**CHAPTER ONE**

**Objective of the Chapter: -To give the students clue of what heritage resources are, where, when and by whom heritage tourism start and its current aspects.**

* 1. **MEANING AND NATURE OF HERITAGE TOURISM**

The tourism industry has been quick to label different type of experiences, reflecting the fact that there are different types of tourists, and hence different type of tourism, perhaps because there is marketing justification for doing so. Most researchers accept that heritage is linked to the past that it represents some sort of inheritance to be passed down to current and future generations, both in terms of cultural traditions and physical arte facts. Heritage is what elements of the past that society wishes to keep. This infers that heritage is ***selective***. The historical record is incomplete, and not all heritages are what society values; what is desirable to keep is selection from the past. These may be deliberate or intentional, but society filter heritage through the value system that undoubtedly changes over time and space, and across society. As heritage assumes some aspects of value, that which is personal value is labeled as personal or family heritage, where as those values dictated by nations or communities become ‘our’ heritage. The latter often shaping a collective identity by way of symbols, icons and even mythologies.

Heritage can be seen in regional context: the argue that says heritage must be broadly defined to encompass not only major historic sites and institutions, but the entire landscape of the region with its geographic base: farms and fields pattern, road, harbors, industrial structures, villages and main streets, commercial establishment and of course, the people themselves and their traditions and economic activities can be the heritage of the given region.

Heritage as contemporary uses of the past: the interpretation of the past in history, the surviving relict buildings and arte facts and collective and individual memories are all harnessed or attached together in response to the current needs which include the identification of individuals with social, ethnic and territorial entities and provision of economic resource for co modifications with in heritage industries.

The fact that different views exist about the meaning of heritage, is often because the term is used or applied to different sorts of phenomena.

On the positive side the word is used to describe culture and landscapes that are cared for by the community and passed on the future to serve people’s need for a sense of identity and belonging. These values of care and identity are in sharp contrast to the more negative and pejorative view of the term heritage. In this, sense as used in the ‘heritage industry’, the word has become synonymous with the manipulation or even invention and exploitation of the past for the commercial ends.

**1.2. Heritage and Historical Reality**

People have long used remnant of ancient and more modern past as recreational resource in urban and rural context. Even in ancient days heritage tourism exists. Ancient records to today’s world inhabitants tell of traders, sailors and adventurers travelling to see the great pyramid and the Nile. The ancient explorers were one early form of tourists. Even those who made grand tour of Europe during the Middle age moved between ancient cities of culture to see grand buildings, cathedrals and artistic works. The Grand Tour, popular with the upper class –elite of Europe during 16th and 17th as educational and culturally refining experience, includes visits to such historic cities as Paris, Turin, Milan, Venice, Florence, Rome and Naples. The length of time spent the tour varied from as long as 40 months in the mid 16th C to only four Months in the Mid 19th C. The people who engaged in this travel phenomenon also varied from time to time. The early travelers were English often land lords aristocracy, but by the late 18th C the Grand Tour was popular among lawyers, merchants, physicians and bankers. By the mid 18th C, the tour was popular among the early American Tourists. Today, many cities along the grand tour routes remain popular site of cultural and heritage tourism. Individual heritage sites such as Notre Dame Cathedral and the Eiffel Tower in Paris, or the Tower of London and Shakespeare’s birth place at Stratford-up on Avon in England, provide motivation to visit the country in the first place.

Today, there is Grand Tour but the how travelers taking Grand Tour in modern time are very different from the early travelers.

The table blow shows the comparison between early and modern participants of Grand Tour.

|  |  |  |
| --- | --- | --- |
| **Characteristics** | **Early Tourists** | **Modern Tourists** |
| Length of trip | Month-Several Years | Few days- Few weeks |
| Nature of experiences | In-depth learning | Shallow experiences |
| Place visited | Many and for a long period | Few& for short time |
| Purpose of experience | Education( Development) | Enjoyment (prestige) |
| Level of Knowledge | High informed on culture | Low |
| Market Size | Limited to elite or selected | Large or open to mass |

**1.3 Classification of Heritage Resource**

Heritage can be classified as:

**Tangible immovable resources:** e.g. buildings, rivers, natural areas;

**Tangible movable resources:** e.g. objects in museum, documents in achieve;

**Intangible Heritage**: such as values (beliefs, principles), customs (Something people do that is traditional), ceremonies, lifestyles (types of job, house, activities) and including experiences such as festivals, arts and cultural events.

Heritage may be classified according to type of attraction e.g.

**Natural heritage**: -which is usually associated with protected areas like national parks. Bale National Park, Semien Mountain National Park etc.

**Living culture: -** e.g. fashion, food and customs that are daily undertaken by the society;

**Built heritages** e.g. historic cities (Axum), Cathedrals e.g. St Trinity Cathedral in Addis Ababa) , monument, castles(Gondar);

**Industrial heritage**: – Elements of a region’s that were influential in its growth and development e.g. coal, lumber activities, textile ( Kombolcha, Debre Birhan) gold (Shakisso, Lege Dembi) etc.

**Personal Heritage**: – Aspects of the regions that have value and significance to individuals or group of people like cemeteries and religious sites.

**Dark Heritage**: - e.g. place of atrocity (Hauzen place where hundreds of Tigria people massacred by Derg), symbols of death and pain and elements of the past some would prefer to forget.

**Summery**

**Heritage is all exceptionality of the society which makes them to be at variance from other societies living in other parts of the region, the country and other continent as a whole, which are kept from generation to generation based on their values and significances towards expressing their identity or whom the society are.**

**Heritage is not only the culture, history, values, norm and traditions of the society but also the natural features of the area in which the society live.**

**Heritage tourism is the activity of antique people despite the fact that, its intention was not similar with that of the modern centuries in many dimensions.**

**Exercise:** - **Try to study what are heritage resources surrounding your locality and categorize them; evaluate them based on their values and significances towards the society or the owner of the resource.**

**CHAPTER TWO**

**2. VALUE AND SIGNIFICANCE OF HERITAGE TOURISM**

**Objectives: - To assist the students to understand the importance of valued heritage resources surrounding their society and make them ready to take care of the heritages so as to pass them to the next generation in sustainable manner and to increase the contribution of all resources to socio-economic, scientific and political dimension of the society, the region and the country as whole.**

**2.1 Economic Significance**

Heritage is preserved because of the value it offers in terms of expenditures of visitors to sites. Tourism is big business, illustrated by private sector sponsorship as a means to generate income for the site s, but sponsorship can also be used to target an audience that is socially responsible and has green tendencies. The economic significance of heritage may also be demonstrated in the development the user-pays approaches to entry of many heritage sites as heritage is increasingly facing a situation of having to pay its own way.

Example: Axum is one of heritage cities of Ethiopia in which it is known by majority of tourists visiting the country. From those visitors, there is economic contribution to the society of the town when they engaged in different small scale industries like souvenir shop; Hotels and other tourism industries found in the town like Guides Association are benefited from the tourists visiting the heritage. The sum of all heritage including the town of Axum have contribution to the overall Region’s and Country’s economic development. This is simply the economic significance of heritage resources.

**2.2 Social Significance**

This refers to the personal and collective identity that people and society have with ‘their’ heritage. A social conscience will often be the driving impetus to consider preservation in the first instance. Heritage can also help determine a sense of place; creating a situation where people can use heritage to gain attachment to an area, and maintain a sense of place that remains virtually unchanged. As far as heritage is the identity of the given society, it has great significance in expressing what the society are that can lead them to be proud of their heritage, to feel the sense of ownership and responsibilities for any damages that may lead the heritage to lose its originality.

*Example: Gada system is heritage of Oromo which can easily express the traditional ruling system of the people in which power is transferred peace fully at end of each eight years which is assumed to be the base or origin of democracy even though the world knows as it is from Greek.*

**2.3 Political Significance**

The meaning and symbolism of heritage may serve as political ends. Heritage by its definition is political, in terms of reinforcing what is conserved, how heritage is told, and placing the wishes of private owners of heritage in to conflict with government or public interests.

***Example: Battle of Adwa is heritage and can be used for political purpose in initiating or encouraging the youngsters to struggle against poverty that is the current enemy of the country.***

**2.4 Scientific Significance**

Many National Parks and protected areas may contain gene pools and ecosystem that will be useful to medicine and other scientific investigations. They also provide habitats for rare and endemic or endangered species.

Example; Bale and Semien Mountain National Park are currently serving as home of different endangered species of birds and animals like Chilada Baboon, Walia Ibex, Red fox and others. The park can also help by being research center for those who need different species of plants and animals for further studies.

Generally, as far as today’s world is based on yesterday, heritage resources either natural or historical have great significance for the modern scientific development by providing information of great value in many areas of research. This is commonly practiced in natural parks and archeological sites because they are representatives of certain natural and cultural environments.

**Summery**

**Heritage resources are the identity of the given society. As far as they have the significance value for them, there should be the concerned trained body assisting the society in conserving, developing, promoting and marketing the heritages to the world tourism market in well manner so as to maximize the contribution of all sources in socio-economic, cultural, environmental, scientific and political activity of the country.**

**Exercise:**

**Evaluate the significance of all heritage resources in your area and give the constructive suggestions to increase their contributions toward all dimensions based on the above discussed magnitudes.**

**CHAPTER THREE**

**3. CONSERVING HERITAGE TOURISM RESOURCES.**

**Objectives;**

**3.1 Conservation Types and perspective/ View points**

Time has shaped the heritage resources that exist today. Sadly, many have been lost, ruined or substantially changed from their original condition as the interest of preservation, conservation and, more recently, heritage planning have fought against the interest of modernization, economic development and growth , and an absence of interest in some quarters about the past. With the decay of heritage resources over time, there are two courses of action that can be taken in response to this acceptance or prevention. The focus here is with the second response to preventing the decay of heritage resources, where a range of view points on conserving heritages, and the location it is situated within, can be taken. Invariably, the goal for each site generally shape the strategies embraced/hold by management that are in turn heavily influenced by visitor expectations. Depending on these goals, heritage managers decide which of several approaches to conservation they will adopt: Preservation, Restoration, Renovation/repair/ and Regeneration/ Urban renewal.

* + 1. **PRESERVATION**

Preservation refers to a situation where in the choice is made to maintain the site in its existing state. A great deal of effort and expenditure are involved in this work to maintain the property and impede or hold back the deterioration. Obviously this is not a hand-off policy, for much work is needed to retain the present situation. Leaving site in its present situation is appropriate ‘where the cultural significance would be diminished by higher degree of intervention, where the present state of the site is its self significant, where there is insufficient information or resource to restore or reconstruct the site or place, where there is no sufficient well restored sample is already exist.

Generally, preservation is the best option for conservation if there is no enough financial, material, technological, skilled human and informational resources are available just to help us in keeping away the heritage sites from damages that leads it to loose its original significance.

* + 1. **RESTORATION**

Restoration is sometimes called reconstruction although there are subtle or slight differences. It is the act of returning a property to some previous condition. Restoration refers to two activities:

1. Putting displaced peace of building or site back together
2. Removing peace and amendment that have been added through a time.

In purely theoretical terms, restoration means that not even new materials can be used in the process like nails and staple or affix. When those new materials are used to restore a structure, the process becomes one of reconstruction rather than pure restoration. So, it is impossible, for nothing can be restored to be exactly what it was. Restoration can induce change and may indeed be carried out for that purpose, the achievement of which may it self produce further, perhaps unintended results. Restoration is only appropriate if there is sufficient evidence of an earlier state. As a result, a great deal of research or studies may be required to determine exactly what the property was like in the past. Such effort are arduous or difficult, time consuming and expensive.

**3.1.3 RENOVATION**

Renovation is also known as adaptation, entails making changes to a site while still maintaining a portion of its historical character. Attaching an additional wing to a historical building for administrative purpose or for living space for interpreters, while maintaining historic nature of the rest of the building, would be a case of renovation. One of the most common practices of renovation is to keep buildings original façade or frontage/outlook while modifying the interior. This is common where there is a desire to give an illusion or false impression of historic integrity.

**3.1.4 REGENERATION/URBAN RENEWAL**

When decisions are made not to demolish obsolete buildings depending on what conservation controls are place, it is not at all uncommon for all three of these approaches to conservation, as discussed previously, to be utilized in urban renewal and regeneration projects. With the rapid growth of technological changes and the resultant diminishing role of heavy industry in urban areas in the developed world, cities have recently become a center of service industries and consumption rather than a center of heavy production. This has resulted in cities throughout the world changing to accommodate post industrial, information-based economies. Part of these movement attempts to deal with obsolescence in effort to extend the useful lives of building and historic urban centers. Such endeavors/activities are known as urban renewal.

As a means of revitalization/ recovery historic urban quarters, many cities have attempted to attract new activities. Among the most common are tourism and cultural activities. Such strategies have encouraged the exploitation of the areas of historic legacy for tourism development and combated obsolescence by bringing in new uses and enhancing the urban environment. This leads to increased local confidence and the likelihood of various forms of investment. As part of tourism based strategies, historic buildings are used for tourism functions. This has the potential to benefit historic quarters positively in the following ways:

* Historic building are restored
* It provides the living function for a historic building that might otherwise the site empty.
* It decrease the number of empty properties ,providing a more desirable urban environment, which may reduce crime and violence associated with the empty city center and create safer and more desirable place to live.
* It might avoid the environmental impacts of the same function being located in the newly constructed buildings
* It has the potential to create environments that will help historic towns retain the quality that make them attractive

Despite these benefits, urban renewal is not necessarily an easy or problem free process. Some of challenges needs to be considered are discussed as following.

**3.1.4.1 Challenges to urban regenerations**

* **Clashes of policies on new development and conservation**:

Thisusually results from conflicting interest and lack of coordinated efforts between government agencies that are charged with different responsibilities.

In the country, like Ethiopia there are different government bodies jointly engaging in different infrastructural development like Ethiopian Road Authority (ERA), Telecommunication Corporation (ETC), Electric Power Corporation (EEPCO), and Water and Sewage Authority. During decisions are made for regeneration, there can be policy clash or lack of co-ordination between these bodies that can hinder the effectiveness of our decision.

* **Modernization versus maintaining traditional forms**

In developing world context there are high aspiration for modernization than for maintaining traditional urban forms and architectural design in western developed world the opposite is generally true. E.g. we are eager to see complex modern buildings in our town like Japan or China that we watch in TV than traditional significant historic buildings. The truth is that tourists never admire our modernization but our cultural and historical heritages that are our identity through which they can easily understand whom we are and whom our ancestors were.

* **Difficulty in Maintaining high quality environments as tourists arrivals increase:**

There is a problem of maintaining a sustainable and high quality urban environment as tourist arrival increase which leads to pollution of soil, noise, visual, air and also erode the area’s socio-cultural and environmental integrity when the sites are over congested or crowded. This needs high management skill to minimize the negative impact of these issues on the heritage sites.

* **Difficulty in Balancing the needs of tourist and the local community:**

It is difficult to balance the need of tourist culture and those of the local culture in a way that does not offend or alienate/separate residents but which caters to the needs of the tourist. In these cases we should give high attention in creating harmonized relation ship between the local communities and tourists.

* **Difficulty in measuring the success of renewal:**

It is difficult to measure success in urban revitalization because revitalization is the process of bringing the areas back into active use which is dynamic/gradual/on going process which may take long range of time in which it is difficult to see the out come, specially its economic benefit in short term because strategic promotion and marketing campaign may be required.

* **In planning, historic centers are often viewed in isolation from the rest of the city:**

It is critical for planners to understand that historic areas are not separate cities but, instead function as only one part of urban agglomeration. Thus, while it is still uncommon in many places, the tourist -historic city must be considered as part of the city as whole, for there is usually a symbiotic or close relation ship between historic core and other urban areas.

Tourism is often left out or ignored in urban planning strategies, which is an unfortunate over site on the part of city planner, for very few cities in the world today exist without some form of tourism where tourism is simply considered in terms of traffic and parking. But the reality that there should be consideration in which tourist facilities like hotel, tourist information center, travel agencies and other industries should be established at the right accessible place in the cities.

Generally, urban renewal must include other form of revitalization like:

* **Physical Revitalization: -** Indicates the traditional view of urban renewal, which involves keeping building in a good condition, the street clean and rehabilitating areas to create an environment of cleanliness and comfort.
* **Economic Revitalization:** Implies that properties development is insufficient in creating a livable urban environment. Instead the economic infrastructure must be considered, and economic growth must be stimulated by bringing in additional service, diversifying the existing economic base and utilization of the existing building.

Example: Additional service facilities like souvenirs, internet service, food and beverage, tourist information center etc. can be developed in historic-tourist towns that can contribute in increasing the income generated from the heritage site, which can help for reinvestment on conservation and development of the site as the income earned increase in long term.

* **Social revitalization**: entails creating a usable location where resident and tourist alike can enjoy walking, sightseeing, shopping and spending time with others. Historic quarters should be lively place that exude/show a comfortable ambiance/atmosphere and are attractive to visit. It also means that crime rate will be low and the revitalized structural elements are usable as space for leaving and working.
* **Waterfront Development:**

Many of world’s largest and most interesting tourist cities are located on waterfront because this is where water based transportation hubs were developed throughout the centuries and industrial complex assembled. The most common features of waterfront that are developed for tourism include park land and walk ways, garden and fountains, museum, shopping facilities, restaurants and snack bar, historic building and elements of the industrial past such as machinery used for loading and constructing ship.

*Exercise: Assume that you are manager of either Kurruftu Resort in Bishoftu(Debre Zeit) or Mango Resort on Lake Tana, Bahir Dar. What tourism facilities will you recommend to be developed based on the above case?*

**3.2 Conservation Process**

In common with other processes, such as regional tourism planning, the conservation process is not the same in every situation. The general conservation process, which can be taken as a template/model to be adapted to suit individual circumstances are discussed as follow.

1. Identification of the heritage place/object: involves locating, identifying and documenting the feature(s) being considered.
2. Research and Inventory: Entails identifying and classifying the various features of a heritage sites or area to be conserved. This generally involves significant historical, ecological research to discover the cultural value and extent of the site. Under this process/step potential management constraint and opportunities are also identified that can help as basement for the next step.
3. Designation and Protection: occur as a site is deemed/believed worthy/valuable of conservation with some degree of legal protection. This may entail listing the property with heritage sponsoring body, which may assist eventually in providing protection and securing funding.

Example: Assume that UNESCO donated 100 million birr help to restore heritage in Axum town. When Federal Ministry of Culture and Tourism work conservation activities in cooperation with Tigray regional state of government with its structure at all level and with concerning bodies. In this case there can be check and balance between those bodies on what activities are undertaken.

*What are the other benefits of this step?*

1. Restoration and Development: Emphasize on the more physical task, such as restoration, renovation, developing the infrastructures and basic recreational facilities for visitors coming to heritage destinations. During these all activities are undertaken, great care should be taken not to bring an other deterioration or collapse on the site.
2. Management and Interpretation: - Is the final phase which needs long term commitment to continuous monitoring and evaluation. This is the operational phase that must consider visitation rate and the need for, and goals of interpretation.

*Exercise: Assume that tourists Visiting Axum Museum have no enough information what to do while visiting the destination. As a result they touch the artifacts in museum leading it to damage the objects. Some material lost and broken while touching. The Management costs 2000 birr to maintain the broken artifacts. You are Manager of this Museum. What will you recommend, and take action to avoid this problem not to be happened again to avoid the heritage from danger?*

**3.3 Conservation Bodies**

Most countries of the world have established bodies that are responsible for the listing and protection of heritage properties. These ranges from being full government agencies which is common in most of developing countries like Ethiopia in which heritages are listed and protected at national, regional, zone, Municipality and district level.

E.g. FDRE Ministry of Culture and Tourism, Tigray Bureau of Culture and Tourism, Central Zone culture and Tourism Office etc are government structures dealing with heritages conservation and development found in their administrative zone.

Quasi-governmental agencies that resemble non-profit organizations and associations are responsible for heritage conservation which is mostly common in developed countries like America, UK and Canada.

E.g. America Association of Museum, America Association for State and Local History, Canadian Museums Association, United Kingdom Institute for Conservation etc.

**3.4. Challenges to Heritage Conservation**

Heritage conservation faces many challenges from economic, political, environmental and socio-cultural perspectives. The following sub sections present broad challenges to heritage conservation.

1. **Lack of Fund:**

Maintaining historic sites in whatever form is an expensive task, and a lack of adequate financial resources for heritage conservation is one of the most profound difficulties facing heritage managers in most of the world forcing them to search continuously for new source of revenue. In much of the developing world, this situation results in inadequate restoration materials and equipments, insufficient number of skilled staff, and an inability to monitor, manage and mend/monitor/ historic properties.

As a result of inadequate funding and luck of effective training, much of the maintenance work done to heritage properties in many parts of the world is purely cosmetic/makeup/, and heritage resources commonly fall in to various states of disrepair or are repaired poorly by inexperienced and untrained personnel.

Another problem is that scarce public funding is often utilized for other purpose that have short-term benefits, such as mass tourism promotion, rather than for conservation, which might better insure the long-term viability of tourism. Additionally, in most developing countries, the money earned from donation and gate receipt is seldom put back in to maintaining the site.

1. **Modernization**

Economic disparity/gap and the challenges of basic survival in many developing countries lead to the situations where development is forcing countries to demolish many of their traditional houses to create space for modernization like, establishment of modernized Hotels, Guest House, Restaurants, Souvenir shop, Tour and Travel Agencies etc.

Sometimes the cost of maintaining historic sites is so high that governments see heritage buildings as an affordable luxury, so buildings are turn down in favor of new construction that will generate more economic benefits. Very often, community members, developers and government leaders view the protection of ancient monuments and historic buildings as an obstruction to modern development.

While recent history shows that people and societies in western, developed world have an increasing desire to conserve the past, while resident of developing countries commonly associate preservation with backwardness which often results in a luck of desire to conserve. This is great concern when traditional architectures, decorations, and styles are abandoned or replaced by large concrete buildings, all in the name of modernization. These directly or indirectly affect adversely the significance and value of heritage resources in all sector of economy, socio-cultural, political and scientific dimensions.

1. **Environmental Pressure**

Aside from modernization, inadequate funding and training, five primary pressures exist within the realm of physical environment.

* 1. **Flow of Visitors**: - Some locations are visited so intensely during high season that heritage managers have had to resort to ways limiting access as a means of preventing wear and tear/destroy/. Large number of visitors crowded in to relatively small space can have significant implication for the conservation of both built and natural heritage.
  2. **Resident Use of Heritage Features:** These mostly happened when resident of developing countries have established their home and villages in inside or adjacent historic sites or protected natural heritages and engaged in deterioration of the sites by removing artifacts and selling to tourists or illegal hunting of endemic animals in Parks, deforestation of indigenous trees etc. creates difficulties when the management body want to conserve the sites as relocating the missing part of the heritage site is not an easy task.
  3. **Mother Nature**: - These challenges happened when the government ignore/pay no attention and neglect/pass over specially built heritage sites and its part is over grown by forest in which the situation creates a serious dilemma for conservationist to remove the trees or leaving as it is can leads to collapse or damage of the site.
  4. **Pollution:** - Which is most cases is not directly caused by tourism, but rather by heavy industry, high volume of traffic, and in adequate waste disposal system near and surrounding the heritage sites can have an adverse effect on the monuments and others. E.g. Factories near Taj Mahal of India release chemicals and other pollutant in to the air have begun to deteriorate/gate worse the monuments.
  5. **Looting or Theft:** - Is the major problem at many archaeological sites, largely as a result of international demand for authentic antiquities. Much of what is stolen from historic locations is sold illegally on the international collectors’ market, and the perpetrators are usually local people attempting to earn money. This can be created by weak security and corrupt government. Enacting the law not only on heritage source country but also taking action on buying country can avoid or minimize the problem.

1. **Public perception**

In many third world countries, the idea of heritage conservation is relatively new, and comparatively few people appreciate the need for it. It is often the case that appreciation for conservation increases only with the promise of economic benefits. This is because people’s primary concern is survival. It is difficult to rouse enthusiasm for heritage conservation in societies where the poorest segment of the population is hungry, inadequately clothed and sheltered, and health care and education are largely in accessible to the masses.

In most of the developed world, people have a tendency to grow more interested in their personal heritage as they age. In developing regions, however, the elderly have little interest in preserving the past. Instead, it is the younger generations who are interested in conserving their heritage. Preservation in this context is often viewed as stagnation or worse, the opposite of the progress, and with modernization comes the attitude that traditional with unfashionable. As a result, villagers pride themselves on progress, not preservation, because progress in nearly always measured in economic terms. These results in significant difference in the meaning of heritage the value ascribed to conservation, and techniques associated with heritage tourism management between developed and developing world.

Nonetheless, there is areal need to educate local people about the value of conserving historic structures and environments.

*Exercise: In our case of Ethiopia there is perception of youngster to follow the culture of western is the sign of modernity while forgetting or ignoring their culture and tradition. This will lead to identity crisis in long term. You are the one responsible to change this attitude. How will you create the awareness?*

1. **Colonial Legacy**

Some metropolitan powers were slow to enact laws and practices related to protecting the built and natural environment in their colonies. As a result, until quit recently, heritage conservation, including National Parks and historic sites, was basically non-existent in the developing countries. Most conservation legislations in third world countries followed independence. E.g. Ghana in 1957, Togo in 1989 etc.

The colonial legacy might also have contributed to an under appreciation of heritage among residents administration of developing countries. Very often the rule of foreign powers delayed, and sometimes prohibited, the rise of indigenous historical consciousness and feeling of national identity. It is common for colonial powers to use extreme measures to control independent thinking and to muffle/quiet the emotion of national pride on the part of native resident. This has had long- term implications, as country like Indonesia, India and Rwanda are today facing great difficulties in trying to create spirit of nationalism and common heritage.

*Exercise: Ethiopia is one of less colonized countries of Africa and other continent. Compare and contrast the positive and negative impact of colonial powers on neighboring African countries (Kenya, Sudan, Eritrea, Djibouti and Somalia) with Ethiopia in terms of all types of heritage conservation and nationalism based on the information you obtain from the course.*

**Summary:**

**CHAPTER 4**

**BIODIVERSITY CONSERVATION**

1. **Meaning of Biodiversity**

Biodiversity is both natural resources of plants and animals**.**

1. **Level of Biodiversity**

There are three main levels of biodiversity discussed as follow.

* 1. **Genetic Diversity**

Genetic diversity is a building block of life which is responsible for the variability among individuals within any species, based on variations in genes

Genetic variability increases the chance that a species will adapt to changing environmental conditions or impacts, since some individuals will be able to handle the change better than others. The more individuals there are, the greater the chance of genetic variation. Species with a small population of individuals have limited variability and therefore have limited ability to respond to change. This is why populations of “species at risk” can be so difficult to recover. Once you get below a certain number of individuals, it is virtually impossible based on reproductive potential. Genetic variation is the cornerstone of all biodiversity.

**2.2 Population diversity.** While we often hear about species, what we generally see and interact with are populations - distinct groups of members of a particular species that have a limited exchange of genetic material among the groups. They can reproduce together but they don't often do so.

As a result, the genetic differences between populations tend to increase, even though the variability within any one population may be less than across the species as a whole. Also, because of the isolation, local impacts on one population may not be felt by another. A conservative first estimate indicates that about 220 populations per species puts the total number of populations world-wide into at least the low billions (Hughes, et. al, 1997).

Extreme population variability can be a double-edged sword. For example, lake trout in Ontario's Great Lakes were once very diverse. There were at least 15 to 20 different forms of lake trout recognized by commercial fishermen before the sea lamprey appeared. The lake trout differed in where they were found, when they spawned, and in their appearance. They were given such names as blacks, red fins, yellow fins, paper bellies, fats, hampers and sand trout. Undoubtedly, the number of genetically distinct populations was much higher.

However, even all this diversity could not withstand over-harvest, sea lamprey predation and loss of habitat, particularly inshore rubble shoals required for spawning. The catches of lake trout plunged to 10% of the original yield in Lake Superior and down to almost nothing in the other Great Lakes. When conditions improved and it came time to try and reintroduce lake trout, the results were disappointing in all but Lake Superior where enough wild populations survived to make a decent comeback.

All those discrete lake trout stocks had evolved for a reason: reproductive success of lake trout in each area. The fish were in effect "tailor-made" for the area. Now many of those stocks have disappeared forever. It will take a lot of time and effort to find stocks that might be reasonable replacements.

**2.3 Species diversity:**  Are all of the different kinds of living things found in a certain habitat or ecosystem. World-wide more than 1.4 million species have been identified (Wilson, 1992) but estimates of the actual number vary from 5 million up to 100 million. Fourteen million appears to be an estimate that is commonly quoted in the literature (Global Biodiversity Assessment, 2001 Summary).

In Ontario, over 30,000 species have been identified including:

* Over 20,000 macro-invertebrates (insects, spiders, etc.)
* more than 4,800 plants
* more than 150 fish
* more than 1000 fungi
* 53 reptiles and amphibians
* 479 birds
* 81 mammals

Globally the estimated numbers of species are:

* 35,000 micro-organisms
* 70,000 fungi
* 273,000 plants
* 875,000 invertebrates (insects, spiders, etc.)
* 19,000 fish
* 10,500 reptiles and amphibians
* 9,000 birds
* 4,000 mammals
* 105,000 other animals

Species diversity, however, is more than just the number of species in a given area, habitat or ecosystem. Some species' importance can be out of line with their numbers, for example *keystone species*. There can also be great differences in species composition over time. Species diversity can also be greatly affected by physical conditions in the ecosystems where they live, such as differences in temperature, light, structure and chemical composition.

 The point is, biodiversity cannot be reduced to a single number. There are dimensions to diversity, many of them.

**2.4 Ecosystem diversity:** is the variety of ecosystems within a landscape or region including wetlands, prairies or savannahs, lakes and rivers, forests and agricultural landscapes.  The basic principles of biodiversity apply here as well but the scope is much larger.  It is at this level that the interactions and links among species and the consequences of those links are evident.  Less diverse ecosystems, such as coldwater streams or small lake trout lakes, contribute to the functioning and productivity of larger areas such as bioregions.

1. **Importance of Biodiversity**

At the ecosystem level, biodiversity provides the conditions and drives the processes that sustain the global economy and our very survival as species. The benefits and service provided by ecosystem include:

* 1. **Generation of soil and maintenance of soil quality**

In preventing soil from being washed a way, the activities of microbial and animal species including bacteria, algae, fungi, mites, millipedes and worms condition soils, breakdown organic matter and release essential nutrients to plants. These processes play a key role in recycling of such crucial elements as nitrogen, carbon and phosphorous between the living and non leaving part of biosphere.

* 1. **Maintenance of air quality**

Plant species purify the air and regulate the composition of the atmosphere, recycling vital oxygen and filtering harmful particles resulting from industrial activities.

*Exercise: Aqaqi is the industrial zone of Addis Ababa city. There are different factories in the area. To minimize the pollution what will you recommend the city administration?*

* 1. **Maintenance of water quality**

A wetland ecosystem (swamps, marshes etc.) absorb and recycle essential nutrients, treat sewage and cleans wastes. In preventing soils from being washed away, forest also prevents the harmful siltation of rivers and reservoirs that may arise from erosion and landslides.

* 1. **Pest control**

Around 99% of potential crop pests are controlled by a variety of other organism including insects, bards and fungi. These natural pesticides are in many ways superior to their artificial equivalents, since pests can often develop resistance to chemical control.

* 1. **Detoxification and decomposition of Wastes**

Some 130 metric tons of organic waste is processed every year by earth’s decomposing organism. Many industrial wastes, including detergents, oil, acids and paper are also detoxified and decomposed by the activities of living things. In soils, the end product of these processes a range of simple inorganic chemicals is returned to plants as nutrient. Higher (vascular) plants can themselves serve to remove harmful substances from ground water.

* 1. **Pollination and crop production**

Many flowering plants relay on the activities of various animal species like bees, butterfly, bats, birds etc. to help them reproduce through the transportation of pollen. More than one -third of the humanity’s food crops depends these processes of natural pollination. Many animal species have evolved to perform an additional function in plant reproduction through the dispersal of seeds.

* 1. **Climate stabilization**

Plant tissues and other organic material within lands and ocean ecosystem act as repositories of carbon, helping to slow the buildup of atmospheric carbon dioxide and thus contributing to climate stabilization. Ecosystem also exerts direct influence on regional and local weather patterns. Moisture released in to the atmosphere by rainforest causes regular rainstorms, limiting water loss from the region and helping to control the surface temperature. In cold climates, meanwhile, forest act as insulators and as windbreakers, helping to mitigate the impact freezing temperature.

* 1. **Prevention and mitigation of natural disaster**

Forest and grasslands protect landscapes against erosion, nutrient loss and landslides through the binding action of roots. Ecosystem bordering regular flooding rivers (flood plain forest and wetlands) help to absorb excess water and thus reduce the damage caused by the floods. Certain coastal ecosystems (salt marsh, mangrove forests. etc.) prevent the erosion of coastlines.

* 1. **Provision of food security**

Biodiversity provides the vast majority of our food stuffs. For example, the productivity of many of the developed world’s agricultural crop is maintained through the regular assimilation of new genes from wild relatives of these crops. These wild genes offer resistance to the pests and diseases that pose an ever-evolving threat to the harvest.

* 1. **Provision of Health care**

It is estimated that 80% of people in developing world relay on traditional medicines derived mainly from plants. In Southeast Asia, e.g. traditional healers use some 6,500 different plant species to treat malaria, stomach sore/pain, syphilis, and other diseases. Biodiversity is also critical to the formal health sector of developed world. A recent survey shows that of the top of 150 prescription drugs used in USA, 118 are based on natural source. Of these 74% are derived from plants.

* 1. **Income generation**

Needless to say, the above services are all essential to the functioning of global economy. Yet biodiversity also has great importance as a direct source of income and economic development. One example is bio-prospecting (the search for previous unknown biotic products of specific utility, such as natural pesticides, antifungal toxin, and oil eating enzymes). Such discoveries join an impressive list of miscellaneous goods provided by biodiversity, including many of our most important building materials, fiber, fuels, waxes, resins, aromatics, dyes and gums.

In its wholly untapped state, biodiversity does great service to economies through ecotourism. People taking nature related holiday trip contribute to the national economy of the countries visited. For example Florida’s Coral reef earns around $1.6 billion per year through tourism alone.

*Exercise: Ethiopia has large number of natural attractions that have significant value not only for her but also for the continent but not exploited yet. You are one of professionals the country has who is expected to maximize the economic contribution of those natural heritages through sustainable development of ecotourism. What will you recommend to conserve, develop, promote and Market these sites to the world tourism Market and increase contribution of tourism to the country’s GDP which not more than 1% currently?*

* 1. **Spiritual and cultural value**

It is not mystery why people are prepared to spend so much to get close to nature. Human beings instinctively /unconsciously derive/obtain aesthetic/visual and spiritual satisfaction from biodiversity. Recent studies have begun to confirm what has always been known: Our emotional well being is enhanced by the proximity of natural beauty. The umbilical bond between humanity and biodiversity is reflected in the art, religious, and traditions of diverse human culture.

*Example: Irrecha celebrated by Oromo People one week after Meskel at Bishoftu Hora Harsade Lake, is just shows the tradition of the people through which they Worship the God who Create the Lakes and Mountains. They perceive that natures are the mighty work of God. So it is why they select the Lakes, Rivers, Mountains and huge trees to go near and praise their God.*

*Exercise: The above religious event is can be one of tourism activities. If you are tourism expert of this area, how will you manage the event and keep the sustainability of the site to minimize the adverse environmental impacts resulted from thousands of people going at a time to the Lake?*

1. **Challenges for Biodiversity Conservation**

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**Vegetation Removal and Clearance** – Whilst/even as large-scale [vegetation clearance](http://www.environment.sa.gov.au/biodiversity/adelaide_bcp/glossary.html#veg_clear) has been halted/stopped, continued minor clearance is having a significant cumulative effect on biodiversity conservation.

**Habitat patch/plot of land/** -[Fragmentation](http://www.environment.sa.gov.au/biodiversity/adelaide_bcp/glossary.html#fragmtn) of vegetation into small patches effectively isolate populations of plants and animals and increase their exposure to other threats. Improving connectivity between patches of habitat will be an important challenge in addressing fragmentation and the impact of climate change.

**Edge Effects** - Small patches/piece of native vegetation have a large perimeter to area ratio where 'edge effects' are likely to speed up degradation. Edge effects include dumping of garden waste, access by domestic pets, trampling/walking over from stock and human access, weed/wild plants invasion, dust, pollution, herbicide and pesticide spray drift and invasion from more tolerant native species such as Noisy Miners.

**Weeds** - Many weeds impact on biodiversity as they invade and spread rapidly within native vegetation. Environmental weeds can out-compete and suppress the growth of native plants, change soil chemistry and alter habitat for native fauna.

**Inappropriate Grazing** - grazing and trampling/stepping on/ in native vegetation can kill plants, reduce growth, compact soils and increase soil erosion. Grazing impacts can be caused by introduced and native animals.

**Introduced and Feral/untamed/ Animal**s - Many introduced animals compete with native species for food and shelter, spread weed seeds, prey/victim/ on native animals, alter the nutrient balance of soils and transmit disease. Some have become feral/undomesticated/ such as cats, rabbits and foxes.

**Native Species in Conflict** - While many native animals have declined in number, a few have benefited from changes to the landscape. Some are more abundant or widespread than they used to be. Many have adapted to urban habitats where they can be in conflict with humans. Native species such as corellas, noisy miners, koalas and kangaroos can cause unwanted impacts on agricultural productivity and the environment. However these species still form an important part of the region's biodiversity.

**Altered Fire Regimes** - Whilst fire is a natural part of the landscape, changes to factors such as fire frequency, season and intensity can change habitat suitability for fauna and negatively affect regeneration and survival of flora species.

**Climate Change** - Over the next 25 years the Region is expected to experience a drying and warming trend. These changes are likely to exacerbate other existing threats. The biodiversity of the Adelaide Region is particularly vulnerable to climate change as it is essentially an island of fragmented vegetation surrounded by ocean and arid land.