चौधरी PHOTOSTAT

"I don't love studying. I hate studying. I like learning. Learning is beautiful."

"An investment in knowledge pays the best interest."

Hi, My Name is

GEOGRAPHY

IAS

Sustainability : Conservation not preservation

NCERT → Class Notes → Model Answers

"Physical Vs Human" Part

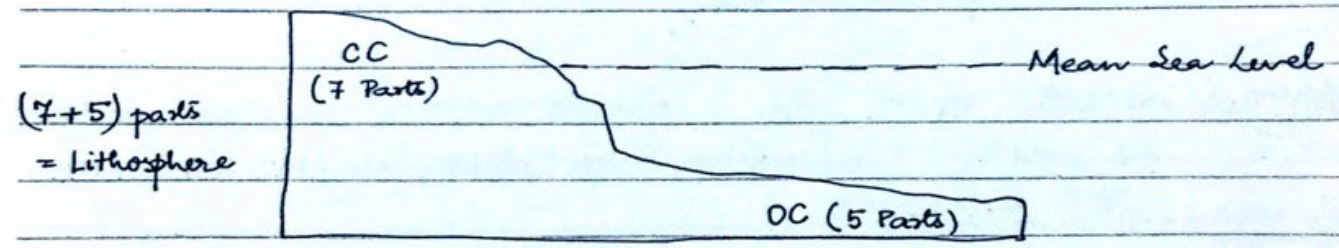
GREAT INDIAN DESERT is also a PLAIN.

↳ Environment : Lithosphere*, atmosphere*, hydrosphere, biosphere

↳ Pillars of Syllabus : (Total 5 in Block 1) → Geomorphology, Climatology ← Oceanography, Bio & Environment Geography

MACROSCALE RELIEF:

1st Order Relief : Land/Continental Crust & Oceanic Crust



Lithos = Brittle

In geomorphology, we study 7 continents (i.e. CC)

↳ Features of CC

↳ Study of 1st realm of environment

Lithosphere, the outermost layer of the Earth

Causes of features : Endogenic & Exogenic forces

Aravalis are OLD FOLD mountains.

Himalayas → NEW → →

JAVI

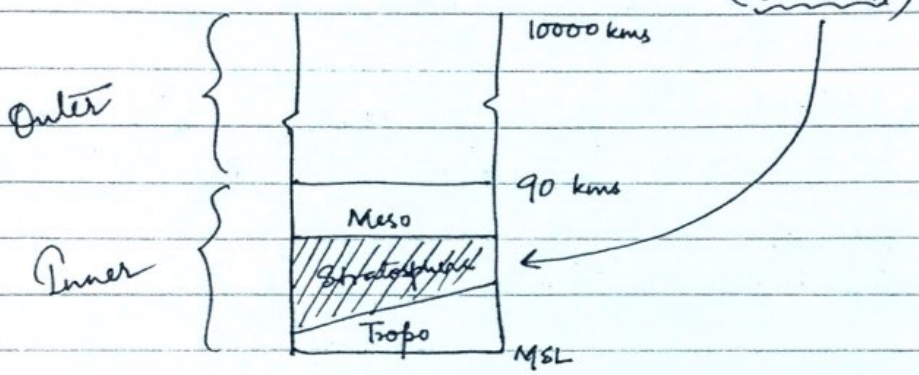
Processes
⇓

riability developers → Endo
wellers → Exo
} Reason for dynamism for CC.

imatology : 2nd Realm : Atmosphere

:NCCA

National Carbonaceous Aerosol Programs: Indian Middle Atm. Program (I-MAP)



posphere: Densest ; Maxm. atm. ; Comprises components responsible for CLIMATE
All weather mechanisms takes place here (WEATHER LAYER)
JET STREAMS

opical Monsoonal Climate : INDIA

Under Climatology

RUSSIAN CLIMATE : Only 2 types — TAIGA, TUNDRA → Russian name for forest; ↳ Largest Biome

Climatology → Weather Mechanisms
→ Climatic Prospects

Study oceans and their marginal extensions (in Oceanography)
Caspian Sea = Inland
Mediterrean Sea = Marginal

Marginal extensions have connectivity to oceans.

Ocean Water properties → SALINITY → These are
→ TEMP. → Applications of climatology

Photoatrophs & Decomposers ⇒ Both are important

Paper II Physical Geography :

Physical Setting + Resource } of India

Indian Geological Structure

LOCK (1) { Paper 1 : Geomorphology, Climatology, Oceanography, Biogeography + Envt. Geo.
+
Paper 2 :- Physical Setting & Resource
- Indian Geology

HUMAN GEOGRAPHY

Demography
→ Population
[Trends & Patterns } P1
Migration with theories } P1
In Indian Context } P2]

Settlement
→ Temporary /
→ Permanent /
→ Urban Vs Rural

Economic
→ Extractive
→ Manufacturing
→ Facilitative
→ Reproductive (Agriculture)

Other

Today's Social Forestary = "Economic + Green"

NCR & NCT
↳ Political

AREAS outside the political boundaries as well.

Economic Geography : ① Agriculture
② Industry
③ Trade, Transport, Comm.

Kishan Vision Project
CONCOR

Theory :
egional
litical – Space Politics
eographical Thought

isa-On-Arrival" → Boost Tourism

nventional Map Marking

rient Black Swan → 6th Edition.

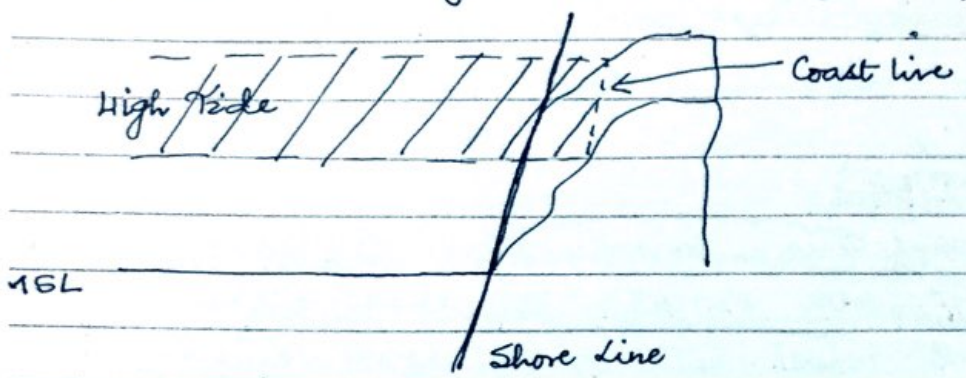
Date
18/02/2014

Relief :

1st Order : Macro-divide of Earth (CC & OC)

2nd Order : Mountains (CC) ; Mid-Oceanic Ridges (OC)

3rd Order : Valleys, Deltas (CC) ; Generally missing (in OC)



Endogenetic Forces : Variability generators ⇒ 2nd Order Relief Feature

Exogenetic Forces : Levellers

- Cutting Down (Erosional) — Eg. Valleys
- Depositional — Eg. Delta

RELIEF FEATURES :

Fundamental principles of physical geography takes into account the study of relief features. Technically relief features are distinguished into 3 prominent categories :

1) Ist Order Relief Features .
2) 2nd Order " "
3) 3rd Order " "

The first Order Relief Features :

Represents macro-scale divide of lithospheric features including the CC & the OC. In the context of present map of world,

st order Relief is depicted as 7 continents & 5 ocean floors. he 1st order relief features largely represent their ORIGIN o be related to cooling & solidification of the Earth's Crust, ome 4000 million years ago. They, however, also represent subsequent modification regulated by drift of the continent nd the ocean floor.

2ND ORDER R.FEATURES :

These features in comparision marks their development due to the effectivities of ENDOGENEC FORCES. These forces originate INSIDE the Earth's crust and result into development of VARIATIONS on the earth's surface. The endogenic forces, therefore, are recognised as variability developers. These includes mountain building & vulcanism as important processes. These generate features like mountains & plateaus on the CC, sub-marine ridges & trenches in the OC.

3RD ORDER R.FEATURES

These include the effectivities of exogenic forces. These forces are defined to be originating on the surface of the earth & work as LEVELLERS. For exogenic forces, 3 fold task therefore is commonly applied. That are: eroding, transporting & depositing. n the effectivities of these activities, carried on by exogenic orces, they developed. 3rd O.R.F includes erosional features like alleys & depositional features like deltas. The exogenic forces includes rivers, wind, glaciers, sea waves and underground water. s all these levellers are effective only on the CC, there is eneral absence of 3rd ORF in oceanic crust.

Whittelsey Committee (1956)

It incorporated the consolidation of all the diversive viewpoint about regional approach in geography by categorising geographic regions as :=

(Region = phenomenon + area)

(a) Formal Region
(b) Functional Region
(c) Planned Region

The formal region in geography represents homogenous characteristics either in terms of natural conditions or human characteristics. These are largely incorporating spontaneous characteristics and correlate to well-defined individualistic geographical space. For all the purposes of geographical enquiry, methods of regionalisation applied for these region includes both qualitative and quantitative.

The functional regions are defined to be the regions that incorporate strong economic or functional interdependence. Such regions with node-periphery interrelation involves spontaneous characteristics that mark its development at par with the development of functional capacity as urban agglomeration, industrial cluster, hinterland of a port-city. Such regions are best demarcated of their boundaries by implementation of quantitative methods. Such regions are denoted to be excellent examples of cascading systems.

The planned regions, representing the requirement of inducing growth momentum to the areas that largely lacks in natural capacity/ potentialities of growth, are considered to be special type of formal regions. These reveal their distinction both in being induced

region and not spontaneous, along with incorporating the possibility of scattered geographical characteristics. The planned regions forms excellent examples of controlled systems. which do not require any additional methods of de-limitation as it marks the example of induced region.

REGIONAL GEOGRAPHY

Regional approach in geography largely correlates to recognising the causes of evolved disparity and simultaneously developing the ways to minimise those disparity. The regional synthesis as regional planning has absolute overlap with geography as it takes into account 3 components called place, folk and work, which form the 3 distinctive elements of geographical field of enquiry.

The dimensions of regional field of

geography is largely correlated to persisting inequalities. These are projected to be the outcomes of not just natural factors but also complex economic, political & social factors within a given location.

These inequalities being the integral part of all geographical units have been ~~the~~ because of strong orientation provided by human geographers to analyse such disparities at variable geographical scale. These analyses are boldly classified into non-spatial and spatial models.

Non-Spatial Model	Spatial Model	
	Growth Pole	Growth Centre
* Rostow	* Francis Perroux	* Boudville
	* Mrydal	- Hermansen
	- Asard Perlaff	- R P Mishra

ROSTOW'S GROWTH MODEL

American scholar Rostow propounded one of the most referred growth pole model in the non-spatial category. He attempted the analysis of economic growth based on the experience of developed countries & advocated that all the developing countries will absolutely repeat the course of development generated by developed world. In his non-spatial analysis, he outlined very well-defined 5 temporal stages in the growth of an economy as well as its political characteristics. The demarcated stages includes :=

(i) Traditional Society Stage

(ii) Pre-Conditions for Take-off

(iii) Take-off Stage

(iv) Drive-to-Maturity Stage

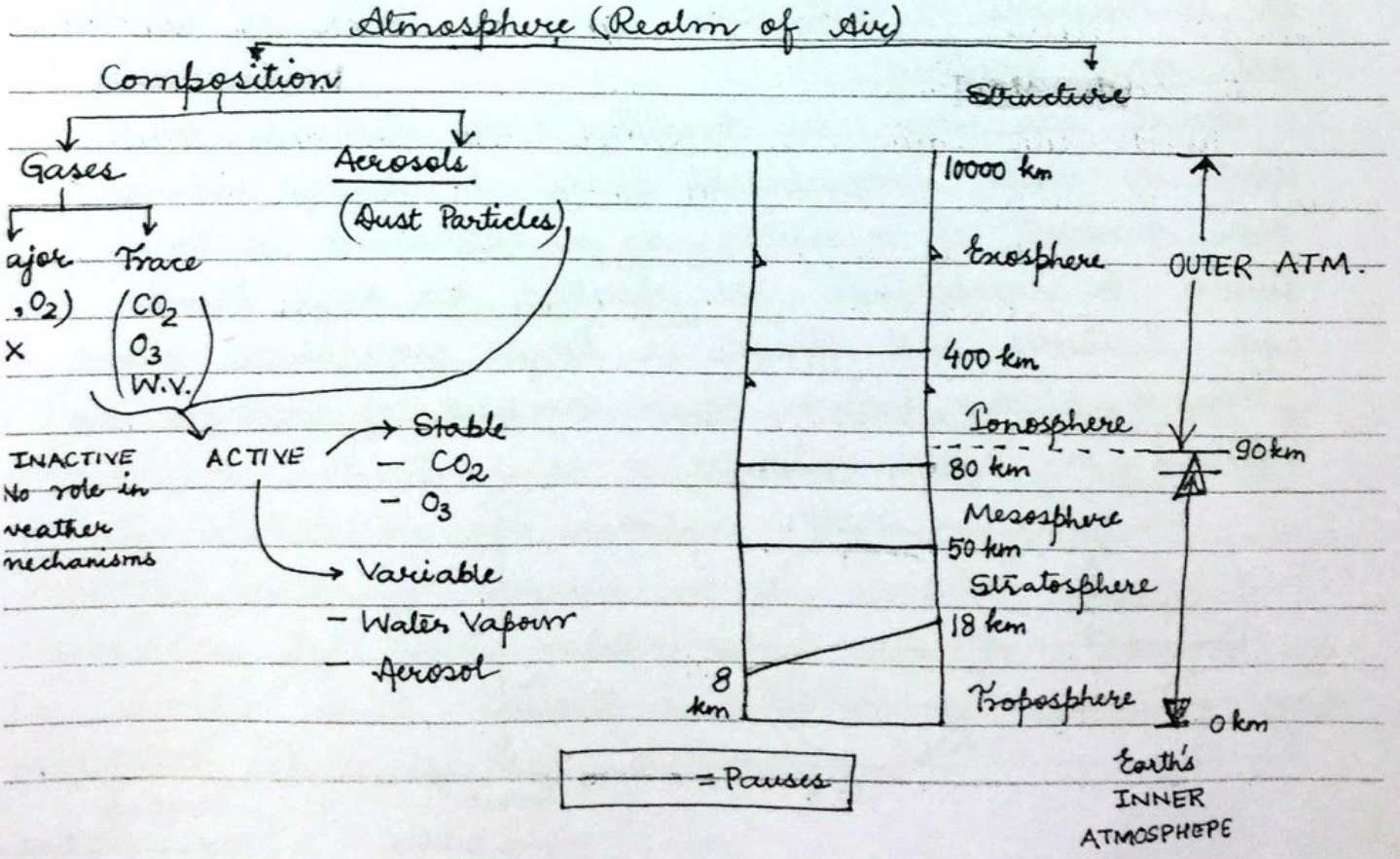
(v) Stage of Mass Consumption.

In the traditional society, he identified the economic setup to be highly primitive with population engaged in sedentary type of agricultural practices, with absolute subsistence living, with minimal income. This minimal income being largely deviative to the non-productive activities like religious rituals with the consistent practice of following set practices rather than rational enquiry pulling upper ceiling to the growth prospect. Politically this stage covelates to "nations".

> The pre-conditions for take off mark its beginning with the general diffusion of education & awareness, among the newly evolved middle class. This stage also marks partial beginning of selective productive investments in the political domain of centralised state. This stage

CLIMATOLOGY

1) Insolation
2) Temperature
3) Pressure & Global Circulation
   * Monsoonal mechanisms*
   * Jet Streams*
4) Atmospheric moisture
   * Hydrological Cycle
   * Precipitation : Types & Distribution
5) Cyclones*
   * Tropical & Temperate
6) Air masses*
7) Climatic classification
   * Koppen
   * Trewartha
   * Thornthwaite



Earth's shape: Oblate Ellipsoid

[149.6 M km]

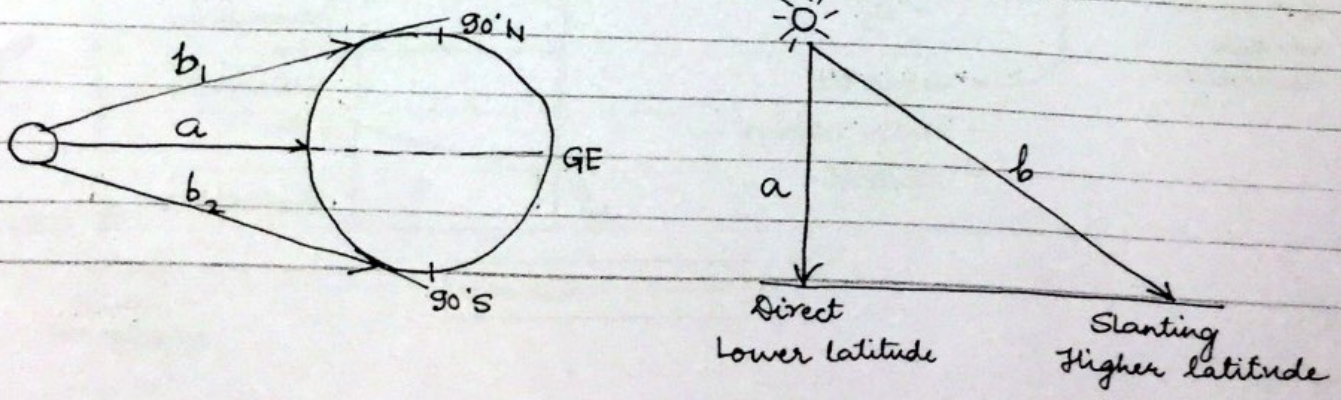
INSOLATION: INCOMING SOLAR RADIATION

Earth's System is completely dependent on the sun for requirement of heat and light. The total amount heat energy emitted from the surface of sun is lled solar radiation. Small amount of solar radiation t is received by the Earth's system because of the tance b/w the 2 celestial bodies is called insolation. amount of insolation received by Earth's system is gely constant (with minor exceptions generated during ihelion and Aphelion positions). However, the distribution insolation significantly varies. Among the factors that ulates the distribution of insolation:

Angle of sun rays
Season Cycles
Atmospheric influence, are included.

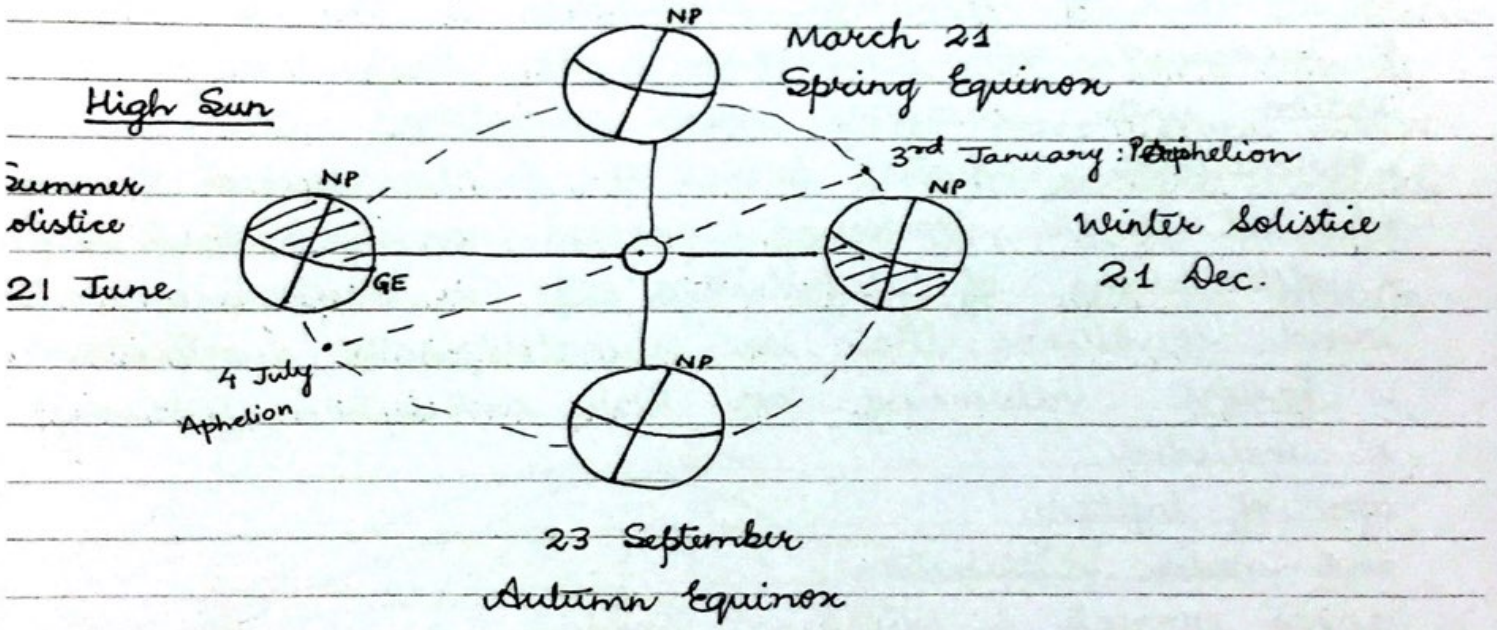
gle of sun's rays: In reference to the shape of planet th, it receives 2 distinctive types of angle of sun rays ect and slanting.

direct sun rays, as travelled less distance and eads in lesser geographical space, it always induces gher amount of insolation as is experienced in lower titudes. In comparison, the slanting sun rays travels rger distances and spreads in larger geographical space, therefore, always induces lower amount of insolation as erienced in higher latitudes.



Plane of the ecliptic

Season Cycle : Axial inclination of the earth and its revolution around the sun causes the shift of thermal equator or high sun. It is this shift that creates reversal of seasons between the hemispheres representing unequal distribution of insolation. In accordance to the season cycles, from Spring Equinox (21 March) to Autumn Equinox (23 Sep), Northern Hemisphere experiences high sun seasons with 21 June being Summer Solstice. In accordance southern hemisphere experiences high sun seasons from Autumn Equinox i.e. 23 Sep to Spring Equinox i.e. 21 March with 21st December being the winter solistice



) Role of atmosphere : The active variable constituents of atmosphere induces local to regional levels of effectivity in the distribution of insolation. The atmospheric influence includes: scattering carried on by aerosols, absorption carried on by water vapour and reflection carried on by clouds which results in wastage of incoming solar radiation influencing its distribution.

March 2014

Lecture # 19

2. ATMOSPHERIC TEMPERATURE

Perehelion : Nearest (147 Mkm) ⇒ On or near January 3.

Aphelion : Farthest (152 Mkm) ⇒ On or near July 4.

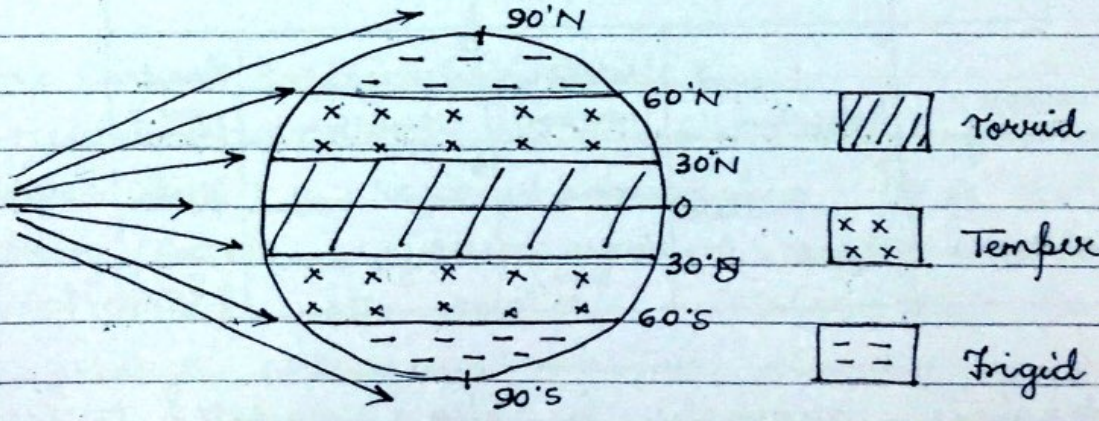
amount of heat present in the atmosphere is fined to be air temperature, atmospheric temp. or mply temp. It is an identified fundamental element of eather and climate which is regulated by incoming lar radiation and in turn regulates atmospheric essure. The principle source of atmospheric temp. is tgoing long wave terrestrial radiation whereas coming short wave solar radiation forms the condary source. However, in the light of the fact that e source of terrestrial radiation is also the ~~Solar~~ f incoming solar radiation, atm. temp has direct lation with incoming solar radiation.

terrestrial radiation forms the principle source of atm. np., it is the prevailing ground conditions that forms determiners of distribution of air temp. Among the ound conditions, that are climatologically recognised as factors influencing air temp. distribution, following e included :

ign of latitude
and-water distribution
ceanic currents & prevailing winds
oud cover, and
titude or height

: Sign of Latitude

With geographical equator dividing planet earth into two equal parts called northern & southern hemisphere with each one incorporating 90 degrees of latitude, Climatologically, lower latitude that is proximate to equator & higher latitude that is proximate to poles are distinguished. with ↑ in the sign of latitude, atmospheric temperature continuously decrease because of the decrease in the amount of received insolation. This rela b/w latitude & temperature was analysed by pre-historic contributors: Greek scholars. They recognised 5 thermal zones. The torrid zone, extensive b/w 30°N to 30°S, forms the lowest latitudinal thermal zones with highest temperature The frigid zones b/w 60° to 90°N & 60° to 90°S forms the highest latitudinal zones, thus have lowest atmospheric temperatures. In b/w these 2 extremes, are temperate zones, that is 30° to 60° N & 30° to 60°S with moderate temp. conditions thro' out the year with its middle latitudinal location



"5" Thermal Zones given by Greek Scholars

Land-Water Distribution

he approach of thermal zones represents absolute validity
describing latitudinal distribution of temperature. It is,
owever, based on the perception that surface of the
arth have homogenous relief. In practicality, maximum
of Earth's surface involves unequal distribution of land
nd water, with these reliefs revealing different temp
conditions. In a given sign of latitude, water, primarily
ue to its mobility and translucent characteristics,
naintains the temperature whereas land always depicts
xtreme. It is in the effect of this factor that horizontal
istribution of temperature in regional perspective stand
synonym to "temperature anamoly". It is defined to
e deviations from normal projected temperature in
any given sign of latitude. It involves positive
nomaly that is more than normal and negative
nomaly i.e. less than normal.

Temperature Anamoly →	+ve		−ve	
0-45° Lower Latitude	* Land (High Sun)	Water (Low Sun)	* Water (High Sun)	Land (Low Sun)
45-90° Higher Latitude	* Water (High Sun)	Land (Low Sun)	* Land (High Sun)	Water (Low Sun)

e temperature anamoly is also correlated to the
revailing season cycles where during high sun
easons land develops +ve temp. anamoly compared to
e neighbouring water & therefore, during low sun season
and develops −ve temp. anamoly compared to neighbouring water.

OCEANOGRAPHY

⇒ Study Plan

(1) Submarine Topography (2nd Order Relief Only)

(2) Physical properties of Ocean Waters
- Salinity
- Temperature

(3) Ocean Water Movements
- Oceanic Currents
- Tides*

(4) Oceanic Deposits

(5) Marine Resources (UNCLOS)

(6) Coral Reef

"United Nations Convention on Laws of Seas." = UNCLOS

1. Submarine Topography

Oceanic crust that forms the example of first order relief includes diverse range of topographical features that are collectively referred as submarine topography. The submarine topography mainly includes second order relief features as per its location below the baselevel of erosion. The sub-stream of oceanography that analyses submarine topography is called Bathymetry. The study of bathymetry always takes into account Hypsometric Curve that is the graphical representation of on- and off-shore features in a single frame to avail the comparision of the height and the depth in a given location. Practically, however, hypsometric curve is utilised to analyse off-shore or submarine topography. In accordance, this curve depicts 3 major submarine features:

) Continental Shelf
) Continental Slope
) Deep Sea Plain or Abyssal Plain

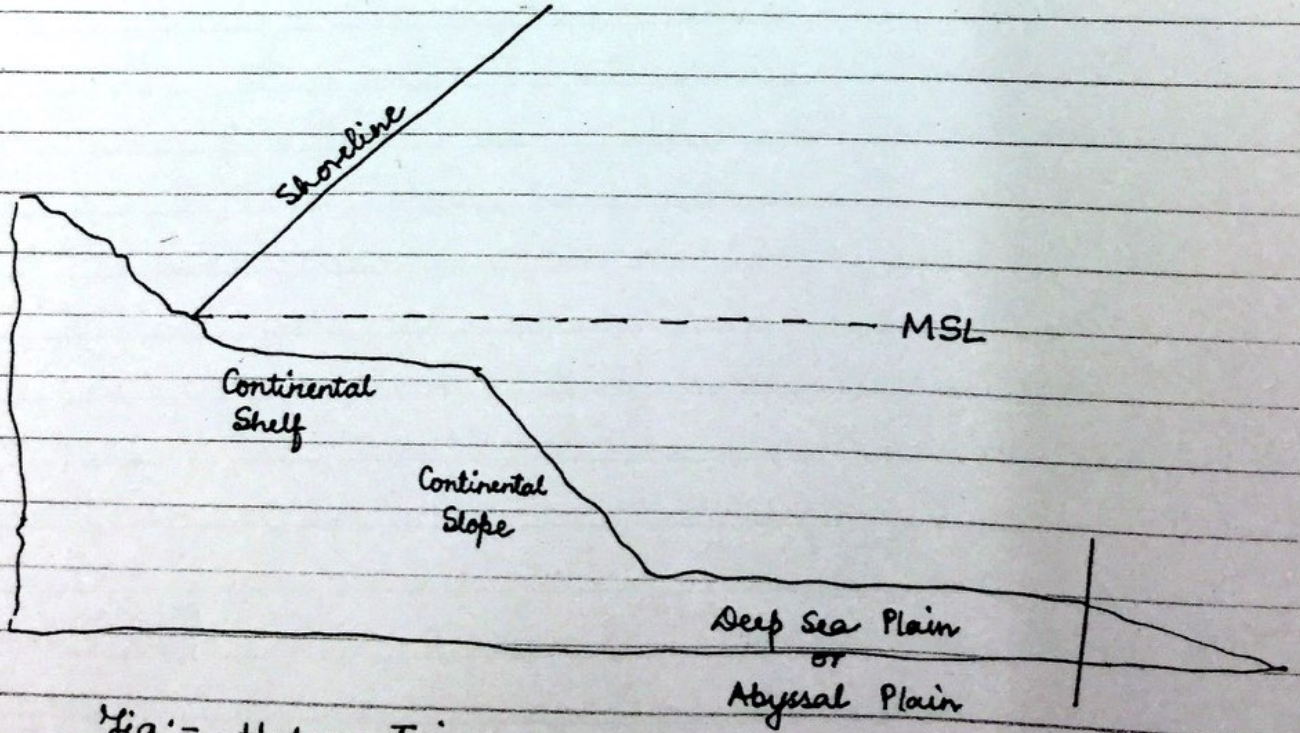


Fig:= Hypsometric Curve

Date 20/03/2014

Mid Atlantic Ridge : Dolphin
Challenger

1. Continental Shelf

It is the immediate offshore feature which represents to be submerged part of continent. Its development, thus, is synonym to positive rejuvenation involving tectonic as well as climatic factors. All the major continental shelves identified in global perspective represents rise of the MSL after the termination of Plaestocene ice age as this rise was upto 200 metres The continental shelves are identified with common depth of 200 m from the MSL. The occasional variation in the depth of continental shelves represent additional mechanism that includes substantive deposition along the passive tectonic boundary which makes continental shelves as shallow as 60 m. Similarly, in the presence of submarine canyons that the depth of continental shelves can be upto 600 m. Commonly, for continental shelves variations in the horizontal expanse is interpreted. This variation is largely the outcome of "height of the onshore features" that determines the nature of submergence. Shelves, therefore, are broader along coastal plains and narrower along tall mountains.

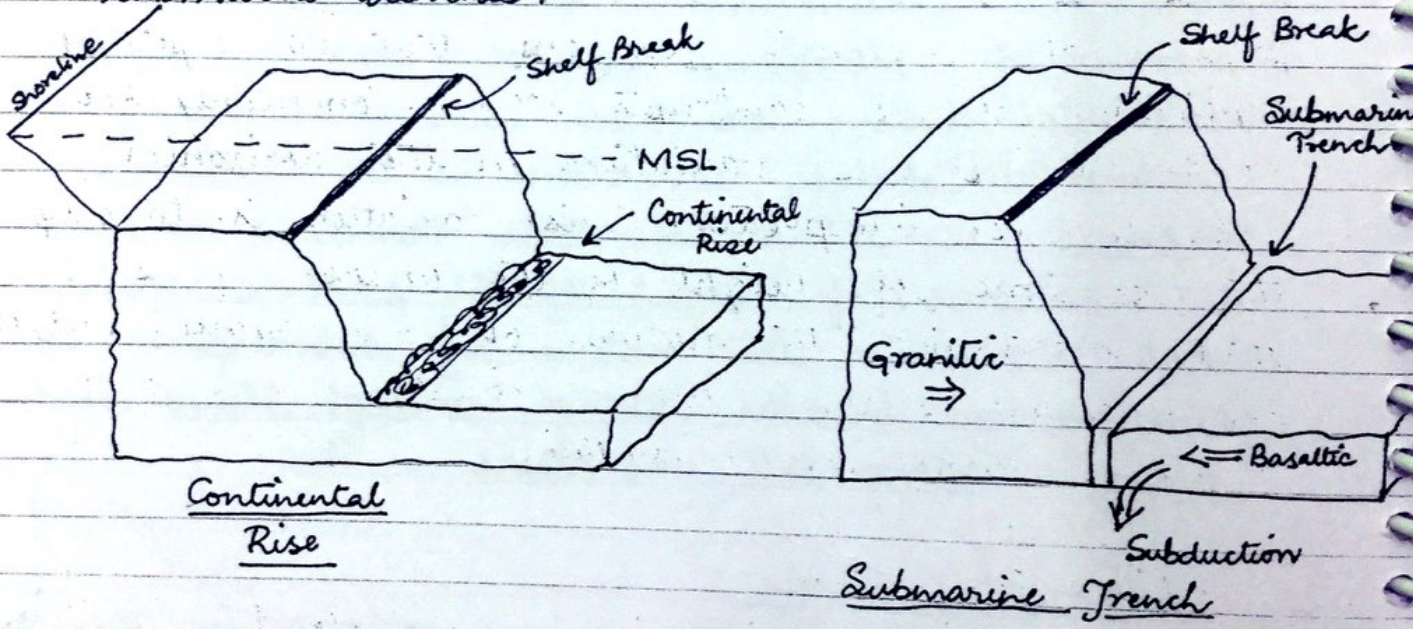
2. Continental Slope

This submarine feature is identified to be transitional feature between true granitic crust that is Continental Shelf and true basaltic crust i.e. deep sea plain. This submarine feature extends beyond shelf breaks i.e. from the depth of 200 m to upto 3500 metres. Along the passive tectonic boundary, it commonly

C. Rise = Deposition of Order

. Submarine Canyon ⇒ 3rd Order

incorporates foot deposits called continental rise. These deposits are sourced from the continents and fails to get deposited on the slope because of the available gradient. The continental rise, therefore, forms the example of depositional 3rd order relief of the Ocean bottom topography. Along the active tectonic boundary however, continental slope at its Piedmont location marks the development of submarine trench developed due to the subduction of heavier basaltic abyssal plain. In the presence of submarine trenches development of continental rise is ruled out. However, its location justifies presence of continent sourced material in the deepest parts of the ocean i.e. the foot of submarine trenches.



Submarine Canyons :

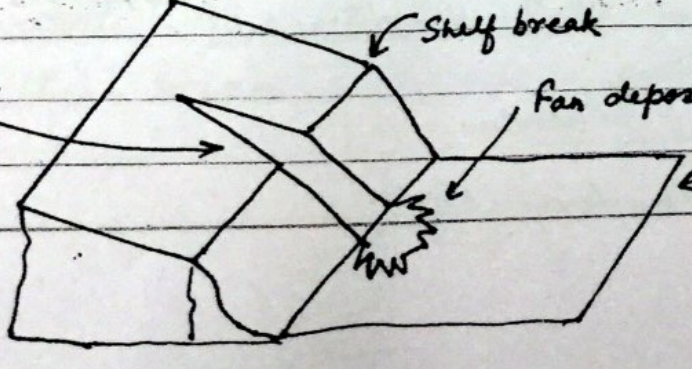
The submarine canyons are identified to be 3rd order relief features commonly recognised with continental shelves as well as continental slope. Lying below the base-level of erosion (Powell) , this vertical abrasional

feature is explained by 2 different schools of thought:

① Development first and envindated later

② Effectivity of turbidity currents

The first school of thought recognises as classical approach absolutely maintains base level concept to explain the formation of submarine canyons. Referring positive rejuvenation, this school of thought identifies these canyons to have been developed by agents of gradation before the submergence of platform. Hudson Canyon (Atlantic Ocean), Indus Canyon (Arabian Sea), Padma Canyon (Bay of Bengal) forms the excellent examples supporting this school of thought. In the application of this school, canyons present in shelves were excellently explained. However with eventual realisation of presence of submarine canyons in continental slope facilitated the development of modern school of thought which recognises role of turbidity currents. These currents are defined to be subsurface water movement towards open ocean or sea. Such movements are triggered by submarine quakes, tsunamis and strong backwash. These currents facilitates movements of shelves' deposits making them agents of abrasion called turbides. In the effectivity of turbides submarine canyons marks their formation both on shelf as well as slope. Even this school of thought maintains that MSL is base level of erosion with turbidity currents as occasional development.



Abyssal Plains

It is the true basaltic crust that incorporates wide range of constructive and destructive submarine features. The constructive features correlates either spreading boundary or to transform faults. At the spreading boundary, development of main submarine ridge forms the most important constructive feature. It is this feature that corresponds to extensive vulcanism creating submarine mountains. In addition to such construction, along transform faults, magma ejection facilitates the development of ancillary ridges running perpendicular or near ⊥r to the main ridge along with formation of isolated sea-rises that includes conical seamounts or flat-top guyouts. All these construction features divides the abysal plains into variable sized BASINS. It is submarine basin that further incorporates destructive features along subdusive boundaries called submarine trenches. Moreover, it is with basins that fracture zones are also correlated which are transform faults without vulcanic activities.

Bathymetry : C. Shelf
C. Slope
Abyssal Plains
} + Marginal Water bodies + Names + Islands

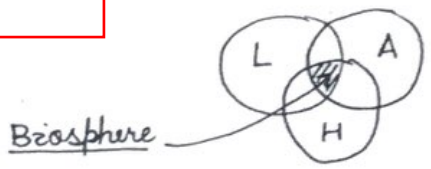
↳ Include from all oceans.

Ridge → Basin → Trenches

Ridge → Ancillary, Sea Rises
Basin → S. Trenches
Basin → Fracture Zones

Lecture #36 (Contd.)

BIO GEOGRAPHY



Ecologists → { Genetics, Species, Eco-System diversity }

① Principles of ecology

② Ecosystems (also called Biomes)
- Terrestrial (5)
- Aquatic (2)
- → Plants : World Vegetation
- → Animals: Zoogeography

③ Soil (Edaphic factor of ecosystem)

④ Human ecological adaptations

⑤ Human impact on environment
- ↳ IPCC for climate etc.
- ↳ IUCN, CBC etc.

⑥ Global Concerns
- Education
- Legally binding
- } Earth Summit, 1992

⑦ UNFCCC, UNCCD, CBD → Greenhouse gases CH_4, O_3, CO_2.

Fundamental Principles of Ecology

The life bearing sphere of the environment is called biosphere which represents narrow zone of contact of lithosphere, hydrosphere and atmosphere, sustaining life. The environment provided in biosphere to sustain life involves varied combinations of habitat It is this combination along with the complex interlinkages between the organisms that makes biosphere complicated system. The analysis of this system is credited to ecologist Odum, who identified that biosphere is comprised of 6 different hierarchy of biological systems. These includes :=

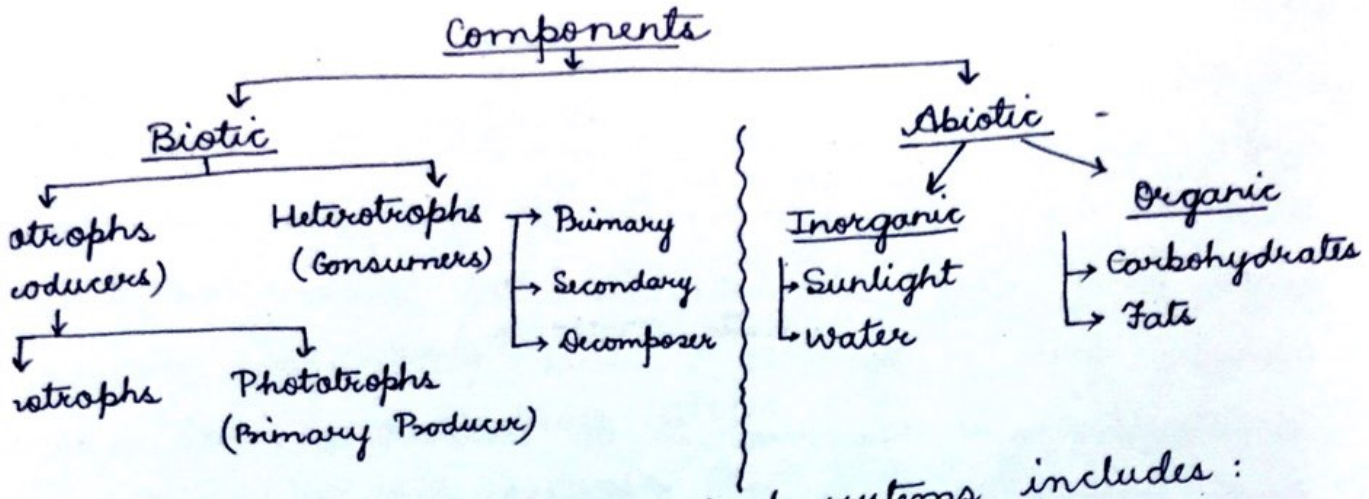
Gene System, Cell system, Organ system, Organism system, population system & highest hierarchy, ecological system. At all these hierarchy systems, biotic components interacting with abiotic components leads to the formation of the system wherein there is the generation of food, energy and matter.

BIOLOGICAL SYSTEMS (ODUM) (Hierarchy →)

Biotic Components	Gene	Cell	Organ	Organism	Population	Biotic Community
interacts with Abiotic Components	↕	↕	↕	↕	↕	↕
	ENERGY AND MATTER					
leads to	↓	↓	↓	↓	↓	↓
System	Gene System	Cell System	Organ System	Organism System	Pop'n System	Ecological System

ECOLOGICAL SYSTEM :

The ecological system that is highest hierarchial biological system is comprised of components (biotic & abiotic) and their linkages. The components of ecosystem includes biotic and abiotic constituents. The biotic category includes both :- autotrophs and heterotrophs. The autotrophs are referred to be producers, produces food, energy and matter. Interacting with abiotic components, the producers are sub-categorised into chemotrophs and phototrophs. The chemotrophs are the producers which produces food, energy and matter by the process of chemosynthesis that do not require sunlight. The chemotrophs as autotrophs are self-feeders but cannot support heterotroph community and thus are distinguished from the phototrophs. The phototrophs or primary producers includes green plants which produces food, energy and matter by the process of photosynthesis which marks the mandatory requirement of sunlight. It is primary producers that support big range of heterotrophs that are consumers. This category of biotic constituents includes primary consumers (herbivores), secondary consumers (carnivores) and decomposers. The abiotic components of ecological system includes sunlight, water & range of soil or water nutrients.



The linkages of the ecological systems includes :

a) Abiotic - biotic

b) Biotic - biotic

c) Biotic - abiotic

ABIOTIC-BIOTIC : The abiotic - biotic link is called production which includes interactive relation of producers with abiotic components to produce food, energy and matter. This interactive relation though involves both chemosynthesis and photosynthesis, it is photosynthesis that is mainly recognised as it involves primary producers. The photosynthesis, as the process of production representing abiotic - biotic link, is applicable to all the locations where green plants are present. However, as the production process is determined by 4 different set of factors, there is variations in the amount of production. The determining factor includes :

- Sunlight } as major factors &
- Water
- Season Cycle } as minor factors
- Age of the vegetation

b). Biotic – Biotic Link :

The amount of food, energy & matter produced by phototrophs is recognised to be production which regulates productivity. Productivity is defined to be amount of stored energy per unit time and area. For biogeographical purposes, it is interpreted as dry-gm/m^2/yr. The average biospheric productivity is 320 drygm/m^2/yr which involves big range of 2000 drygm/m^2/yr in the wet tropical location to as low as 3 drygm/m^2/yr in deserts. Clearly the amount of productivity is directly related to amount of production making productivity also determined by 4 set of factors which determines production.

The productivity is classified as primary productivity at producer's level and secondary productivity at consumer's level. Both primary and secondary productivity involves the distinction of gross (total) and net (i.e. total minus respirational loss) productivities. As production is applied only with phototrophs & RL with all the trophic levels (that are the nature of feeding links between the biotic communities), the feeding capacity or ecological capacity decreases with increase in trophic levels. The biotic – biotic link, therefore, is best deciphered in the support of food pyramid.

which practically incorporates not more than 4 to 5 trophic levels. Moreover, it clearly depicts that the largest biomass (weight of living matter per unit time-area) always relates to phototrophs that occupies trophic level 1.

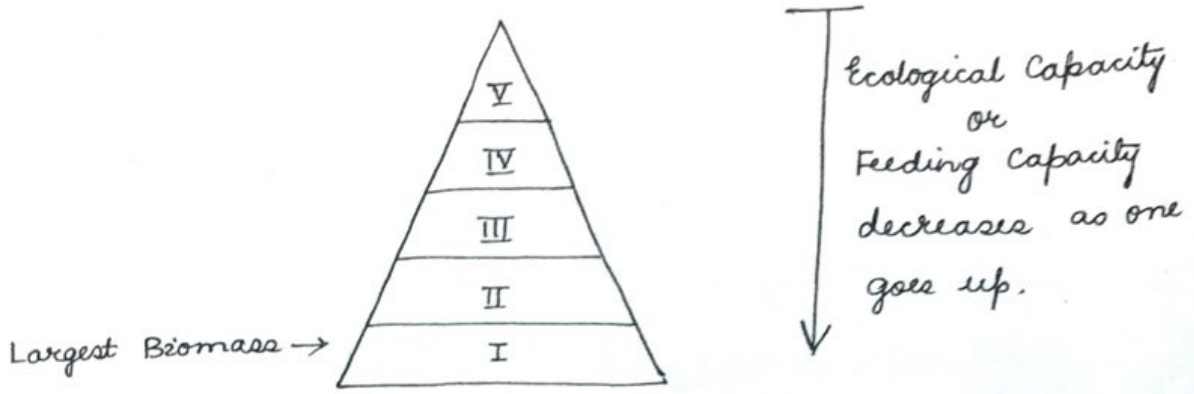


Fig.:= Food Pyramid/ Trophic levels/ Ecological Capacity/ Feeding Capacity

The biotic- biotic link in the feeding interacting relation also includes prey-predator relation and parasitism which involves loss of one organism and gain of the other. Apart from feeding, this interactive relation also includes symbiosis and competition. The symbiosis biotic linkage denotes living together with no loss involved. It incorporates 2 distinctive types of prevailing inter-relations called commensalism (gain of one with other being one neutral) and mutualism (both gaining). The competitive interrelation is always applicable to intra-trophic level. However, it is distinguished to

lower societal category

3RD STEP OF HUMAN GEOGRAPHY :=

I. Agriculture Geography

ECONOMIC GEOGRAPHY

P1 : Whittelsey's, agri-typologies, agri-regions

P2 : → Agricultural Regions of India
→ Agro-Climatic Regions of India

→ National Food Security Mission ⇉ Rice, Wheat, Pulses

→ Green Revolution :

- Generation I
  - → Agri Infra.
  - → Agri Productivity
  - → Cropping Intensity
- Rainbow Revolution
  - White Revolution
  - Poultry
  - Blue Rev'n

→ RKVY
Rashtriya Krishi Vikas Yojana

- Apiculture
- Seri-Culture

→ Evergreen Revolution (Social Forestary)

→ Von Thunen's Agricultural Loc'n Model (1826)

Agriculture : Paper 1 → factual
Paper 2 → Extensive

Intensive Subsistence With Paddy : World view

Whittelsey's Classification, Agricultural Typology & Agricultural Regions

The reproductive industry agriculture represents the oldest economic activity. Human population have been engaged in this activity includes cultivation of crops, rearing of animals, aqua-culture & forestary as its constituents. This sector reveals both diverse & dynamic characteristics where the diversity is regulated both by prevailing natural conditions (soil climate relief) as well as human factors i.e. infrastructural inputs of agriculture. For the identification of global agricultural types requires generalization have been best attempted by German scholar Whittlesey to outline the agricultural typologies way back in 1936 in the text entitled "Agricultural Regions of World", he outlined 13 agricultural typologies of world.

(i) Nomadic Herding
(ii) Livestock Ranching
(iii) Shifting Agriculture
(iv) Sedentary Agriculture
(v) Intensive Subsistence with Paddy
(vi) Intensive subsistence without paddy
(vii) Mixed subsistence

} Developing Tropical Typologies

(viii) Extensive Commercial Grain Farming
(ix) Extensive Commercial Mixed Farming
(x) Commercial Dairy Farming

} Developed Temperate Typologies

(xi) Mediterranean Agriculture
(xii) Horticulture with truck farming
(xiii) Plantation Agriculture

} Specialised Agriculture

Map. Date: 22/04/2014

⇒ Madhya Pradesh, Chhattisgarh, Odisha:

Hirakud Res.
Kurung Res.
Mandira Res.
Upper kolab Res.
* Macchhakund Res.
Jalaput Res.
Salaput Res.
* Balimela Res.

Lake Kolleru
Nizam Sagar Res. (R. Manjra)
Lake Beale
L. Andhra
L. Mulshi
L. Bhatghar
Shivaji Sagar
Nagarjuna Res.

L. Pulicati (Lagoon Lak
Bhadra Res.
Linganamakki Res. (R. Saravati)
Vanivilasa Sagar Res.

Kubbanahalli Res.

Charmaraja Sagar Res

Shimsha Res.

* Sugu Res.

Stanley Res.

Bhavani Sagar Res.

L. Periyar

L. Vembanad

L. Asthamudi Kayal (Backwater lakes)

LECTURE-02

Date 23/04/2014

Agricultural regionalisation = Agri. typology

(A) TROPICAL DEVELOPING TYPOLOGY :=

The tropical latitude largely represent the developing countries of the world which in combination to the larger population size and excessive dependency on agriculture sector reflects lesser per capita land holding and therefore prominently combines – intensive subsistence, manual labour, oriented agriculture. In this category absolutely livestock dependent agriculture types include – nomadic herding and livestock ranching.

(i) Nomadic Herding

Nomadic herding depicting primitive typology primarily involves dependency of human population on livestock and dependency of livestock on natural pasture. Being primitive-most typology, it correlates to least exploitative nature and thus is referred to be ecological type of agriculture. Prominent location of nomadic herding includes tropical savannah where

where MASEI, the cattle herder; tropical desert where BEDOWIN, the camel herder; Sub-tropical desert where KAZAL MONGOLS, the horse herders; & sub-polar region where SOMAYEDS, the reindeer herder represent the examples.

(ii) Livestock Ranching

The livestock ranching in comparision represent the agricultural typology that involves rearing of animals. In this agricultural typology, cultivation of fodder crops makes it slightly extractive, thus near ecological type of agriculture. Well-developed in tropical countries, livestock ranching involves both subsistence and commercial orientation. In most of the African Savannah specifically the country like Cameroon, Central African Republic, milch cattle rearing depicts examples of subsistence livestock ranching. More elaborate sub-category, however, includes beef-cattle rearing in Alfalfa grass (CAMPOS, BRAZIL), Llanos (Venezuela), Okawambo (BOTSWANA);