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PSG PROGRAMME (NCQF LEVEL 5)
MODULE 17

HISTORICAL HUMAN HABITATION & CONSERVATION MANAGEMENT.

OBJECTIVES:

- **On completion of this module you will:**
  - Have a basic knowledge of the early human inhabitants of Southern Africa.
  - Be able to explain the three Stone age periods that took place in Southern Africa and some of the more interesting Stone age sites and their significance
  - Be able to explain the characteristics of the Iron Age sites in Southern Africa and their significance.
  - Have a basic understanding of the distribution of traditional Southern African cultures.
  - Know the difference between conservation management and habitat management.
  - Understand their goals.

SOUTHERN AFRICAN ARCHAELOGY (17.1.1)

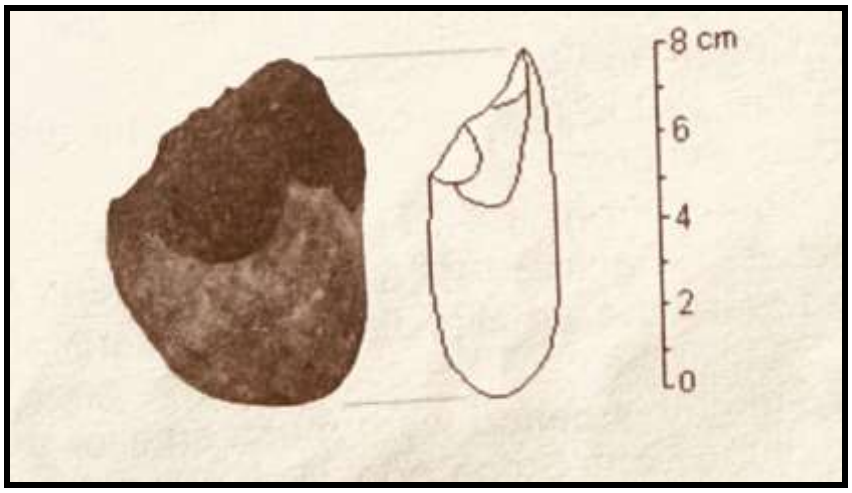
- In Southern Africa, our history can be traced from the very beginnings of people who lived over two million years ago; though Stone Age hunters and gatherers, culminating in the San hunter-gatherers (Bushmen), Khoikhoi hunter-gatherer-herders (Hottentots) and Iron Age Bantu-speaking farmers and herders (black people) who have inhabited the subcontinent for millennia.
- We can also trace the first European explorers to visit Southern Africa, their colonization of the country and its effects on the people who were already there. How do we find out what we think we know about past people? Past people left the remains of their food and other discarded items in 'rubbish dumps' near where they lived. These include waste from making tools and equipment, food and fires for cooking and warmth. They were probably also forgetful, lost tools, equipment and ornaments or simply discarded them if they were worn out or not required at the next place they chose to move to.
- These provide the pieces of the puzzle that archaeologists use to fit together a picture of how they think people lived in the past. Archaeological puzzles always have missing pieces; however, because many of the materials used disintegrate and disappear over time or like some social and cultural activities, leave little or no tangible or physical evidence. This means that we cannot construct a complete picture of peoples` activities and social systems. What we have to do is to use all the clues we can find to help us to understand the meaning of what is preserved in order to build up the best picture we can. Sometimes snippets of information from a number of old living areas (sites) can be combined to give a more detailed picture.
- The main way archaeologists gather information on past people is by carefully excavating and recording the cultural remains still preserved in old processing or camp sites. They also keep notes, drawings and photographs to record the context in which they find objects and collect samples of soil, e.g. extracting pollen that when identified will give clues to the vegetation that existed at the time. This enables us to place the people into their natural setting and to better understand how they lived. Information on past environmental contexts can also be obtained by studying the left over bones of mice, rats and shrews caught by owls that used caves when people were absent. To understand the relics from archaeological excavations, information is tapped from a wide range of other disciplines, such as anthropology, zoology, botany, geology, chemistry and physics.

BRIEF EARLY HISTORY OF HUMANS IN SOUTHERN AFRICA (17.1.2)

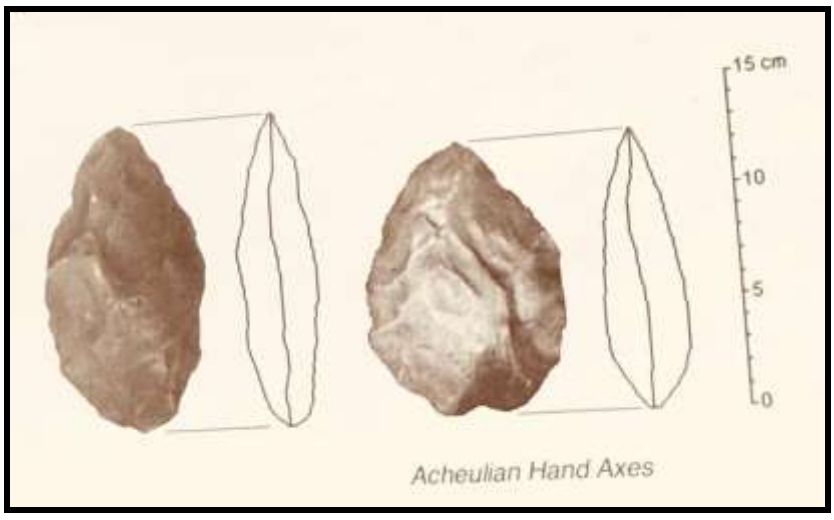
❖ The way of describing the early story of humans in Southern Africa is in terms of making a division between the **Stone Age** and the **Iron Age**. The Stone Age can further be divided in Early, Middle and Late phases. There are no absolute clear divides between these phases, however this approach is the most convenient way of looking at human development.

- **The Early Stone Age:**
  - The Early Stone Age dates between 2.6 million and 200 000 years ago.

- The stone artefacts used by these early hominids (the Hominidae, whose members are known as the Great apes or hominids) can be divided into the Oldewan in the earlier period and Acheulian towards the end of Early Stone Age.
- The **Oldewan period** – (2.6 – 1.4 million years ago) shows evidence of primitive tools consisting mainly of pebble cores with a few flakes removed to form very simple choppers. These tools are associated with Homo habilis. (See picture below):



- The **Acheulian period –** (1.5 million – 200 000 years ago) shows evidence of mainly hand axes and cleavers. These Acheulian tools have been found in sites associated with Homo erectus and early (archaic) Homo sapiens. (See picture below):



- Early humans were evolving both in their physical form, gaining greater dexterity and mental ability, and in their cultural adaptations to the world. In recognition of the physical changes that were taking place, the fossil bones are divided into different genera and species.
- Simply modified stones, hand axes, scraping tools, and other bifacial artefacts were used for a wide variety of purposes, including butchering animals, scraping hides and digging for plant foods.

- Most Early Stone Age Archaeological sites in Southern Africa are the remains of open camps, often by the sides of rivers and lakes; although people also lived in rock shelters, such as Montagu cave in the cape and along the Paleo-makgadikgadi basin in Botswana.
- By about 500 000 years ago, some people were sufficiently modern in appearance to be considere3d an archaic form of Homo sapiens; important specimens belonging to this physical type have been found at Hopefield in the Western Cape and at the Cave of Hearths in Mpumalanga.

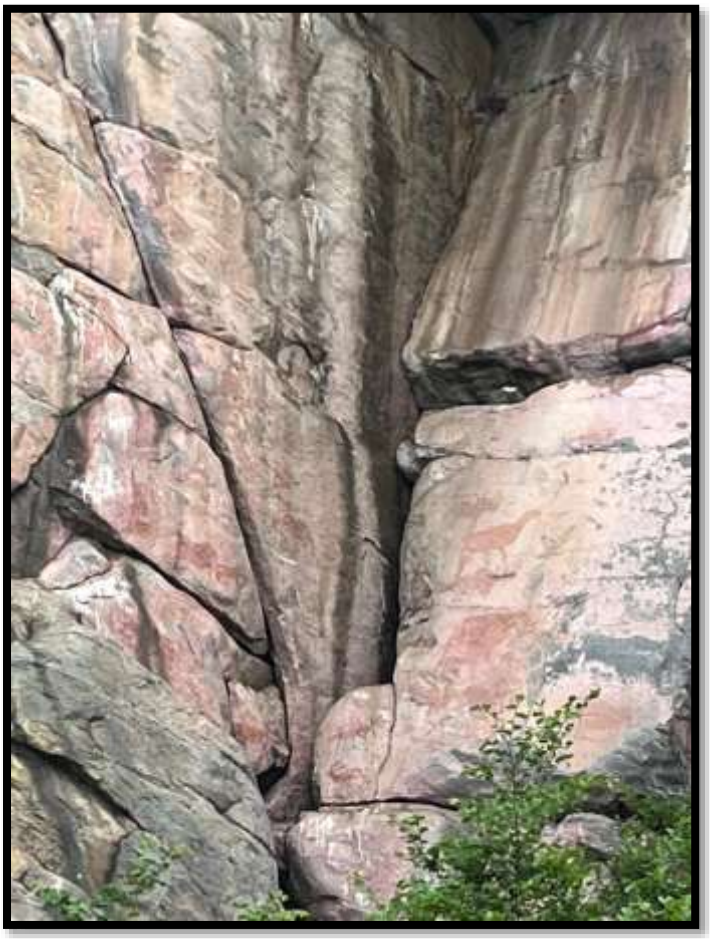
- **The Middle Stone Age:**
  - This period lashed roughly between 100 000 and 35 000 years ago. The tools during this period become smaller and seemingly more sophisticated.
  - The transition is evident from the Early Stone Age in which the central stone core was used as the actual tool to the Middle and late Stone Age in which the tools used were smaller flakes that were struck off the core stone. The tools used during this period were much smaller than those used in the Acheulian period of the Early Age. The principal types of tools from Stone Age were side scrapers and points.
  - The middle Stone Age tools are associated with modern humans (Homo sapiens sapiens) who would sometimes haft the stone tools (attach them onto a handle) to make primitive knives and spears. The middle Stone Age settlements were widespread across Southern Africa with evidence from numerous excavations in caves revealing lengthy occupation. Cave excavation sites revealing Middle Stone Age occupation: Klasies River, Border cave, Rose4 Cottage and the Boomplaas caves. The people of the Middle Stone Age were hunter-gatherers, who were it would seem mainly vegetarians, although there is some evidence of active hunting and minimal use of fire.
  - Recent evidence points to the fact that modern human behavior including the ability to think in abstract terms emerged in Southern Africa many thousands of years before its emergence in Europe.

- **The Later Stone Age:**
  - The advance out of the Middle Stone Age to the Later Stone Age took place about 40 000 to 20 000 years ago and this period was associated with **new** technologies and changes in the nature of the hunter-gatherer culture. Given the spread of Homo sapiens at this period the cultural variations, practices and the availability of resources lead to a great variety of stone tools. The tools from this period seem to be fairly related artefacts, i.e. tools made for a very specific purpose, and many of which were hafted. Tools from this period include stone blades, points and borers all of which were generally of a small size. There is evidence of bone and ivory being crafted into spear heads, awls and fish hooks. Various cultural practices during this period are indicated through the evidence found from this time, such as rock art, painted and engraved stones, decorated egg-shells, earthenware pottery and polished bone tools.

- During the Later Stone Age period there were fairly significant climatic changes and changes in the sea level which obviously affected the habits and diets of the Later. Stone Age people and this is clearly demonstrated by the various artefacts found in cave sites.
- The people of the Later Stone Age have become known as the Khoe-San (or Khoisan), which is a collective name for the Khoekhoen, who were herders (at one time called Hottentots), and the San or Bushmen, whose culture was one of hunter-gathering. Today some small remnants of the original Stone-age Khoisan people still remain in Southern Africa, most of them were incorporated into what is today referred to as the colored people or have died out.

- **The Iron Age:**
  - At around 2000 years ago the first Bantu-speaking agro-pastoralists began to arrive in Southern Africa from central and eastern Africa, bringing with them an Iron Age culture and domesticated crops. The first arrivals consisted of relatively small communities and would have gradually infiltrated Southern Africa from the north. They established themselves in the well-watered coastal region of Southern Africa and gradually pushed the Khoisan into the more arid and mountainous regions of Southern Africa.
  - Various important archaeological discoveries have been made at sites such as Mapungubwe and Thulamela (between the Limpopo and Luvubu Rivers in the Kruger National Park) and the Lydenburg heads (i.e. terra cotta pottery head of humans found in the Lydenburg district) support the theory that Bantu-speaking Iron Age people inhabited the northern parts of South Africa at a very early age. In the 1300`s a larger movement of Iron Age people seems to have taken place from the low lying Bushveld areas to the open grasslands of the central interior plateau, where a more extensive cattle-farming culture was developed.
  - In roughly the 1600`s various iron-age settlements occurred throughout the Gauteng and Highveld regions. More Tswana and Ndebele speaking people later settled to the north and west of Pretoria. These iron-age inhabitants were mainly cattle and goat farmers, however they also cultivated small areas of land. The many artifacts prove that these communities had knowledge of the smelting and working with different metals such as iron, copper, tin and gold. These skills in being able to work with metals promoted regional trade and craft specializations. At a number of the archaeological sites, such as Mapungubwe and Thulamela in the Limpopo Valley, there is evidence of fairly sophisticated political and material cultures, based partially on contacts with the East African trading company.
  - The Sotho-Tswana speaking people settled in the interior Highveld regions of along the coastal plains and are today largely living in the wetter eastern areas of Southern Africa, while the Nguni (Zulu, Swazi and Xhosa) immigrated south along the coastal plains and are today largely living in the wetter eastern areas of South Africa (the Transvaal Ndebele being the only exception). At least two thirds of all the Bantu-speaking people in Southern Africa are from Nguni descent. When the Dutch first settled in the Cape in 1652, the Bantu-speaking

people were not living in that region; however various Khoikhoi tribes occupied the Southern tip of Africa, while the Xhosa-speaking people extended only as far down south as the southern parts of what is today designated as the Eastern Cape Province. It is however important to bear in mind that the Bantu-speaking people already lived in the northern and eastern parts of Southern Africa a few centuries before the first European settlers came to the Cape.



WHAT IS CONSERVATION MANAGEMENT? (17.1.3)

- Conservation manage is the practice of protecting, preserving, and restoring natural and cultural heritage through strategic planning and action. It involves managing ecosystems, species, habitats and resources like soil and water to ensure their long-term health and availability. Key activities include identifying significant features, setting management objectives, and implementing actions to address both positive and negative influences.
- Conservation management is the broad field of protecting species, habitats and ecosystems, while habitat management is a specific strategy within conservation that focuses on manipulating the environment to benefit wildlife. Habitat management involves actions like restoring or enhancing specific features like food, water and cover; whereas conservation management encompasses the full range of actions

needed to achieve biodiversity goals, such as population protection, ecosystem health and legal frameworks.

- **Goal** – to preserve and protect species, habitats and ecosystems from threats like extinction and degradation.
- **Scope** – a broad, overarching discipline that includes a wide range of actions.
- **Actions** – can include population-level interventions, legal protections, habitat restoration and managing human activities.
- **Examples** – establishing a national park or creating a conservation program for a specific endangered species.

- **Key aspects of conservation management:**

  - **Strategic Planning –** developing long-term plans and strategies to guide the management of natural and cultural resources.
  - **Resource Protection –** preserving species populations, habitats and ecosystems through actions like protection, preservation and restoration.
  - **Site-**specific Plans – creating detailed plans for specific areas, such as national parks or heritage sites that outline objectives and management actions.
  - **Issue Identification –** identifying issues that may impact a site and developing strategies to address them.
  - **Integrated Approach –** managing all aspects of conservation in a region, including recreation, tourism, public and private land use, to ensure they are consistent with conservation goals.
  - **Specific Types –** the practice is divided into different types, including soil, water, forest, wildlife, energy, marine, urban and agricultural conservation.

HABITAT MANAGEMENT (17.1.4)

- An understanding of habitat management for the Field Guide is essential as it gives a greater insight into the ecology of a particular area. The influence on the natural environment by human beings in the form of wanting to control and manipulate the environment to suit their needs has led to various methods of habitat management. Habitat management includes the manipulation of the vegetation through controlled burning techniques, removal of alien plant species, bush clearing of encroaching vegetation, erosion control, road maintenance, culling and waterhole rotation.
- Some of these habitat management techniques have been developed to counteract the influences that human habitation has had on the natural environment. For example the building of roads for game viewing purposes has led in certain areas to an increase in erosion and has had an influence on the deterioration of natural seep-lines. The results of this influence has led to the development of anti-erosion management and concerted efforts to manage the re-establishment of fully functional seep-lines. Other habitat management techniques such as controlled burning and bush clearing have been developed to improve the game viewing within reserves. Though not every field guide will be involved in the habitat

management of the area of operation, it is important that they understand the concepts involved in habitat management.

❖ **Habitat Management:**

- **Scope –** a specific and practical component of conservation management.
- **Focus –** directly managing the physical environment to make it more suitable for target species or ecosystems.
- **Methods –** includes actions like:
  - Protecting and restoring forests.
  - Managing water sources.
  - Controlling invasive species.
  - Modifying land use for wildlife benefits.

❖ **Relationship Between the Two:**

- Conservation management is the umbrella term and habitat management is a key tool used to achieve its objectives.
- Improving a habitat is a fundamental way to conserve the wildlife that depends on it.
- Habitat management decisions are often made to support broader conservation goals.

- **Goals** – to enhance the quality of a specific environment to meet the needs of wildlife, focusing on factors like food, water, shelter and space.
- **Scope –** a specific technique used within conservation management to influence wildlife populations.
- **Actions –** manipulating the landscape to improve resources. Examples include using prescribed fires to manage grasslands, planting native vegetation for food and cover or creating corridors for wildlife to travel.
- **Examples –** a controlled burn to clear out dead grass and promote new growth, which benefits grazing animals.

❖ **The use of fire as a management tool.**

- The main objectives of using fire in management programmes is:
  - To burn off unpalatable growth left over from the previous season`s growth that would be unacceptable as forage and that, if not removed would tend to smother the plants.
  - To control the encroachment of undesirable plants.
  - To stimulate out-of-season growth to provide green feed when it does not occur naturally.
  - To contribute to fire control by reducing fuel loads.
  - To maintain or develop grass cover for soil and water conservation.

❖ Types of fires.

- There are three different types of fires:
  - **Crown fires** – these fires burn in the canopies of trees and shrubs.
  - **Surface fires** – These fires burn in the surface fuels, including standing grass, small shrubs, seedlings, leaves, twigs and bark. This is the most common fire type in Southern Africa.
  - **Ground fire** – These fires burn below the surface of the ground in deep layers of organic material.

❖ Factors that influence the behavior of fire.

- The most important factors that are used to predict the behavior of veld fires are:
  - **Fuel Characteristics -** fuel load, fuel particle size and the distribution, compaction and moisture content of the fuel have marked effects on the intensity of fires.
  - **Air Temperature –** air temperature has a direct influence on the temperature of the fuel and an indirect effect on the relative humidity and so on the evaporative moisture loss from fuels.
  - **Relative Humidity –** the moisture content of dried out fuels, in particular is strongly correlated with the relative humidity of the atmosphere at any time so that humidity plays a role in controlling the flammability of fine fuels.
  - **Wind Speed –** due to the combustion rate of any fuel being positively influenced by the rate of oxygen supply; wind by renewing the oxygen supply will affect fire behavior. Wind also influences the angle of the flames, driving them towards the un-burnt fuel ahead of the fire front (in head-fires) and so promoting more efficient pre-heating of this fuel.
  - **Terrain Slope –** slope significantly influences the forward spread rate of surface fires by modifying the extent to which the material ahead of the fire is pre-heated. Conversely, a fire burning down slope will have the characteristics of a back-fire since the heat generated is carried away from the unburnt down-slope material. Wind direction and wind speed will however, modify these effects.