilitate them to construct their own knowledge about the world around them.

As such, to make learning inclusive, the geography curriculum framework lays emphasis on the development of curriculum materials visa-vis, learning and teaching strategies guided by the globally accepted pedagogical principles, considering types of learners, learners’ abilities, learning styles, and their prior knowledge.

4.3. Effective Pedagogy

Effective pedagogy incorporates an array of learning and teaching strategies that support intellectual engagement, connectedness to the wider world, support classroom environment and recognition of individual differences. It promotes the well-being of learners, teachers and the school community. Effective pedagogy also improves learners and teachers’ confidence and contributes to their sense of purpose for being at school and thereby building community confidence in the quality of learning and teaching.
The geography curriculum framework ensures the incorporation of effective pedagogy in the curriculum with the adoption of the 21st century skills which are more inclusive and gender sensitive.

4.4. Geography for GNH

Geography as a discipline enhances the understanding of GNH philosophy, and hence it creates a forum for interaction, interdependence, cooperation and relationship within the local as well as global community.

The basic tenets of Gross National Happiness are discussed under various geographical concepts like nature conservation, population and resource management through which the essence of harmonious living in the society and the environment are promoted.

The geography curriculum framework ensures the incorporation of GNH values in the curriculum through various learning and teaching concepts.

4.5. Community Involvement

Learning is not confined within a classroom. It becomes more effective and meaningful when learners interact and connect with the wider community. Therefore, community involvement has emerged as one of the effective approaches to learning.

Community involvement takes learners out into the communities, to learn, to do and to grow as human beings. Learners get opportunity to learn subject matter in depth, understand the places they live in and participate in community services that makes difference to themselves and others.

It enables learners to collaboratively address issues which arise in the locality through field work, project and awareness campaign to make learning realistic. Hence, Geography Curriculum Framework (Class PP-XII) emphasizes on inclusion of community involvement.

4.6. Use of ICT

With the rapidly changing world, information and communication technology (ICT) has become so vital and is widely used for various purposes. The appropriate use of ICT reinforces and deepens geographical knowledge by adding value to learning and teaching.
The use of ICT and geographic technologies like Global Positioning Systems (GPS), Geographical Information Systems (GIS) and Remote Sensing provide additional advantage in analysing and forecasting the Geographical phenomena. ICT is also a significant motivational factor in engaging learners. Hence, the geography curriculum ensures the integration of ICT for effective learning and teaching.

4.7. Interdisciplinary Nature

Geography is interdisciplinary in nature as it links social and natural sciences. A study of geography enables a person to relate his/her knowledge in terms of history, politics, science, mathematics, sociology, psychology, economics and fine arts among others.

Geography builds on major emphases in spatial analysis, human-environment interaction, and place-based and regional analyses to encourage communication and interaction with myriad other disciplines. The active pursuit of inquiries related to space, place, and interactions, especially dynamics within and across spaces and places, leads many geographers to range far from the field’s core and explore the peripheral realms where geographic perspectives and insights intersect with those from other fields.

To this extent, the curriculum framework is designed to widen learners’ breadth of geographical skills and knowledge true to its interdisciplinary nature.

4.8. Skills Based Learning

The natural environment around us is a source of knowledge. While some aspects of natural environment can be directly observed, others need to be investigated to draw conclusion. In doing so, essential skills, such as observation, investigation, data interpretation, data analysis, mapping and social skills provide opportunities to the learners to develop skills and apply them in their life.

The essential skills in geography are foundations for understanding geographic knowledge. Learners develop skills of mapping and interpretation by engaging in map making, using maps and photographs.
Chapter Five: The Strands

The curriculum framework is organised broadly at two levels:

- **Strands**: Representing major themes
- **Key stages**: Representing Classes (levels)

### 5.1. Strands

Strands represent major themes to show logical flow of learning, starting from the concepts to natural and human made concerns to management and sustainability. There is progressive development of concepts from PP to class XII.

The geography curriculum is organized in four strands: Time and Space, Physical Environment, People and Environment, which are content related strands; and Essential Skills is a process strand. These strands are cross cutting in all key stages. However, Essential Skills is not to be taught as a separate topic, rather it must be integrated in rest of the three content strands.

**Strand I: Time and Space**

*(The Earth, location, place and region, geographic similarities and differences, celestial bodies and spatial awareness)*

As inhabitants of the world, we relate ourselves to a particular place or region and define in terms of where we are located in relation to the rest of the world. Our understanding of the Earth as a unique planet in the universe will help to unravel the complexities of how the physical environment and spatial components of the world interact and impact life on the Earth. This should be facilitated through various strategies like discussion, demonstration, case studies, investigation, inquiry and use of ICT.

**Strand II: Physical Environment**

*(Lithosphere, Atmosphere, Hydrosphere and Biosphere)*

The Earth comprises of four spheres. They include lithosphere which mainly consists of rocks and soils; atmosphere consists of gas, dust particle and water vapour; hydrosphere consists of water bodies; and biosphere consists all forms of
life. The interactions amongst these spheres and the processes of endogenetic and exogenetic forces influence the physical features and existence of life on Earth.

The study of spheres through simulations, field work, exploration and use of ICT, helps in understanding the roles of each sphere and how they interact and determine the existence of various forms of life on the Earth.

**Strand III: People and Environment**

*(Population and Settlements, Resources and Management, Spatial Interaction, Disaster and Management and Geographic Technology)*

The Earth is a home to millions of species but human-beings dominate in changing the complex natural environment. Although the origin of human on Earth is incredibly recent in the geological time, their activities have modified many parts of the Earth. The ever increasing human population and their unlimited desires have resulted in over exploitation of resources. The over exploitation of resources has led to environmental degradation thereby resulting in various disasters.

The advancement in geographic technology helps to develop better understanding of the complex system on the Earth and address the emerging challenges that affect the health of the natural world.

The approaches like case study, field work, investigation, research, project work and presentation will be used to discuss and enhance learners’ understanding of the interaction between people and the environment.

**Strand IV: Essential Skills**

*(Data analysis and interpretation, Map Reading and interpretation, Investigation and Social skills)*

The fourth strand, Essential Skills, is integrated with three content strands. Skills like investigation, data analysis, mapping, interpretation and social skills are indispensable for geographical studies.

The use of these skills offer an inquiry into the immediate surrounding and beyond, thereby enhancing the understanding of the geographical concepts and principles. The application of the acquired skills will facilitate the development of positive values and attitudes for the subject.
5.2. Key Stages

Key Stage I: PP to III

In the early years of this key stage, learners will develop observation skills using their senses to gather and record information, identify patterns, and talk about their ideas. At this key stage, learners will explore and work with materials to develop basic knowledge and skills of their immediate surroundings.

Key Stage II: Classes IV – VI

Learners at this stage are capable of making mental operations, think logically, and are ready for a deeper understanding of concepts. They discover a wide range of things and phenomena, though still predominantly focused on their immediate environment and concrete every day experiences. Simple models and theories are used to explain and make links between ideas.

Key Stage III: Classes VII – VIII

During this key stage, learners build on their environmental knowledge and understanding to make simple connections with different phenomena. They use basic ideas and models to explain geographical features, phenomena and events. Basic geographical knowledge is applied to improve the health of the environment and the quality of life.

Key Stage IV: Classes IX – X

Learners, at this key stage, demonstrate significant developments in terms of logical and abstract thinking; and are able to comprehend complex situations. A wide range of techniques including ICT are used to carry out investigation and draw conclusions. They discover a wide range of ideas that support geographical studies in greater depth for solving issues and problems.

Key Stage V: Classes XI – XII

At this key stage, learners acquire cognitive abilities and an understanding of the natural world around them. They will be able to use geographic technologies and ICT to plan and manage complex investigations for addressing geographical issues and problems.
Chapter Six: Learning Standards

Learning standards are concise written description of what learners are expected to know and able to do at a specific stage of their education (course). Standards should include a qualifier or a quantifier.

6.1 Key Stage I: (PP-III)

Strand I: Time and Space
By the end of key stage one, learners will be able to:

- name the place they live in and relate themselves with people living in their houses.
- describe the significance of celestial bodies like stars, planets, the Sun and the Moon.
- show the basic geographical directions.

Strand II: Physical environment
By the end of key stage one, learners will be able to:

- state the basic elements of the Earth.
- list the basic importance of physical environment.

Strand III: People and environment
By the end of key stage one, learners will be able to:

- describe relationship between people and environment in and around their surroundings.
- demonstrate positive behaviour towards people and environment.

Strand IV: Essential Skills
By the end of key stage one, learners will be able to:

- demonstrate the basic skill of sketching, drawing, showing directions, identifying and locating simple geographical features.
- make simple models.
6.2 Key Stage II: (IV-VI)

Strand I: Time and Space
By the end of key stage two, learners will be able to:

- explain the movements of the Earth and other celestial bodies.
- state the impact of Earth’s movements.
- describe the location of place in relation to a country, regions and continents.

Strand II: Physical Environment
By the end of key stage two, learners will be able to:

- describe the spheres of Earth.
- recognize the significance of different spheres.

Strand III: People and Environment
By the end of key stage two, learners will be able to:

- relate the way of life at home with that of the community.
- recognize the importance of proper utilization of resources.

Strand IV: Essential Skills
By the end of key stage two, learners will be able to:

- represent geographical information into a visual form like maps and graphs.
- demonstrate the skill of sketching, drawing, showing directions, calculating time interpreting data.
- locate natural and human made features.
- make models

6.3 Key Stage III: (VII-VIII)

By the end of key stage three, learners will be able to:

Strand I: Time and Space

- discuss the movements of celestial bodies and their impacts.
- analyse the natural characteristics of a place and their influence on culture and identity of the people.
Strand II: Physical Environment

By the end of key stage three, learners will be able to:
- discuss the inter-relationship among the spheres of the Earth.
- analyse the significance of each sphere of the Earth and their interactions.

Strand III: People and Environment

By the end of key stage three, learners will be able to:
- explain the intricate relationship between people and environment.
- analyse the consequences of interactions between people and the environment.

Strand IV: Essential Skills

By the end of key stage three, learners will be able to:
- represent geographical information into a visual form like maps, graphs, and field sketches.
- demonstrate skill of data interpretation, map reading and interpretation, making models and drawing geographical features.

6.4 Key Stage IV: (IX-X)

Strand I: Time and Space

By the end of key stage four, learners will be able to:
- examine the movements of the Earth and other celestial bodies and their impact.
- discuss the location of place in relation to the wider world.
- explain the role of places and regions in shaping cultural identity and unifying societies.

Strand II: Physical Environment

By the end of key stage four, learners will be able to:
- describe the distribution and the complex interaction among the spheres.
- analyse the impact of complex interaction amongst the spheres.

Strand III: People and Environment

By the end of key stage four, learners will be able to:
- analyse the impact of human activities on the environment.
- examine the effect of human activities on harmonious co-existence.
- explain the basic concepts of geographic technology.
Strand IV: Essential Skills

*By the end of key stage four, learners will be able to:*
- demonstrate skill of map reading and data interpretation, time calculation, making models and drawing geographical features.
- represent geographical information into a visual form like maps, graphs, images and field sketches.
- interpret diagrams, graphs, illustrations and maps to draw logical conclusion.

6.5 Key Stage V: (XI-XII)

Strand I: Time and Space

*By the end of key stage five, learners will be able to:*
- evaluate the significance of the movements of the Earth and other celestial bodies and their impacts.
- compare regions in relation to its location.
- examine the similarities and differences between places and regions.
- generate geographical information from a spatial perspective.
- apply geographical knowledge to interpret the past, present and future for planning.

Strand II: Physical Environment

*By the end of key stage five, learners will be able to:*
- analyse the interconnectedness of the four spheres of the Earth and their influence.
- examine the physical processes in the formation of landforms and their impact.

Strand III: People and Environment

*By the end of key stage five, learners will be able to:*
- appreciate the importance of geographic technology and its applications.
- describe the distribution, characteristics, and complexity of Earth’s cultural mosaic.

Strand IV: Essential Skills

*By the end of key stage five, learners will be able to:*
- demonstrate the skills of investigation and analysis of geographical information.
- draw conclusion about the world through the use of ICT and geographic technologies.
Chapter Seven: Learning Objectives

Learning objectives are intended result of instructions. It is a detail description of what the learners would be able to do at the end of the instructions.

Learning objectives are brief statements that describe what learners will be expected to learn by the end of school year, course, unit, lesson or class period.

7.1 Key Stage I

Learning Objectives: Class PP-III

Strand I: Time and Space

*By the end of key stage one, learners will be able to:*

- name the village you belong to.
- list different places in Bhutan.
- describe your home.
- differentiate day and night (Rising and setting of sun).
- indicate the basic compass direction.
- represent celestial bodies diagrammatically.
- identify the dzongkhag you live in on the map of Bhutan.
- locate the capital of Bhutan on an outline map of Bhutan.

Strand II: Physical Environment

*By the end of key stage one, learners will be able to:*

- name the elements of the Earth.
- state the uses of water.
- list different types of weather conditions.
- describe weather conditions.
- draw the weather instruments.
- identify various landforms in their locality.
Chapter Seven: Learning Objectives

• represent elements of the Earth through simple sketch and drawing.

Strand III: People and Environment

*By the end of key stage one, learners will be able to:*

• name the plants and animals in their surroundings.
• identify plants and animals in their surroundings.
• state the uses of forest.
• describe their family and village.
• identify the sources of basic necessities.
• name common disasters.
• write down the ways of keeping the surrounding clean.
• draw their family tree.

Strand IV: Essential Skills

*By the end of key stage one, learners will be able to:*

• demonstrate safety practices for self and others.
• draw sketch map of their school and village.
• draw diagram of weather conditions.
• show relative direction of places.
• identify simple land forms.
• draw simple graphs using a given data.
• exhibit a sense of ownership by keeping surrounding clean.

7.2 Key Stage II

Learning Objectives: Class IV-VI

Strand I: Time and Space

*By the end of key stage two, learners will be able to:*

• define solar system
• list the planets in the solar system
• explain the shape of the Earth
• define latitudes and longitudes.
• locate all the dzongkhags on a political map of Bhutan.
• locate South Asian Association for Regional Cooperation (SAARC) countries on a map of South Asia.
• use conventional signs and symbols to represent various features.

Strand II: Physical Environment
By the end of key stage two, learners will be able to:
• describe spheres of the Earth.
• explain seasons.
• explain the relationship amongst the spheres of the Earth.
• state the similarities and differences between places and regions.
• explain the importance of water bodies.
• define soil and rocks.
• discuss the formation of soil.
• compare various landforms.
• describe the importance of landforms.
• display the understanding of landforms through model-making.

Strand III: People and Environment
By the end of key stage two, learners will be able to:
• describe their family tree.
• describe roles of their family members.
• list resources derived from nature.
• describe the occupations of people in the community.
• discuss ways to make judicious use of resources.
• identify hazards in the community.
• demonstrate the basic life-saving skills during disasters.
Strand IV: Essential Skills

By the end of key stage two, learners will be able to:

- draw sketch maps of their locality.
- make models of weather instruments and landforms.
- draw diagrams of landforms and weather conditions.
- draw graphs using data and interpret them.
- show direction of various geographical features.
- locate geographical features on an outline map.
- demonstrate safety practices for self and others.

7.3 Key Stage III

Learning Objectives: Class VII

Strand I: Time and Space

By the end of class VII, learners will be able to:

- discuss the nature and scope of geography.
- explain the movements of Earth.
- compare latitude and longitude.
- state the importance of latitudes and longitudes.
- calculate time using longitudes.
- locate features using latitudes and longitudes.

Strand II: Physical Environment

By the end of class VII, learners will be able to:

- discuss the river systems.
- locate major rivers on an outline map.
- explain the basic processes of land formation.
- describe different types of landforms.
- explain the processes of rock formation.
- describe different types of rocks.
• discuss minerals and types.
• explain the structure of the atmosphere and its significance.
• distinguish between weather and climate.
• demonstrate the use of weather instruments.
• discuss vegetation and its types.

Strand III: People and Environment

*By the end of class VII, learners will be able to:*

• define human population.
• explain death rate, birth rate and natural change.
• draw a population density map of a given country/region.
• describe the concept and types of settlement.
• explain the patterns of settlement.
• define ecosystem and food chain.
• explain human interaction with the environment.
• discuss the concept and types of resources.
• explain the sustainable use of resources.
• state some ways to combat environmental problems.
• discuss potential risks, hazards and disasters.
• suggest measures to reduce disasters.
• exhibit life-saving skills during disaster

Learning Objectives: Class VIII

Strand I: Time and Space

*By the end of the class VIII, learners will be able to:*

• discuss the key characteristics of Earth’s motion.
• describe the importance of latitudes and longitudes.
• identify latitudes and longitudes of places on a map.
Chapter Seven: Learning Objectives

- calculate time and longitudes.
- illustrate relief features from contour map.
- locate features on a map.

Strand II: Physical Environment

*By the end of the class VIII, learners will be able to:*
- discuss stages of river.
- describe volcano and earthquake.
- describe the composition and structure of the atmosphere.
- explain the significance of atmosphere.
- discuss the factors affecting climate.
- describe soil and its properties.
- explain soil forming factors.
- classify soil into its types.

Strand III: People and Environment

*By the end of the class VIII, learners will be able to:*
- define natural vegetation.
- explain the types and significance of natural vegetation.
- explain the causes of change in population.
- analyse the importance of addressing population change.
- classify patterns of settlement.
- illustrate patterns of settlement.
- describe the interrelationship that exist among the various components of the environment.
- analyse the importance of environmental conservation.
- distinguish between hazards and disasters.
- differentiate natural hazards from human induced hazards.
- discuss causes and effects of disasters.
- suggest measures to mitigate disasters.
7.4 Key Stage IV

Learning Objectives: Class IX

Strand I: Time and Space

*By the end of class IX, Learners will be able to:*

- discuss the uniqueness of the Earth.
- state the evidences to prove the sphericity of the Earth.
- explain the size of the Earth in comparison to other planets in the solar system.
- explain the consequences of rotation and revolution.
- calculate the time and longitude.
- evaluate the importance of latitude.
- interpret topographical maps.

Strand II: Physical Environment

*By the end of class IX, Learners will be able to:*

- explain the factors affecting soil formation.
- describe the importance of soil and the ways to conserve it.
- describe the different types of soil found in Bhutan.
- explain the properties of different types of soil.
- describe the composition of atmosphere.
- analyse the characteristics of different layers of atmosphere.
- explain the sources of river with the help of diagram.
- describe the river as an important agent of denudation.
- draw diagrams to interpret various features formed by rivers in different stages.
- evaluate the importance of river in the socio-economic development of a nation.
- describe the components and types of ecosystem.
- explain the structure of ecosystem.
- locate the important physical features on a map
Strand III: People and Environment

By the end of class IX, Learners will be able to:

• identify the external and internal factors responsible for the change in the ecosystem.
• interpret population pyramid.
• interpret data on distribution of population.
• explain the factors affecting the distribution of population.
• differentiate nucleated, dispersed, and linear settlement with examples.
• analyse the factors affecting patterns of settlement.
• describe various land use pattern.
• describe farming as a system.
• differentiate between traditional and modern farming.
• explain the factors influencing agriculture.
• analyse the importance of agriculture.
• identify causes and problems associated with farming.
• suggest measures to overcome/mitigate problems of farming.
• discuss the environmental concerns and conservation measures.
• discuss the major disasters and their causes.
• describe common disasters in Bhutan.
• explain disaster management approaches.
• explain the basic working principle of weather instruments with the help of drawings.
• represent important human made features on a map.

Learning Objectives: Class X

Strand I: Time and Space

By the end of class X, Learners will be able to:

• evaluate the significance of latitudes and longitudes.
• determine longitude and time.
• recognize regional differences and similarities both locally and globally.
• discuss the origin of the Earth with reference to the Big Bang Theory and Solar Nebula.
• discuss the basic techniques of layout and numbering of topographical maps
• interpret the topographical map.

Strand II: Physical Environment

By the end of class X, Learners will be able to:

• explain the formation of Himalayan Mountain System with reference to Continental Drift Theory and Plate Tectonics.
• interpret the Geological Time Scale.
• discuss mineral resources and its distribution.
• discuss groundwater and Karst topography.
• discuss gradational agents and their activities.
• compare the climatic zone with vegetation zone of Bhutan.
• discuss the impact of climatic zone on its inhabitants.
• represent climatic zones on a map.
• explain the components of biodiversity.
• compare ecosystem with biodiversity.
• analyse the significance of biodiversity.

Strand III: People and Environment

By the end of class X, Learners will be able to:

• discuss the causes of population growth.
• assess the impact of population growth.
• project the population trend.
• discuss the concept and types of migration.
• discuss spatial distribution of settlement with reference to Central Place Theory.
• classify the different sectors and types of industries.
• explain factors affecting location of industries.
Chapter Seven: Learning Objectives

- analyse the impact of industries.
- state the importance of agriculture with reference to agro-based industries.
- discuss the concept of trade.
- discuss common disasters in Bhutan.
- suggest mitigation measures to reduce impact of disaster.
- demonstrate measures to reduce risk during disaster.
- use meteorological instruments to construct a daily weather statement.
- demonstrate skills of using geographic technologies and ICT.
- represent human made features on a map.

7.5 Key stage V

Learning Objectives: Class XI

Strand I: Time and Space

By the end of class XI, learners will be able to:
- explain the origin of the universe from Buddhist perspective.
- explain the concepts of scales.
- examine the significance of the Moon for the Earth.
- discuss the concepts of map projections.
- convert Representative Fraction into Statement Scale and vice-versa.
- demonstrate the skills of constructing map projection using different methods.
- demonstrate the skills of interpreting topographical maps.

Strand II: Physical Environment

By the end of class XI, learners will be able to:
- explain the internal structure of the Earth with an illustration.
- discuss Continental Drift Theory and plate tectonics.
- discuss the causes and impacts of volcanism and earthquake.
- suggest measures to reduce the risk of volcanism and earthquake.
- discuss geothermal energy.
• describe uses and conservation of groundwater.
• explain different climatic zones of the world.
• discuss temperature and pressure.
• explain the causes and consequences of shift in world pressure and wind belts.
• discuss the concept of biomes.
• represent natural and human-made features on a map.

Strand III: People and Environment

*By the end of class XI, learners will be able to:*
• discuss population dynamics.
• examine the spatial distribution of population.
• explain the trends of population.
• analyse the significance of conducting population census.
• discuss urbanisation.
• classify urban centres.
• trace the development of agriculture in Bhutan.
• explain the features of different types of agriculture.
• examine the scope of agriculture in Bhutan.
• discuss the history of industrial development.
• explain types of manufacturing industries.
• discuss the development of tourism industry in Bhutan.
• explain the factors affecting tourism.
• explain the concepts of transportation and communication.
• describe modes of transportation and communication.
• discuss types of energy sources.
• differentiate between conventional and non-conventional energy sources.
• explain importance and approaches of resource management.
• discuss sustainable development.
• examine the dichotomy between resource utilisation and sustainable development.
• explain global warming and climate change.
• analyse the relationship between global warming and climate change.
• discuss the evidences for climate change.
• analyse the consequences of climate change.
• explain the concepts of remote sensing and GIS.
• draw population pyramid using a given population data.
• interpret population pyramid.

Learning Objectives: Class XII

Strand I: Time and Space

By the end of class XII, Learners will be able:
• explain the origin of Universe with reference to Gaseous Mass hypothesis and Electromagnetic theory.
• discuss surveying.
• describe instruments for plane table survey.
• conduct a simple plane table survey.
• discuss precautions for conducting plane table survey.

Strand II: Physical Environment

By the end of class XII, Learners will be able:
• discuss glaciers as agent of gradation.
• describe the various types of world climate.
• discuss Koppen’s classification of world climate.
• classify soil into its types.
• discuss rock types and rock cycle.
• discuss fluvial processes and associated landforms.
• describe drainage patterns of river.
• discuss cycle of erosion.
• explain humidity and air temperature.
• calculate relative humidity.
• describe different forms of condensation.
• discuss types of precipitation.
• describe types of biomes.
• evaluate the impact of human on biomes.
• locate different biomes on the map.

Strand III: People and Environment

By the end of class XII, Learners will be able:
• describe the working population and its impact on the economy.
• suggest ways to overcome unemployment problem in a country.
• discuss types of fertility and mortality.
• describe measures of fertility and mortality.
• compute measures of fertility and mortality.
• discuss migration.
• examine the causes and consequences of migration.
• suggest measures to mitigate migration.
• discuss models of urban centres.
• discuss the importance of urbanisation.
• explain the causes and problems of urbanisation.
• suggest measures to overcome problems of urbanisation.
• discuss the development of hydropower sector in Bhutan.
• discuss alternative sources of energy.
• discuss green revolution, evergreen and white revolution.
• describe human resource development.
• analyse the impacts of tourism.
• suggest measures to enhance tourism industry.
• evaluate the tourism policy.
• describe the development of various modes of transport and communication in Bhutan.
• explain the importance and limitations of modes of transport.
• evaluate the significance of ropeways in the country.
• discuss the preservation and promotion of cultural heritage.
• discuss the potential hazards in Bhutan.
• suggest measures to mitigate potential hazards.
• explain the disaster management cycle.
• describe Global Positioning System and its importance.
• discuss remote sensing and its application.
• discuss GIS and its application.
• demonstrate the use of GIS software to spatial and non-spatial data.
Chapter Eight: Assessment

Assessment in education is the process of gathering, interpreting, recording and using information about students’ responses to an educational task. (Source: Mutch and Brown) It is the crucial link between learning outcomes, content, and teaching and learning activities.

8.1. Purpose of Assessment

The purpose of assessment is to improve students’ learning and teachers’ teaching. It is an ongoing process that arises out of the interaction between teaching and learning. Mutch and Brown (2002) cited in Jennings (2012), explain the purpose of assessment as:

1. Students learning
   - provide feedback to improve student learning
   - motivate student
   - diagnose students’ strength and weaknesses
2. Certification
   - to promote
   - to grade/rank
3. Quality assurance
   - Provide feedback to teachers
   - Improve teaching
   - Monitor standards over time

8.2. Principles of Assessment

8.2.1. Reliability

Reliability refers to the extent to which assessments are consistent. An assessment is reliable when assessors using the same criteria and marking scheme arrive at exactly the same judgment about a given piece of work.
8.2.2. Validity

Validity refers to credibility of an assessment. It ensures that assessment task and associated criteria effectively measure students’ attainment of the intended learning outcomes at an appropriate level.

8.2.3. Relevancy

Relevancy is the appropriateness of assessment in relation to the content of curriculum. Assessment task should reflect the nature of the subject and ensure that students develop a range of skills and capabilities.

8.2.4. Manageable

The extent to which the assessment task can be accomplished without difficulty within a given time period. The amount of work to be assessed should be manageable. It should not overload teachers or students.

8.2.5. Transparency

Transparency refers to how clear the assessment expectations are for learners and stakeholders. Assessment should be clear, accurate and fair. Timely information on assessment task and procedure should be made available to them.

8.2.6. Engaging

It refers to the level of cognitive and emotional involvement of the learners. Assessment task should engage learners in a variety of educational activities that lead them to high quality learning. Quality time spent on a task is critically important for effective learning.

8.2.7. Authentic

Mueller as cited in Analytical Quality Glossary (n.d), explains authentic assessment as the measurement of intellectual accomplishments that are worthwhile, significant, and meaningful. Assessment in which students are asked to perform real world task that demonstrate meaningful application of essential knowledge and skills

8.2.8. Inclusive

It is an approach to an assessment to promote diverse learning needs without compromising the academic standards. Inclusive and equitable assessment should ensure that assessment task and procedures do not disadvantage any group or individual student.
8.3. Types of Assessment

Assessment in various forms is integral to learning and teaching to facilitate learning and improving instruction. It is generally divided into three types: diagnostic assessment, formative assessment and summative assessment.

8.3.1. Diagnostic Assessment

Diagnostic assessment is assessment for learning. It assesses what the learners already know and the nature of difficulties that the learners might have, which, if undiagnosed, might limit their engagement in new learning. It also helps to determine students’ strength and learning needs in order to plan and adjust learning and teaching.

8.3.2. Formative assessment

Formative Assessment is assessment for learning. It is administered throughout the process of instructional hours, wherein teachers assess and provide task based guidance and feedback. Formative assessment also includes assessment as learning, where students reflect on, monitor their own progress and set goals for their learning. The information gained also guides teachers’ decisions in enhancing learning and teaching.

8.3.3. Summative assessment

Summative is assessment of learning. It is administered at the end of instructional periods to gauge the level of students’ achievements and performance. The task assigned for the assessment includes set of questions, or the task to demonstrate their mastery and knowledge of the course content. It provides information about the learners’ level of learning and grade learners; and to analyse the effectiveness of teaching.

8.4. Assessment Techniques and Tools

Geography is an inter-disciplinary subject and requires various types of assessment tools to ensure that the performances of learners are assessed at the cognitive and procedural levels. Therefore, the suggested assessment tools in geography include:

- **Anecdotal records**: objective, narrative records of learner’s performances, strengths, needs, progress and negative/positive behaviour.
- **Games**: excellent opportunities for simulations and small and large group assessment.

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• **Self and peer assessment**: assessment by learners for self and others relative to stated criteria and program outcomes.

• **Portfolios**: collections of learner’s work that exhibit their efforts, progress and achievements in one or more areas.

• **Simulations**: presentation of an artificial problem, event or situation or object that duplicates reality.

• **Journals**: personal records of, and responses to, activities, experiences, strengths, interests and needs.

• **Project works**: an extended investigation carried out by learners on a topic agreed by learner and teacher.

• **Assignment**: a learning task undertaken by learners, allowing them to learn a fixed section of the curriculum. Different ways of presenting the results can be used depending on the nature of the task – a report (oral, written and audio-visual).

• **Essay**: an answer to a question in the form of continuous connected prose. The objective of the essay should be to test the ability to discuss, evaluate, analyse, summarise and criticize.

• **My exploration**: explore the physical and natural environment and prepare a record of what learners observe and collect in the form of journal.

• **Geography Olympiad**: geography competency test system to motivate learners’ interest in learning geography and prepare for higher competitions.

• **Field work**: visit to a place outside the classroom to get first-hand experience in which open inquiry techniques and learners’ experimentation can take place.

• **Tests**: finding out the level of knowledge, skills and values learners have acquired.

• **Observation**: observation of geographical features and phenomena to draw inference.

• **Checklist**: is a to-do list that helps to ensure consistency and completeness in carrying out a task.

• **Conference**: exchange of information and ideas on geographical topics.

• **Debate**: presenting ideas to support or argue on a given issue or a problem.

• **Quiz**: questions to assess learners’ knowledge, skills and attitude.
• **Symposium**: presentation and discussion on geographical issues and concerns.
• **Seminar**: presentation and discussion on geographical themes.
• **Survey**: collection of information and data on geographical issues for decision making.
• **Demonstration**: practical exhibition and explanation of how things work or function.
• **Presentation**: sharing of knowledge, skills and findings.
• **Exhibition**: display geographical works.
• **Problem solving activities**: studying and finding solutions to difficult or complex geographical issues.
The school system has to create an enabling environment that facilitates achievement of the objectives with which the subject Geography is being introduced in the country. The environment along with textbooks as one of the tools will only help achieve the outcomes.

The context for the change will need the following:

a) school leadership that understands and believes the importance of preparing the students with knowledge, skills and abilities, provides the time, scope and resources required for giving the required learning experience of problem solving.

b) learning environment built around student in the constructivist approach that complements the textbooks and includes the hardware that is required to practice the knowledge and skills.

c) capacity building of teacher to the unique learning environment where teacher act as facilitator helping the students understand the experiences and give a context for change.

d) assessment and evaluation that are designed to capture the learning outcomes in its various domains of learning and inform the learner and facilitators in real time to take the corrective action.

e) inclusive environment that encourages equity in diversity in its all aspects including culture, thoughts and opinions.

f) partnerships of stakeholders, especially practitioners to enrich the learning experiences where teacher might not have all the knowledge and experiences.

g) student leadership for engagement as active learners in the environmental context.
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Consultation meetings

I: Teachers and students
1. Trashigang Region, Jampeling HSS, Kanglung, 30 teachers and 20 students
2. Samdrup Jongkhar Region, Karmaling HSS, Phuntshothang, 20 teachers and 20 students
3. Tsirang Region, Subway Resort, Tsirang, 28 teachers and 20 students
4. Wangdue Region, Bajothang HSS, Wangdue, 28 teachers and 7 students

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