

The Landscape of Sri Lanka

03

Introduction

Landscape is the appearance of the portion of land which the eye can view at once. It may be a natural scene or an artificial creation by man. Accordingly, the physical features including the vegetation cover if any and the build-up areas constitute a landscape.

Sri Lanka is a beautiful island in the Indian Ocean having various types of landscapes consisting of mountains, rivers, waterfalls, various types of vegetation, wild life and numerous mineral resources. Man uses this variety of resources to satisfy his needs.

Landscapes of Sri Lanka consisting of complex relief features increase in height towards the interior. The cross section of the country shows that we can identify three different steps (Fig.3.1).

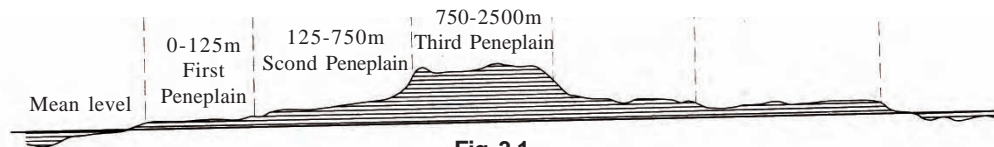


Fig. 3.1

You can see the high mountains in the middle step (3rd penneplain). The highest point is Pidurutalagala peak with a height of 2524 m. There are other high mountain peaks like Totapola (2357 m) and Kirigalpotta (2395 m) in this mountain zone. In between these highlands there are plateaus such as Horton plain, Ambewela and Sita Eliya. Plateau is a plain land in a higher level. Intermediate plain lies in between the hill country and coastal plain. Scattered erosional remnants are a special physical feature in this second penneplain. The third physical zone is coastal lowlands which constitute the 1st Penneplain. You may be able to understand that there are different landscapes in these three penneplains or zones. Even on the basis of relief, Sri Lanka can be divided into three zones.

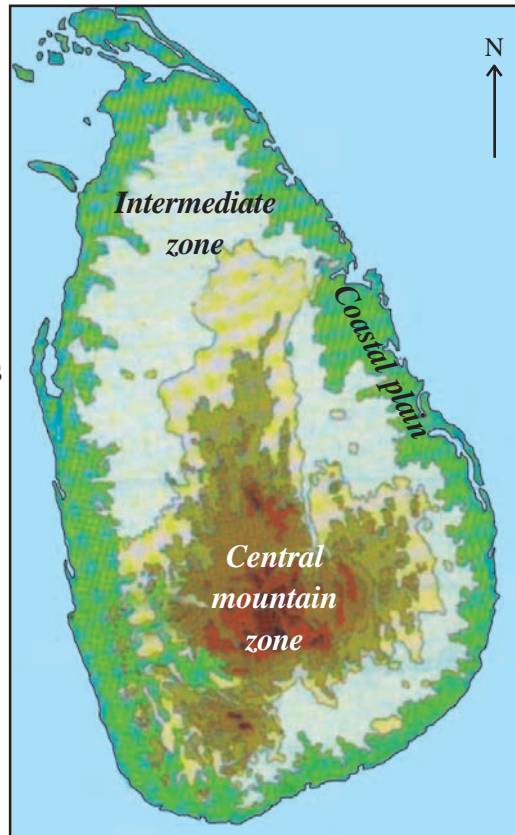
Map 3.1 shows the three divisions based on relief.

1. The coastal plain is upto 30 m from the sea level
2. Between 30 m and 300m is the intermediate zone.
3. The central mountain zone is above 300 m.



Activities

Build up a model to show the three physical zones of Sri Lanka and exhibit it in class.



Map 3.1 - Three physical zones of Sri Lanka.

Different regional Landscapes

You can identify many landscapes in Sri Lanka based on physical factors and human activities. The major landscapes are as follows:

- Landscapes of the Hill Country.
- Landscapes of the Dry Zone.
- Landscapes of the Wet Zone.
- Landscapes associated with the coast.



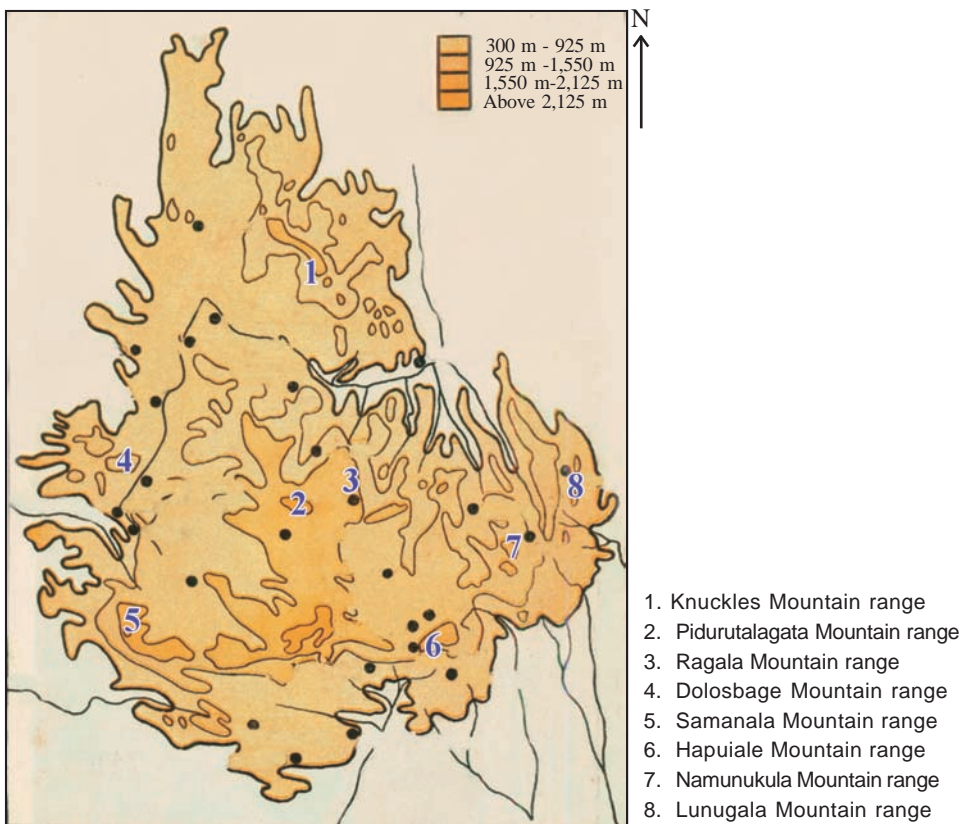
Student survey

1. Organise a study trip to visit a place different from your area.
2. Prepare a folder about the landscapes you have identified.

Landscape of the Central Hill Country

Mountains

Look at the Map 3.2 carefully. You can understand the differences of landscapes in that area due to complex physical features. Study the map and try to understand those features in the hill country. You can see that physically, the hill country is in the shape of an anchor. It consists four major mountain ranges. The stem of the anchor is Pidurutalagala mountain range. East of the base are Haputale and Namunukula mountain ranges. Samanala peak is in the West and Knuckles range is situated to the North of Pidurutalagala mountain range.



Map 3.2 : Physical features of the Central Hill country

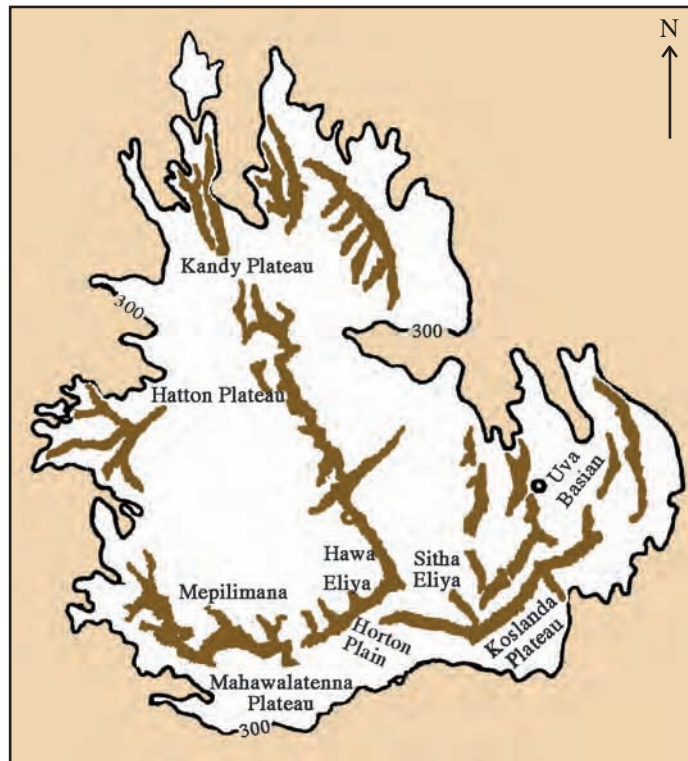


Activities

Draw an anchor as an overturned T. Examine the relief map of the Central Highlands and mark and name the major mountain ranges on the anchor shape you have drawn.

Plateaus

Another special feature of these highlands is the plateaus. A plateau is a relatively flat land at a higher level with sloping boundaries.



Map 3.3 : Major plateaus of the Hill Country



Fig. 3.2 : Horton plain



Activities

1. Trace the hill country from an atlas.
2. Draw the mountain ranges in brown and name them.
3. Identify the plateaus from map 3.3 and mark and name them.
4. Shade the plateaus in yellow.

Rivers and waterfalls

Major rivers like Mahaweli, Kelani, Kalu and Walawe originate from the central hills. When these rivers flow through deep slopes they create water falls.

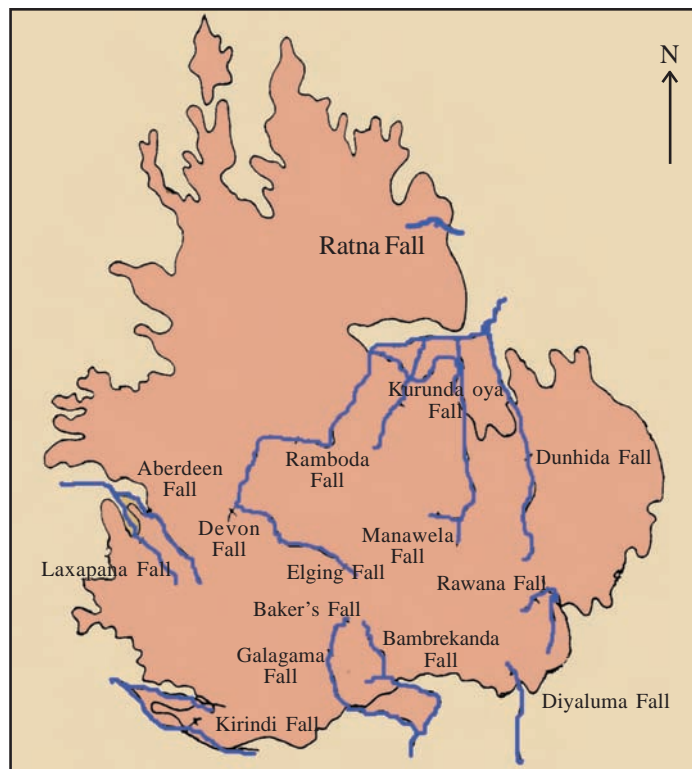
Map 3.4 shows waterfalls and rivers in the upcountry. Diyaluma, Dunhinda, Lakshapana, Aberdeen are some of those beautiful waterfalls in the hill country.

These waterfalls which enrich the beauty of the hill country have become tourist attractions. These are used for generating electricity.



Activities

1. Name the waterfalls in the hill country shown in the map.
2. With the aid of an atlas, prepare a table of waterfalls showing their height.



Map 3.4 : Waterfalls and rivers in the Central Hill Country



Student survey

1. Organise a visit to Horton plains.
2. Observe well the landscapes you can see from there.
3. List the differences between a lowland plain and a highland plain and discuss them with the teacher.

High mountain ranges and deep slopes through which the rivers flow have created waterfalls improving the beauty of the hill country. At the same time these physical landscapes have created a comfortable living environment in areas like Bandarawela and Nuwara Eliya.



Fig. 3.3: A Waterfall.

Gaps

The mountain gaps are also attractive places which provide easy access to the hill country. Roads have been built through these gaps. Study the mountain gaps and roads going through those gaps with the aid of Map 3.5.

Major Gaps	Road ways
Galagedara	Kurunagala - Kandy
Balana	Colombo-Kandy
Ginigathhena	Awissawella - Nuwara Eliya
Balakaduwa	Matale- Kandy
Haputale	Balangoda - Bandarawela
Ella	Wellawaya - Badulla



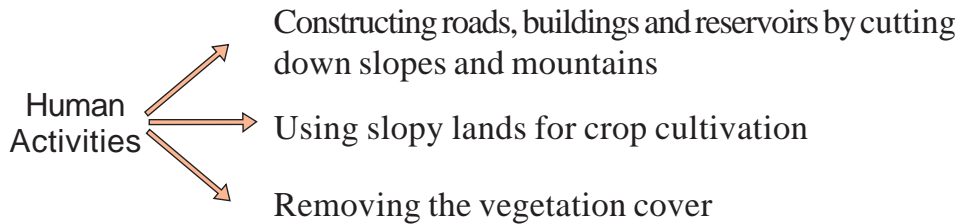
Map. 3.5 Major Gaps and Road ways



Activities

1. Trace the map of the hill country.
2. Mark and name the mountain gaps in black as they appear in the map.
3. Draw the roads in red that goes through these gaps. Name the nearby towns.

Although the central hills are naturally protected the human activities have caused considerable changes in the landscapes.



Bad effects of these human activities have to be faced by the humans themselves



Activities

Write an article to a news paper confirming that human activities should be pursued while conserving the natural heritages.



Student survey

1. Inquire into the activities that bring bad effects on the hill country landscape and name them.
2. Conduct a discussion on how the central hill country could be protected from these bad effects and prepare a poster which summarises the ideas expressed.

Landscapes of tea plantation area

The land is the major physical factor that brings about different landscapes. Nature of the land is important in establishing settlements and in the cultivation of crops. There are distinct crops which are suitable for specific regions.

Tea plantation is the most suitable form of agriculture in the hill country. Although, tea can be grown in other areas, better and tasty teas are produced in the hill country because of the presence of better physical conditions such as the well distributed rainfall and low temperature.

Listen to the following conversation which took place at tea time between a brother and a sister.

Brother

Sister, is it true that the tastiest tea in the world is produced in Sri Lanka?

Sister

Yes Malli, not only that, tea is an important export from Sri Lanka.

Brother

Sister, I read in an article that the British introduced tea plantations in Sri Lanka.

Sister

The British started tea plantations when Sri Lanka was one of their colonies.

Brother

And there it was mentioned that a person called James Taylor has begun a tea plantation in 1867 for the first time in the Lookandura Estate in Kandy.

Sister

Yes Malli, Unless the British introduced tea to Sri Lanka, the major cultivation in the hill country would have been something else.

Brother

Why do people say that the tasty tea of our country come from the hill country?

Sister

Malli, that is because the better conditions for the growth of tea are found in the hill country. Adequate temperature, rainfall and land conditions are very important for tea cultivation.



Activities

Write 5 sentences on tea plantation on the basis of the facts revealed from the above conversation.



Fig.3.4: A Tea Estate in the Hill Country

Physical factors needed for tea cultivation

- Temperature between 15 - 27°C
- Rainfall between 1900 - 5400mm
- Gentle slopes
- Loam and laterite soil with good drainage.

You may have seen tea estates in the country as a continuous patch of green pruned tea bushes. You would have seen the photographs of tea estates through media or from books or magazines.

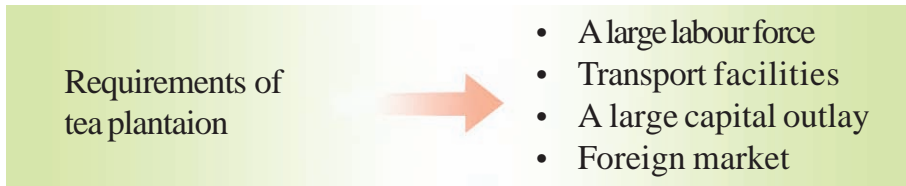
Tea is the main crop grown in the hill country on a large scale. Highest land area under tea plantations is in the Nuwara Eliya district. Tea Research Institute at Talawakale is also in this district.



Activities

1. Trace a map of Sri Lanka showing the district boundaries.
2. Shade in dark green the district of Nuwara Eliya where tea is mostly grown.
3. Shade in light green the other tea growing districts of Kandy, Matale, Badulla.
4. Mark and name the Tea Research Institute.

Construction of contour drains and stone ridges to minimise soil erosion and to conserve soil is a basic need in tea plantations.



The landscape of the hill country was changed with the spread of tea cultivation. Many activities aggregated to meet the needs of the crop. Population rose up by labour imports. Factories and buildings came up. Estate hospitals, estate schools were also established for the labourers transforming the environment. A cultural change was also witnessed by the new ethnic component of the population.

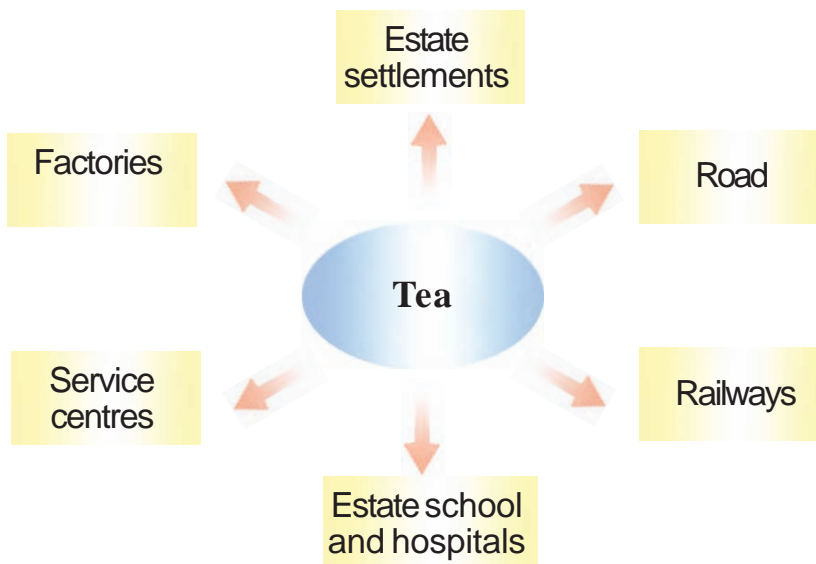


Fig.3.5

Benefits of the tea plantations to the Sri Lankan economy

- Increased foreign exchange earnings through exports.
- Provision of various types of employment.
- Development of roads and railways.
- Provision of bank services.
- Development of communication systems.



Activities

1. Plan a trip to see a tea factory.
2. Note down the activities in the factory relating to the production process.
3. Draw a tea estate settlement including Labourers' houses, tea factory and transport systems.

Commercial vegetable cultivation

The landscapes of the hill country shows tea plantation on one side and commercial vegetable cultivation on the other side. Although vegetables can be grown in any part of Sri Lanka, there are specific vegetables grown in particular areas. Vegetables can be classified as Wet Zone vegetables, Dry Zone vegetables and upcountry vegetables in a broad sense. You may be able to identify the upcountry vegetables when you go to a vegetable market (Fig.3.6).



Fig.3.6 : Vegetables in a market.



Activities

- i. What is the climatic zone where your living area is located ?
- ii. Name the major vegetables grown in that particular climatic zone

Most of the commercially valuable vegetables are grown in the flat lands or lands with moderate slopes of the hill country. A large quantity of commercial vegetables are grown in the upcountry Dry Zone particularly in Badulla, Bandarawela and Welimada areas. Nuwara Eliya in the hill country Wet Zone also contributes much to the production of commercial vegetables. Most important varieties grown are Carrot, Beet, Leeks, Cabbage, Potatoes, Beans and Salad leaves.

Physical factors needed for commercial vegetable cultivation of the upcountry

- Flat land
- Rainfall in between 1750 - 2000 mm.
- Temperature between 16 - 27°C.

Upcountry Dry Zone receives an annual rainfall between 1750mm to 2000mm. most of which is received by the Northeast monsoon. However, large scale vegetable cultivation does not depend entirely on rain water. They should be provided with irrigation when natural water supplies are inadequate.



Popular vegetables are Carrot, Beet, Leeks, Cabbage, Potatoes, Beans and Salad leaves.

The seeds have to be imported because the up country vegetables come under Temperate climatic varieties.

In addition large expenses should be incurred to apply chemical fertilizers and insecticides.

Fig. 3.7 - A vegetable farm in the up country

- Local organic manure is used in large quantities for vegetable cultivation.
- Small proportion of the production is exported while the balance is consumed locally.
- Vegetables transported to Colombo are distributed to suburbs and other places of the Island.



Activities

1. Prepare a small vegetable farm in your garden.
2. Make organic manure from the waste material of your home and apply it for your cultivation.
3. Grow some selected vegetables propagated by stems, roots, seeds and plants in your vegetable farm.



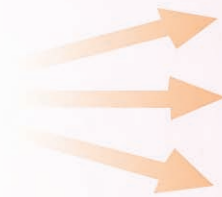
Student survey

Note the steps followed for your cultivation from land preparation to the consumption after harvest.
e.g :- Preparation of land, planting, manuring, watering etc

Landscapes of the Dry Zone

The Dry Zone of Sri Lanka stretches in the North, North central, Eastern and South eastern parts of the Island. A large portion of the country is covered by the Dry Zone which has a high temperature and seasonal rainfall. The landscapes are also shaped according to the low rainfall and high temperature. The Dry Zone can be subdivided into 3 zones according to the rainfall and the nature of the land.

Dry Zone



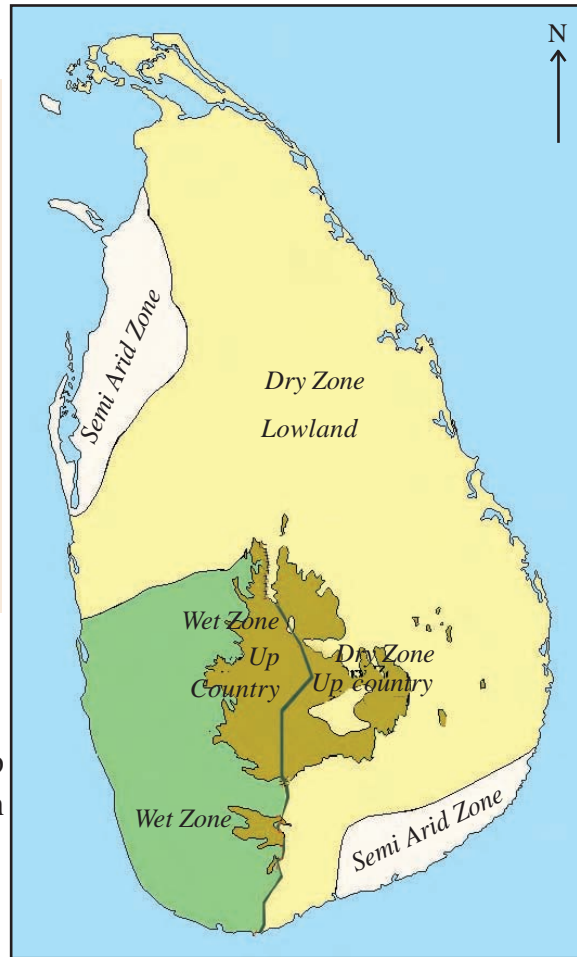
1. Semi Arid Zone
(Less than 1250 mm rainfall).
2. Lowland Dry Zone
(1250 - 2000 mm rainfall).
3. Upcountry Dry Zone
(1 750 - 2000 mm rainfall).

Semi Arid areas

The North western part near Mannar coast and South eastern coastal area near Hambantota are the semi arid areas.

Barren lands and thorny bushes or short trees grow in these Semi Arid areas.

Three areas marked on Map 3.6 form the Dry Zone with different landscapes.



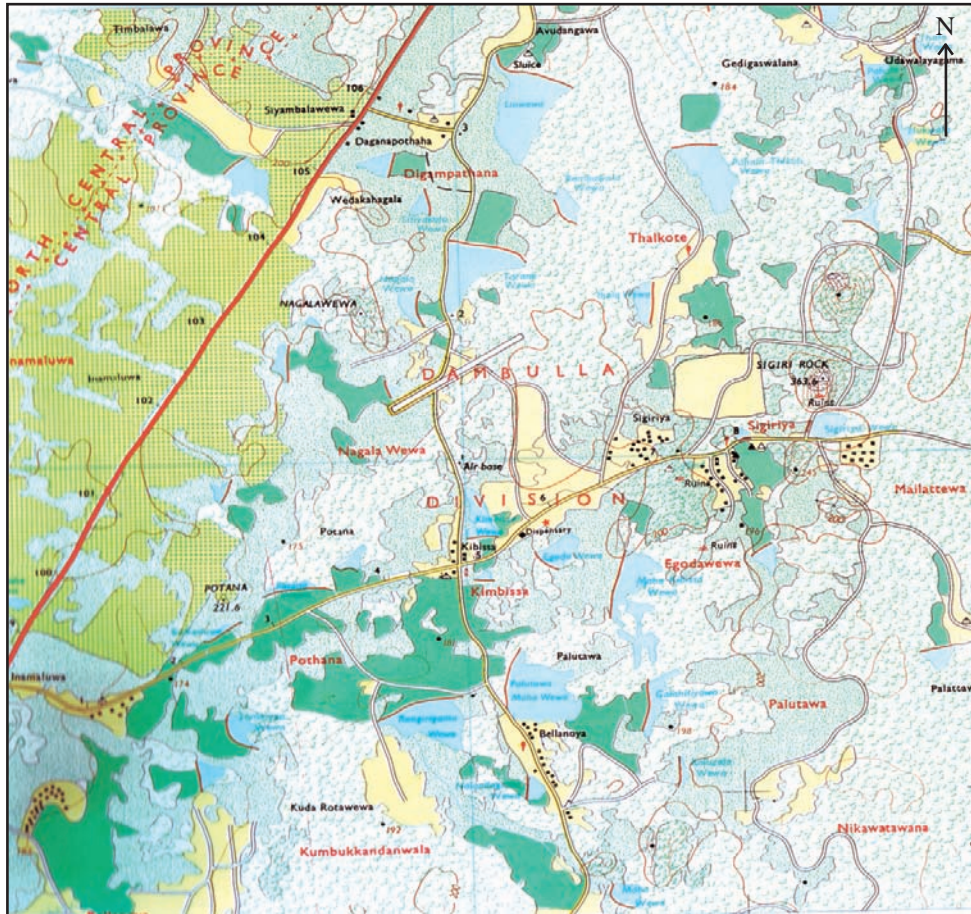
Map 3.6 : Dry zone and wet zone in Sri Lanka

Paddy cultivation and chena cultivation are the major activities in the Dry Zone. The most significant problem is the water scarcity.

A large area of the Coastland belongs to the lowland Dry Zone. The height changes gradually from the coastal lowlands towards the interior erosional remnants found scattered are significant in this zone.

Tank centered irrigation systems dominate the lowland Dry Zone landscape.

Aryans who were the early settlers lived near river basins in order to meet their water requirements for paddy cultivation which was their major occupation. The settlers in the Dry Zone built reservoirs to retain water for their daily needs and for cultivation purposes. These were popularly known as “tanks”. As water needs were satisfied through tanks, a hydraulic civilization emerged in the lowland Dry Zone.



Map 3.7 : A tank based landscape

Source : Survey Department



Activities

1. Carefully examine Map 3.7 and list the associated human activities.
2. Note down the features that could be identified with reference to the physical environment.

Let us learn the reasons for water scarcity in the Dry Zone.

- Uncertainty of rainfall
 - Insufficiency of the rainfall received
 - Concentration of rain only in one season of the year
-
- Our ancestors used to store rain water in reservoirs as a precaution for water scarcities.
 - Ancient kings built bunds across rivers to construct large tanks.
 - Small tanks and large reservoirs built during
 - Anuradhapura and Polonnaruwa periods are the results of these efforts.



Activities

1. Give reasons for developing a tank-centered irrigation network in the Dry Zone landscape.
2. Discuss with the teacher how these tanks had been built in an environment friendly way.
3. Draw a picture showing a tank settlement and paddy fields.
4. Suggest ways of protecting these tanks from pollution.



Student survey

Prepare a handbill about the kings who built large tanks.

Paddy is the most suitable crop for the Dry Zone geographical environment. There is a marked dry season in the Dry Zone from May to September. However, non-irrigated crops are grown with the help of the Northeast monsoon and convectional rains. Chena cultivation is an example.

Chena cultivation

Chena cultivation entirely depends on rain water. Crops grown are limited to short maturing varieties. Farmers clear the land with the use of fire and sow before the rains. After few seasons of cultivation they change the land as it becomes infertile. With the population increase land has become scarce and former chenas have turned into permanent agricultural systems. During early periods yams, grains and vegetables were grown in chenas and farmers consumed most of the harvest.



Fig. 3.8 : Changing landscape at a chena



Activities

With the help of your teacher prepare a folder to show the characteristics of a changing chena.

In the past	At present
<ul style="list-style-type: none"> • Mamoty, Katty and axe were used as instruments or tools • Depended only on rain water • Family labour is used to prepare the farm • Cultivation with rotation of land • Sold only when the surpluses were available • No marketing objective 	<ul style="list-style-type: none"> • Cultivation crops for marketing and consumption. • Permanent farms are used instead of shifting • Sometimes, artificial fertilizers are used • Crops like maize, chillies, soya beans, pumpkin are grown on a commercial basis • A protective fence is built instead of “Dandu Weta”

Chena cultivation is a salient feature in the Dry Zone landscape.

Grains such as kurakkan, gingelly, meneri, green grams; vegetables such as pumpkin, cucumber, brinjals, capsicum and onions; yams such as manioc are the major crops that are grown in chenas.

The chena cultivation is diminishing at present. The government has taken steps to prohibit forest clearance and convert chena lands into permanent crop cultivations to stop destruction of forests and conserve the soil from surface erosion.



Activities

1. Discuss with the teacher how the chena cultivators prepare the land for cultivation.
2. Write step by step the whole process of chena cultivation.
3. Draw a tree hut in a chena.



Student survey

1. Write the bad effects of clearing the land for chena cultivation.
2. Write an essay on chena cultivation of Sri Lanka by collecting information from books or through meeting with farmers, if possible.

Landscapes of the Wet Zone

The Wet Zone of Sri Lanka is in the South western lowlands and mountain slopes which faces the Southwest monsoon. About 60% of Sri Lanka's population inhabit this area with 30% of the land coverage of the country.

The river valleys of the Wet Zone frequently get flooded by the heavy rainfall from the Southwest monsoon and convectioned activity.

Lowlands of districts like Ratnapura, Colombo, Kalutara, Matara and Galle get frequently flooded.

As the Wet Zone is more congested the lowlands have to be filled with Earth for various human needs. It hinders the smooth subsidence of water, resulting the increase of floods.



Fig. 3.9 : Floods

Map 3.6 shows the location of the Wet Zone of Sri Lanka. Kelani, Kalu, Gin and Nilwala are the major rivers flowing in the Wet Zone. The basins of these rivers often get flooded by heavy rain.

Floods affect the natural environment and human activities in many ways

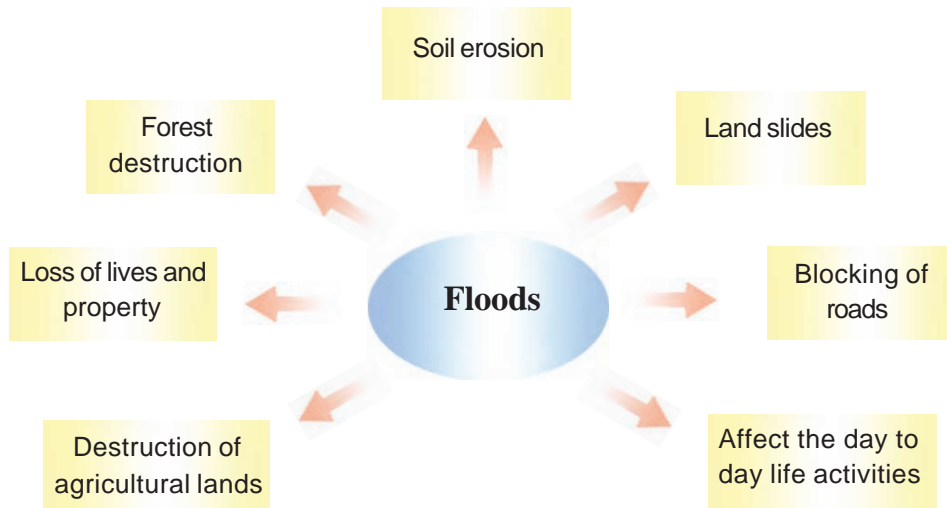


Fig. 3.10

Flood plains are significant features in the Wet Zone landscape.

Because of the heavy concentration of people many lowlands are reclaimed for various human needs. Blocking of natural drainage due to reclamation has enhanced flooding.

Flood plain is an area in a river basin, which goes under floods during heavy rains. It is usually a land with low relief.

These fertile lands which get flooded annually are used for agriculture. Plots of land or enclosures (Koratu) in the Kelani river basin is an example. Most of these areas are well populated and barrier walls have been built in certain places for flood protection. Hence, even when the floods recede after rain water remains in the landscape for sometime.

Though the floods cause considerable damage, many people have flocked to these lowlands because of the facilities to satisfy their needs.



Student survey

1. Observe the water flow in your garden or the school garden in a rainy day.
2. Conduct a group discussion on the obstructions to water flow that you have noted.

Urban Settlements

People selected areas to settle down on the basis of their needs at the time of settling. Agriculture has been the dominant activity where water was available. But today people consider human and social factors in addition to the physical factors in selecting an area for settlement. As the landscape in areas of Sri Lanka's Wet Zone has provided many facilities to satisfy human needs, a lot of people have flocked to these areas.

Population of urban areas increased by immigrants seeking employment in free trade zones like Katunayake, Biyagama and Koggala and Industrial estates like Ratmalana and Ekala. Due to heavy congestion of population and insufficient space high rising structures have become a common feature in these areas.



Fig. 3.11: City of Colombo

Look at this photograph of the city of Colombo. The complex buildings go higher and higher when the space in urban areas become strictly limited. This expansion is needed in meeting the numerous service requirements of the urban dwellers.



Activities

- 1.. Provide a description of the facilities that could be obtained from the city.
- 2.. Discuss with the teacher the factors leading to the development of these facilities.

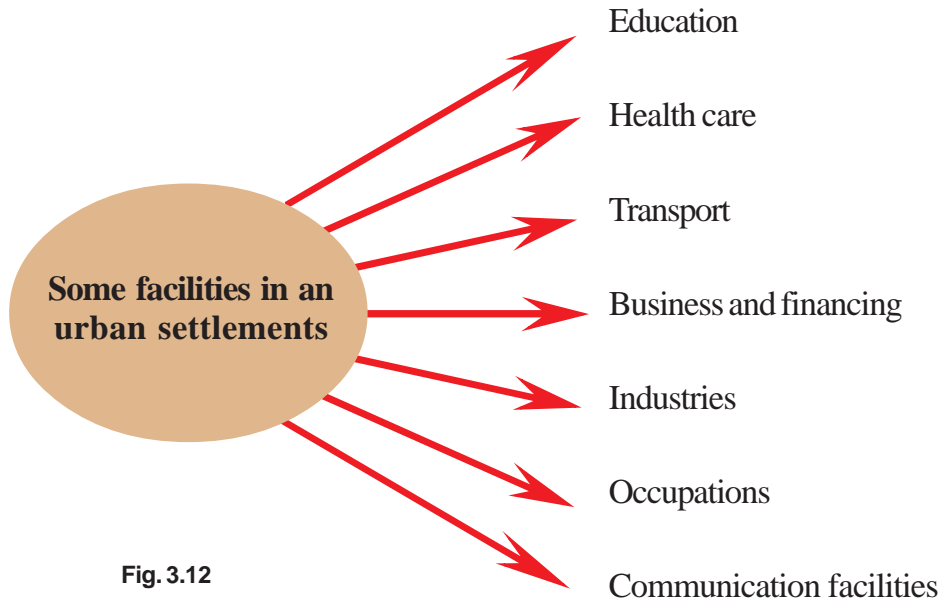


Fig. 3.12

Growing trees in towns with clustered storeyed buildings is very important.

There are many common problems in the towns of Sri Lanka because of inadequate road development and weak maintenance, poor drainage systems, piling of garbage, crowded housing and dense population.



Student survey

1. Arrange a field visit to an urban area.
2. Survey the services provided by the buildings and find out the reasons for environmental pollution.
3. Prepare a handbill including the information you have gathered.

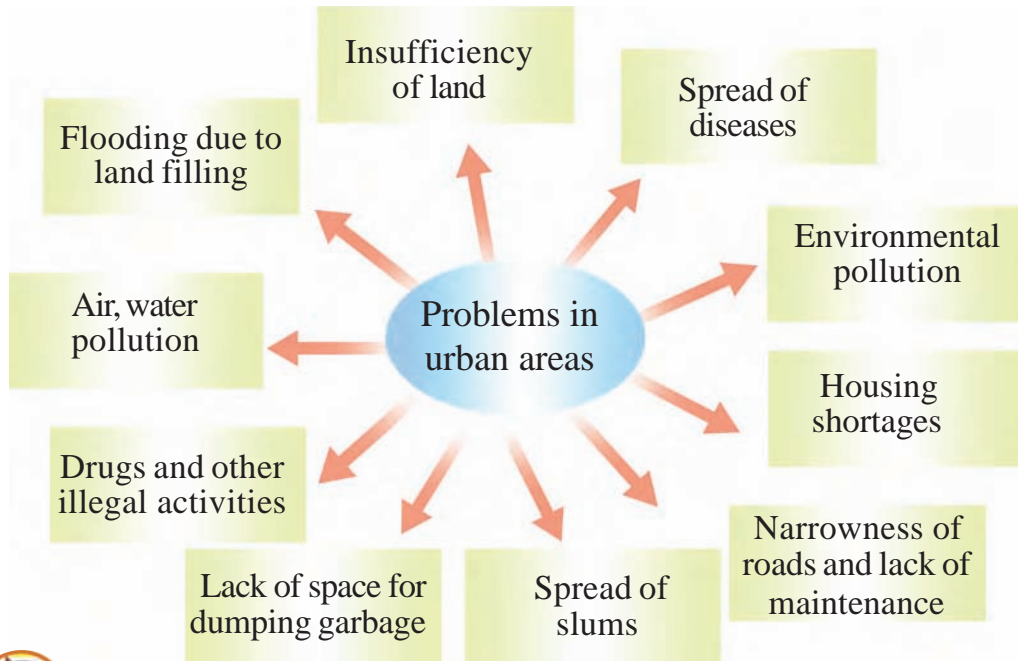


Fig. 3.13



Activities

1. Prepare a list of problems in an urban area.
2. Draw a busy town.



Student survey

Discuss the problems in an urban area and list the precautions that can be taken to solve them.

Landscapes of the coastal areas

Look at the map of Sri Lanka. (Map 3.8) Can you keep your finger tip or pen straight away on its boundary without turning. Not possible. Why is it so? Because the coast line is irregular. This irregularity is due to bays, lagoons, capes and islands. These are the major landscape features along the coastline of Sri Lanka.



Map 3.8 : Features along the coastline of Sri Lanka.

Coastline features of Sri Lanka

- Cape - It's a headland of significant size jutting into the sea, e.g. point Pedro, Dondra Head, Sangaman kanda.
- Bays - Bay is an open indentation of sea into the land. (Koddiyar Bay, Weligam Bay)
- Lagoon - Lagoon is a coastal stretch of shallow salt water open to the sea through a narrow mouth. (Batticaloa, Puttalam, Chilaw, Negambo)
- Island - Island is an area of land completely surrounded by water, e.g :- Nainative, Karaitive, Kytes.



Activities

1. Trace a map of Sri Lanka.
2. Mark and name the coastal features of Sri Lanka with the help of a road map, a relief map or an
3. Include a key to identify those features in your map by using different symbols.

Apart from these coastal features, mangrove vegetation is present in certain areas of the coast. It is an adaptation to the coastal environment. This vegetation helps the growth of fish and other crustaceans and protect the coast from sea erosion.



Activities

1. Find out the posters, photos and other information on mangroves.
2. Prepare a list of fish and birds living in mangrove swamps.

Coral reefs are another feature that increases the beauty of the coastal landscape. Tourism and mechanised boats have become threats to coral reefs.

There are number of places in Sri Lanka where coral eco systems are found. They are:

1. In and around Mannar Bay.
2. Hikkaduwa coastal belt.
3. Unawatuna - Roomassala area in Galle.
4. Near Great Basses and Little Basses close to the South east coast.



Waves and winds along the coast have built another feature, namely coastal sand dunes. They have become a tourist attraction.

Fig.3.14: Arugam Bay.

Tourist Industry

Tourist industry that contributes much to the economy of Sri Lanka is largely based on the coastal areas where tourists spend most of the time of their stay in Sri Lanka. Negombo, Beruwala, Hikkaduwa, Bentota, Tangalle and Trincomalee are some of the special points of attraction.

Tourists mostly come from Western Europe, India, China, Japan, North America and Australia.

Foreign tourists are those who spend at least one night out of their own country. Most of them come to Sri Lanka for pleasure.



Unawatuna Beach



Seenigama Devalaya

Some tourist attractions of the coast.



A coral reef

Fig.3.15 : Some tourist attractions of the coast

Although the inter-relationship of physical and human factors has led to the development of the tourist industry, addiction of drugs and other abuses by the youngsters can be cited as its negative effects.

Four major tourism development zones are identified in the coastal areas of Sri Lanka.

1. Colombo (west) tourist zone
2. Southern tourist zone
3. Eastern tourist zone
4. Northern tourist zone



Activities

1. Mark and name more important places of tourist industry in Sri Lanka.
2. Prepare a folder titled 'marvels of the coast' for foreign and local tourists by collecting pictures and photos of beautiful places and eco-systems of the coast line of Sri Lanka.

Factors that led to the development of the tourist industry in Sri Lanka.

- Location of scenic places (sandy beaches, coral reefs, blow hole mangroves).
- Archaeological places (fortresses, light houses, religious places etc), bird sanctuaries, coastal hotels and restaurants, national parks, surfing and diving places.

Tourist season is in between
November to March.

Landscapes of Fishing Industry

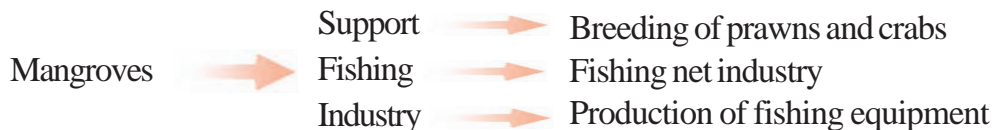
Landscape features like bays, lagoons associated with the shallow sea together with special eco-systems such as mangrove swamps and salty marshes have fostered the fishing industry. Recently deep sea fishing has also been developed.

Reasons for rich fishery resources

- ◆ Dented coastline with bays, lagoons and mangrove swamps.
- ◆ Shallow sea around the country
- ◆ Deep penetration of sunlight to the sea bed facilitating the growth of sea weeds.
- ◆ Abundant fish food brought from rivers flowing into the sea.



Mangrove vegetation and coral reefs adapted to the coastal environment support breeding of fish and the fishing industry



Some busy fishermen are shown in Fig.3.12. Increase of the numbers engaged in the fishing industry led to the expansion of fishing settlements along the coast.

The occupations related to fishing Industry.

Catching fish

Marketing fish

Prawn farming

Production of dried fish and Maldivefish





Fig.3.16 : Some jobs associated with fishing industry.



Fig.3.17: Making dried fish



Activities

Draw any activity relating to fishing.

Though Sri Lanka is a small island it has different landscapes. Physical landscapes have changed by human activities. Although the human landscape is built on the physical landscape we must be conscious about the extent to which it could be changed.

A

W a t e r

r

l d

d c

L s

e

a n

D

B

T a n k s

o

n

o

y

a

b

Match 'A' with 'B' using the words given below.

Landslides, Paddy Cultivation, Urban, Ratnapura, Hambantota, Island, Coral reef, Dry zone, Colombo, Tanks, Hill Country, Water, Hikkaduwa, Drought, Tea Cultivation, Nainative

A Summary of what you have learned

- Landscapes are made out of physical factors and human activities.
- There are separate landscapes unique to certain places in Sri Lanka.
- Central hill country and consists of complex landscapes.
- Tea plantations, vegetable cultivation in the hill country are based on the landscape.
- Human activities in the Wet Zone are affected by floods. People in the Dry Zone suffer more from drought.
- The urban settlements have been developed on human factors rather than physical factors.
- Sri Lanka has a beautiful coastline round it.
- Tourism and fishing are the major human activities associated with the coastline.