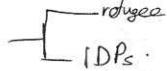


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## MIGRATION



V.P.GAUTHAM

Permanent change in residence of pd from one place to another between 2 points in time.

### Push factor

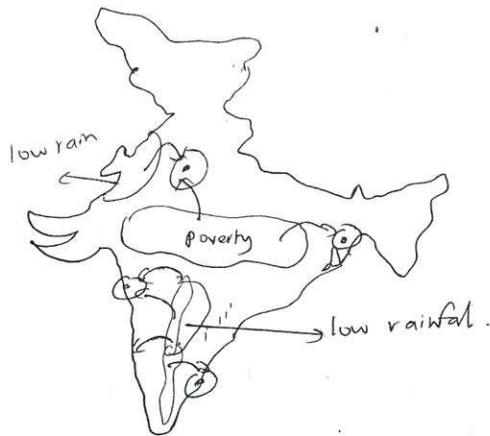
1. Unemployment
2. Poverty.
3. Religious intolerance
4. Civil war
5. Ethnic rivalry
6. Climate change.

Marriage esp. women (Jewel jewel)

Seasonal migration → agri. labourers

Unequal distribution of resources

### Regional disparity



## Rules of migration:

### 1. DISTANCE - DECAY RULE

As the distance increases, the no. of ppl migrating b/w two places decreases.

Ramnad → Chennai (large no. of ppl)

Ramnad → Mumbai (low no. of ppl)

Ramnad → New York (very less):

### 2. STEP MIGRATION..

Migration is usually a step by step process.

village → town

town → city

metro → cosmopolitan

e.g.: Odaipatti → Oddankalram → Chennai

### 3. SEX SELECTIVE

Mostly, the no. of migrating ppl is more among men than women.

So, areas of outmigration have high sex ratio  
e.g.: Kerala (1084/male)

Areas of immigration have low sex ratio.  
e.g.: Delhi (866/female)  
(since, our population is de-facto, not de jure)  
residence ↓  
not native belonging ↓

### 4. Migration is always towards leading urban centres.

If a person decides to emigrate from India,  
~~elsewhere~~  
he immigrates into New York, NOT Phoenix.

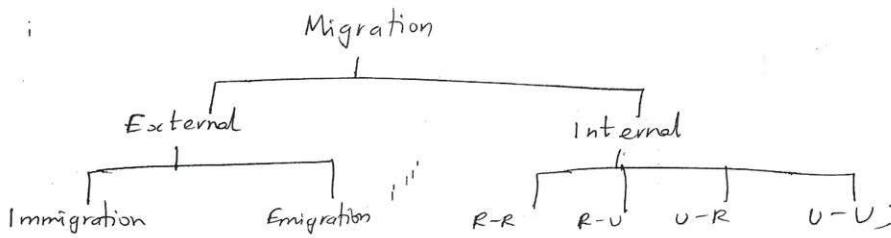
### 5) Evolution

- 1) Rural to rural (traditional society :- for agri- emp) women after marriage → political residence
- ↓
- Rural to urban (with industrial societies)
- ↓
- Urban to urban (post modern societies or post-industrial societies).

### Counter Migration

6) In all areas of emigration, the intensity of counter migration (immigration) is comparatively very low.

for eg:- ~~the~~ Immigration into Bihar is very less compared to emigration.



### HISTORICAL STUDY

Traditionally, India is an immigration country. Most of the migration was through

India has experienced waves of migration. Most of the migration was through

Tibetan, Mongolian, Palaeo-Mongolian, P-Mong.

Hybrid Bikan passes in the North West.

During each wave of migration the earliest ppl were pushed further south or east to unoccupied areas.

LAND

SEA

SEA

(1) Jarawa, (Negritooids).  
(2) Andamanoids

(before IVC) Negroid → Jarawa, Andamani Negros. (Andaman N.E.)

Proto-Australoid → Bhils, Baduga, Chenchu, Munda,  
(IVC) Karava, Malabarase (Central India)

Mongoloids.

Paleo Tibetan  
(N.E.) (Ladakh)

Mediterraneans → Dravidians → Peninsular India;  
(later stage of IVC) → farmers group:

Brachycephalic → narrow, long head (coastal areas)  
↳ Malabar coast

Nordics → Aryans (N. India);

• Usually, the lower classes from an area (here Central Asia) first. So, the earlier migrants (Negroid, Proto-Aus) were lower classes pushed out from C. Europe. When the Nordics came to know about the wealthy life of the migrated classes in India, they came & occupied India (settled down as Aryans).

Thus, Bolan & Khyber pass in Hindu-Kush which allowed waves of migration → is the reason for vast ethnic diversity of India.

## Migration in medieval period

- Land route
- Political interest
- Persians, W. Asia, Turko, Afghans

first foreign religion into India  
Islam

architecture  
Islamization

## Migration in modern period.

- Sea route
- Commercial
- Political interests.
- Portuguese, Dutch, British, French, Danish

Christianity  
Westernization  
Modernization

## Post-independence

- Partition (from Pak & B'desh) food daughter (Marital)
- Nepal (political & diplomatic relation) → roti - beti relation
- 1980s → Tamil refugees from Sri Lanka (part of shashibhram)
- 1971 → B'desh Liberation refugees into WB.
- Iran-Iraq war, Idu Amin → 1970s → remigration of Indians from Africa.
- Illegal migrants from Myanmar & B'desh.

## Post-liberalisation

- Govt. policies of students from Africa into India.
- Attracting NRI population to India.
- Opening up the economy → FDI → foreign investors

## EMMIGRATION

### Ancient, ~~Medieval period~~:

- No emigration, since it was considered SIN to leave the soil. (Religious motto had a great control)
- Occasional invasions to SE, East Asia, China.  
Esp. S. Indian kings → Cholas.

→ Ashoka.

### Modern Colonial

- Indentured labourers → Indonesia, S. Africa, Caribbean, (sugarcane, coffee plantations). N. America, Fiji.

### Post-independence

- Semi-skilled labour → drivers, construction workers, cooks, waiters.  
to ↓ West Asia (esp. due to oil boom).

### Post-liberalisation

- Skilled labour → Aus, Europe, N. America.
- for higher education → M.S. (USA, Canada),  
M.S. in automobile, mechanical (Europe);  
MBA (England).
- Frequent movement. → well devd. air transport,  
fast connectivity;  
visa norms
- protectionism → Middle East (Iran, Iraq)  
US (H-1B visa fee hike)  
UK → admission to foreign students on London Univ.

## Internal Migration

### Traditional

- Mode of transport: ~~foot~~
- Only - intra-regional ~~inter~~ migration (max - 100 km)
  - Chola region to ~~the~~ Chola region.
  - Kongu nadodam to Pandya region.

### British rule

- Roads & railways.
- Rural to ~~the~~ Chennai, Mumbai (<sup>administrative, service to</sup> British, industrial centre).

### Post-Independence

1950s S-India → N-Indian urban centres.

- Mainly doctors, engineers → skilled labour

1960s, 70s

- Continental <sup>→ coastal</sup>  
Vidarbha to Mumbai.

- dryland to coastal.

- hinterland to coastal.

1990s, 2000

- Skilled labour → south India to N-India.

- semi-skilled → north to south India.

In India, internal migration is due to **PUSH FACTORS**.

for Urban Employment

(NOT for Urban Environment)

∴ PURA (Providing Urban Amenities in Rural Areas)

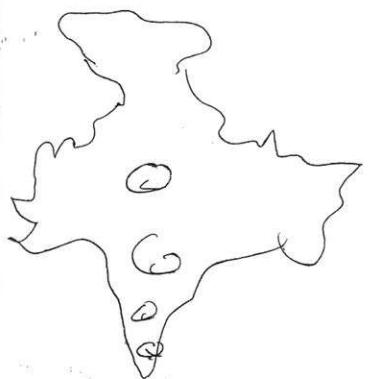
↓  
Model kalem

- To arrest migration
- Prevent regional disparity

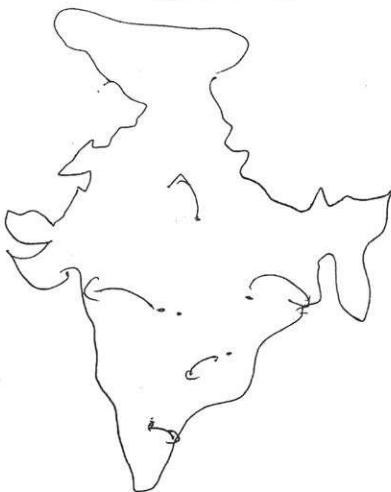
Other factors

Internal migration in India → trends

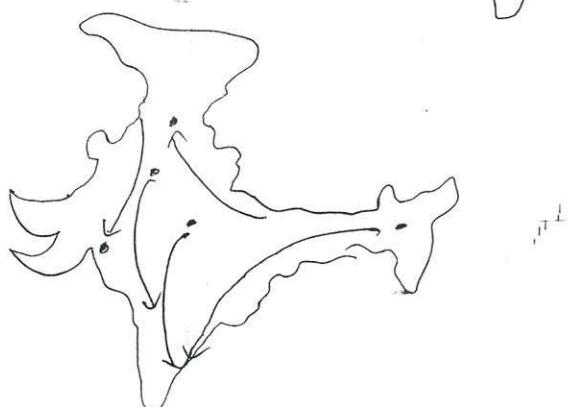
Traditional



1960, 70'



Post 1980s



# World migration

(19)

## i) Ethnic violence.

1994 → Hutus vs. Tutsi  $\Rightarrow$  DR Congo  $\rightarrow$  Rwanda;  
 SL refugees;

Tibetan refugees to India;

Myanmar to B'desh;

~~NEP~~

## ii) War

WW I, II;

Iran-Iraq war; Syrian war  $\rightarrow$  Syria to ~~Turkey~~ Turkey

Palestine war  $\rightarrow$  Jordan, Lebanon

Mali  $\rightarrow$  civil war

Afghan  $\rightarrow$  civil war; Sudan vs. S. Sudan  $\rightarrow$  civil war

## iii) Employment:

India, China to Europe, Australia.

## v) Education

1940s, 50s  $\rightarrow$  England (cap. law). eg- SL Nehru, MK Gandhi

Now

Mech  $\rightarrow$  Europe

~~Medicine~~ M.S.  $\rightarrow$  US

Medicine  $\rightarrow$  Aus, Russia

Economics  $\rightarrow$  UK, US

## v) Religions

(religious revivalism & fundamentalism is on the rise.)

Arab-Israeli conflict;

Thailand  $\rightarrow$  Miranda revolution  $\Rightarrow$  More Muslim vs. Catholic

Nigeria  $\rightarrow$  Christians vs. Muslims

Egypt: Coptic Christians vs. Muslim

## vi) Racial

- Jewish people from Germany

### vii) Climatic refugees:

- Small rain states
- Increase in sea levels
- Drought, floods

### viii) Slave trade:

Africa to N. America

Africa to Caribbean

### ix) Gold rush

- Discovery of sea route

Europe → N. America  
Asia

### x). Liberalisation

• Easing of visa procedure,

• Schengen zone in EU.

WTO

Mode 1

Mode 2

Mode 3 } opening up markets  
(to companies)

Mode 4

} opening up of border  
for professionals  
(to individuals)

### xi) Better std. of living

from Developing countries to America

• The American dream.

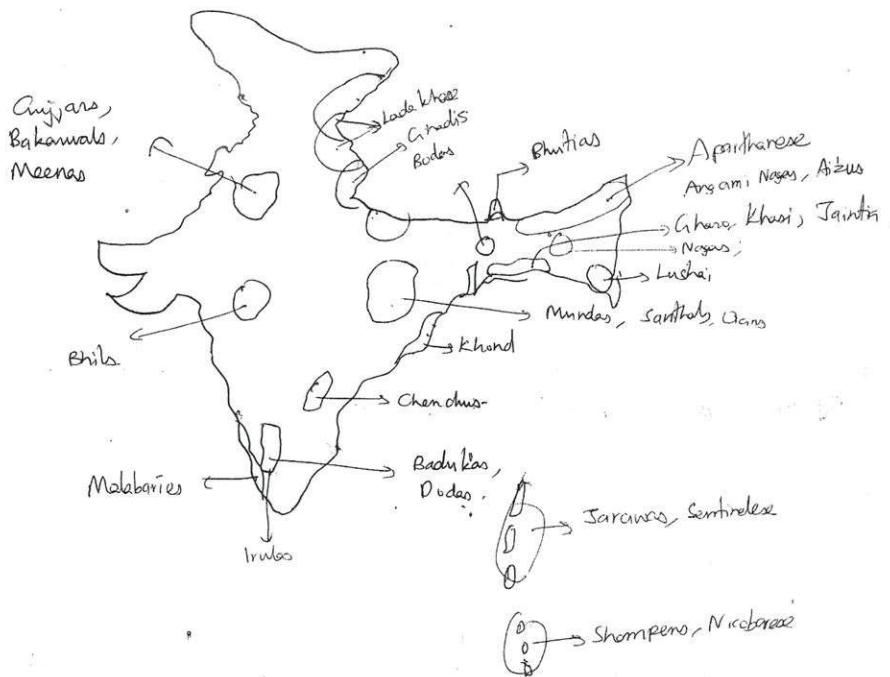
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## TRIBAL POPULATION

(11)

### Tribes

A tribe is a group of ppl living in relative isolation, having their unique culture and way of life.



In India, Tribes form 8% of total population.

390 absolute tribes (distinct tribes) in India.

Tribal areas compose 59% of the total forest cover of India, though the total tribal area is just about 3%.

### Problems of tribes

1. Geographical Isolation
2. Illiteracy (just 40% literacy; women → 20% literacy)
3. Epidemics (no vaccination facilities)
4. Land alienation (Alienation from original habitat due to industry)
5. Market exploitation (no benefit for their forest produce)

6. Sexual exploitation of tribal women (see tourism).

7. Commoditisation of tribes (tribe tourism in Jarawas)

8. Conflict between modern laws & traditional customs.  
(banning of sacrifices)

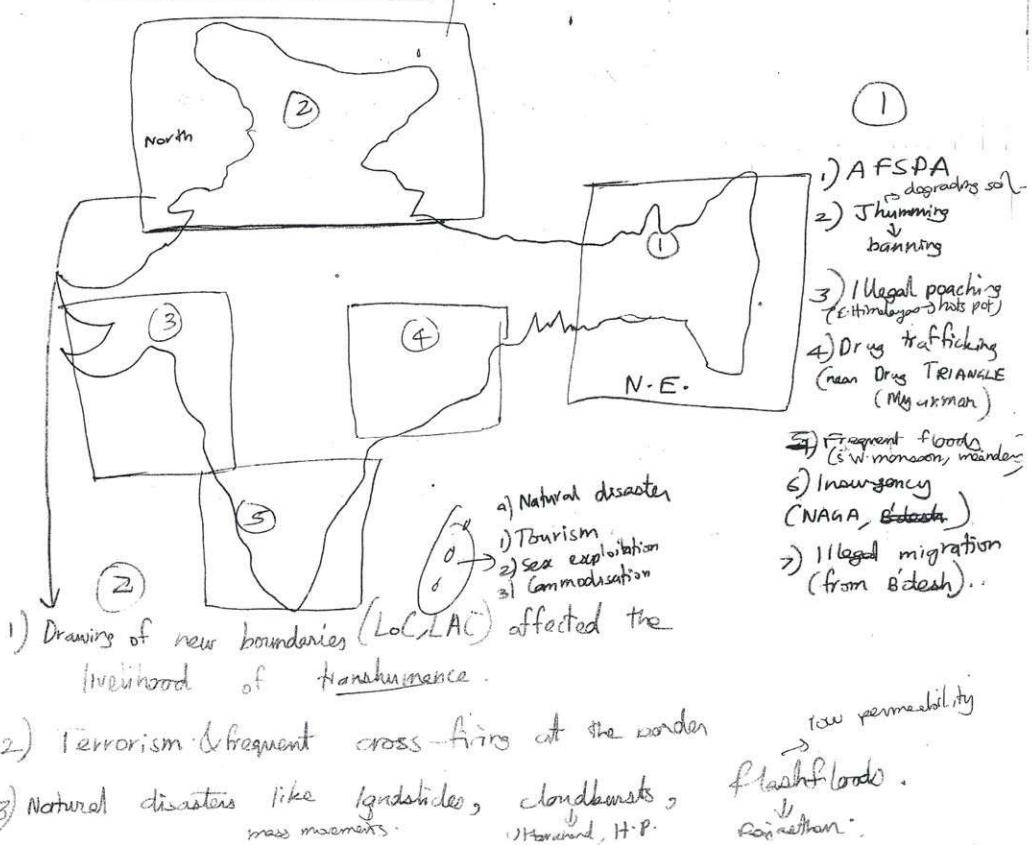
9. Cultural erosion → loss of identity.

10. Vulnerable to terrorist insurgency groups (eg:-LWE)

11. Declaring their habitats as reserved forests affects their livelihood.

12. Poor health indicators / ~~high~~ MMR, ~~high~~ IMR

### Region specific problems



- (3)
1. Submergence of huge amount of tribal land, due to dams (Narmada)
  2. Urbanisation & encroachment into tribal habitats.
  3. Desertification.
  4. Drying of water sources inside the forest

(4)

1. Mining → has removed land elevation.
2. Heavy deforestation → loss of livelihood.
3. frequent forest fire (dry deciduous forests).
4. Left wing Extremism.
5. Almost NO market for tribal produce.

(5)

1. Modernisation & Urbanisation.
2. Tourism (esp. in Kerala) has exploited tribal women very heavily.
3. Industrialisation & urbanisation in Andhra, Kerala forced the tribes to move to urban slums.

#### Govt. measures

##### Constitutional provisions

Art. 15, 16 → 8% reservation for STs.

Art. ~~24~~ 23 → Protection from exploitation.

Art. 29, 30 → Protection of culture & script.

Separate National Commission for STs. (1993)

National Comm. Officer for Linguistic Minorities

Schedule IV → STs

Schedule VI → STs in Assam, Tripura, Meghalaya, Mizoram.

Tribal Fonds

- Separate Min. for Tribal Affairs.
- Separate Tribal Sub-plan in every dist. plans
- BIOSPHERE RESERVES → including tribals in the forest conservation.  
(Man is a part of the ecosystem)
- PESA → Panchayat Extension to Scheduled Areas → local participation  
Management of non-timber forest resource i) supervision of money exchange ii) protection of customs & traditions  
iii) Autonomy acts → may Panchayats;
- " Tribes belong to the fourth world. Though these people belong to the land, the land does NOT belong to the people "

## Demographic attributes

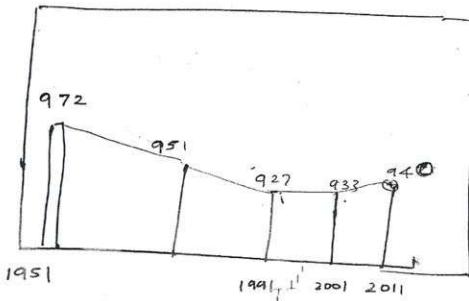
Sex Ratio → an important social indicator denoting the equality of women in a society.

No. of females per 1000 males.

### Temporal

Post-liberalisation → increase in sex-ratio.

(due to emp. opp. for women).



Though sex ratio is on the rise, child sex ratio is at an all time low ( $912/1000$ )

Reasons for low sex ratio in India:

1) Preference for male child (in the Patriarchal society)

Female infanticide

Female foeticide

2) Low MMR

• Lack of institutional health care

• Early marriage

• Frequent childbirth

- Religion promoted more children & discouraged contraception.

3) Domestic violence

4) Dowry → main reason for preference of male child.

5) Malnutrition

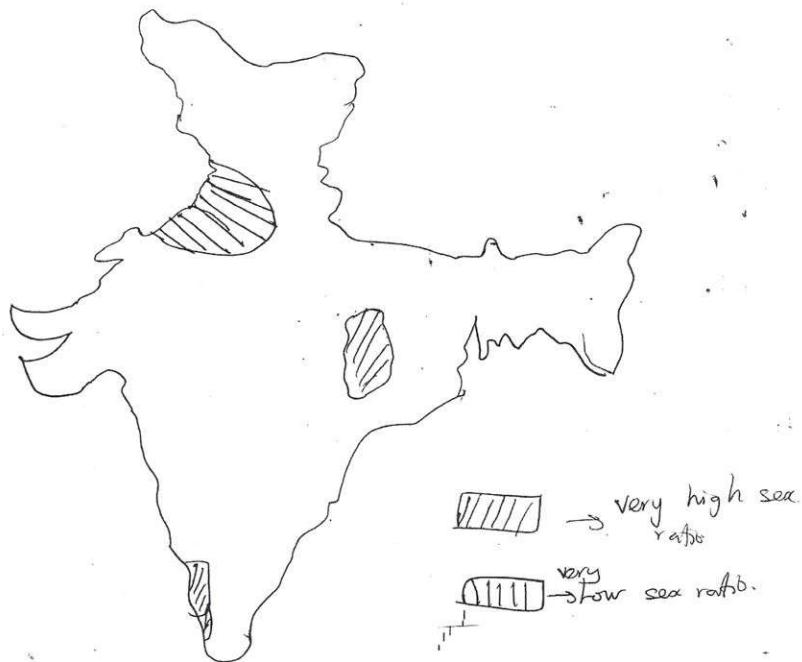
Discrimination: Better feeding of boy & inadequate feeding of girl child, in poor families.

⇒ lack of economic activity; ⇒ lack of financial education.

6) Poor literacy among women.

7) Rise in crime against women  
rape, molestation.

### Spatial distribution



Why High Sex ratio in Kerala.

1. Matriarchal society
2. High literacy
3. Christian missionaries
4. High emigration of men (to Gulf, other states)

Low sex ratio in TN, Karnataka, Andhra?

- 1) Dowry problem.

But post-liberalisation, the sex ratio in these regions is increasing due to better employment opportunities for women, esp. in the services sector.

Why very ~~too~~ high sex ratio in Chhattisgarh?

- 1) No dowry problem.
- 2) Heavy outmigration of men.
- 3) Tribal society → no means of prenatal sex determination.

(17)

from

Why very low sex ratio in Punjab, Haryana?

- 1) Masculine nature of work (military, drivers). So, male child is preferred.

2) High dowry (Highest dowry regions → Bihar, Andhra, Punjab).

3) Patriarchal & patrilineal society

Khaps Panchayat  
politicisation of caste  
They do not want the property  
to go to unrelated persons (husbands of their daughters)

Impact of low sex ratio.

- 1) Increase in Crime against women.
- 2) Increase in unmarried men.
- 3) Collapse in family institution → social unrest.
- 4) Women are traditional labourers in agri & cottage industry.  
Decline in sex ratio causes huge labour shortage in these industries & agri.
- 5) Decrease in sex ratio → Decrease in no. of women  
  
Decrease in birth  
↓  
Decrease in birth rate  
→ ve demography

6) High skew in sex ratio may lead to UNNATURAL SEXUAL INTERCOURSE - e.g.: Gay, homosexual.

### Social

- Breakdown of family nett
- Unmarried men — crime against women
- Unnatural sexual intercourse e.g. Gay, Homosexual

### Economic

- Shortage of agri. labour, labour for cottage industry.
- Low sex ratio → indicator of lack of equality & participation of women
- Low HDI, No participation in economic activities, Low G.D.P.

### Demographic

- ve demographic dividend;
- more unmarried males.

Temporary

Govt. measures

1) Incentives for families with girl children.

2) Ban on pre-natal diagnostics  $\rightarrow$  to prevent female foeticide.

3) Gender sensitive budgeting.

4) Spl. laws for protection of women in work places against sex exploitation.

Min. of women & child dept.

5) Dowry prohibition Act, 1961.

6) Improving health care facilities to women.

7) Janani Suraksha Yojna  $\rightarrow$  institutional delivery.  
decrease MMR & MMR

8) Sabla  $\rightarrow$  empowerment of adolescent girls ; Sakshi  $\rightarrow$  teaching adolescent

9) Kavawat  $\rightarrow$  rehabilitation of trafficked women  
basis on empowerment of women to respect the other gender.

10) Dhanabakshini scheme  $\rightarrow$  for having girl child

(i) Swadhan Greh

rehabilitation of destitute women

constitutional.

SOCIAL

- Dowry prohibition.
- women importance awareness pgm.
- Kasturbba Balika Education

ECONOMIC

- reservation in public employment
- MNREGA
- Indira Awaas Yojna
- Dhanabakshini scheme

POLITICAL

- 33% reservation in PRI

1) Article 15(3)  $\rightarrow$  spl. provisions to women

2) Article 23  $\rightarrow$  Protection from exploitation

3) Art. 39 ~~(d)~~  $\rightarrow$  Equal pay ; equal work.

4) 23<sup>rd</sup> & 24<sup>th</sup> Amend  $\rightarrow$  33% reservation in local self bodies for women

GDI, GII indices

Reproductive health  $\rightarrow$  Adolescent fertility

Feminist empowerment  $\rightarrow$  Labour

participation  $\rightarrow$  education

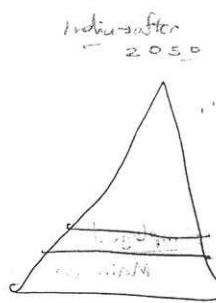
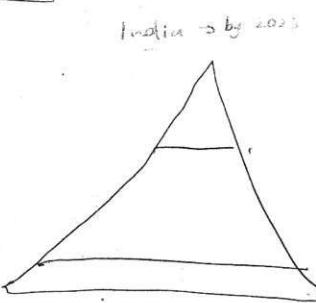
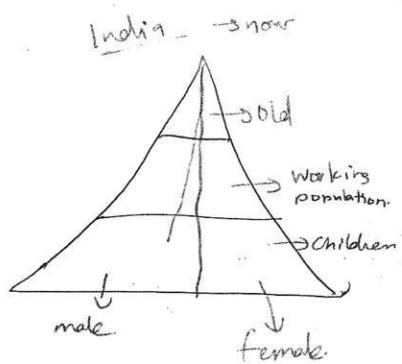
mm mLA

MMR

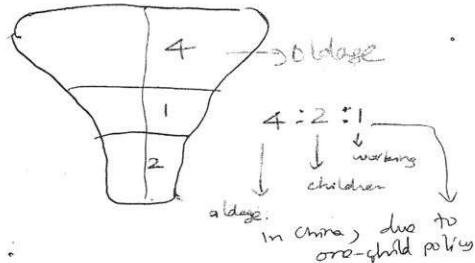
In spite of the govt. efforts, there should be (19)  
 a change in the perception of society towards women.  
 However, post-liberalisation, the social, economic & political  
 freedom of women has increased. Still, ~~there is~~ woman's mind is  
 not without fear.

only when a woman walks with her head held high and her mind  
 free from fear, our country will be fully developed.

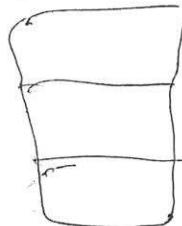
### AGE STRUCTURE



### Developed countries (esp. Europe)



### U.S., Swiss



### India

Older  $\Rightarrow$  above 60 yrs  $\rightarrow 8\%$

Children  $\Rightarrow$  0-16 yrs  $\rightarrow 34.1\%$

Adult  $\Rightarrow$  16-60 yrs  $\rightarrow 52.9\%$   
~~(labour force)~~

Men  $\downarrow$   
 Women  $\Rightarrow$  only 30% of women are involved in  
 commercial economic activity  
 $\downarrow$   
 dependent population.

} Dependent population

39%  $\rightarrow$  workers ; 61%  $\rightarrow$  dependent

1 : 2 ratio

1 person  $\downarrow$  needs to feed 2 persons.

Life expectancy  $\Rightarrow$  65 & decreases fertility rate

$\rightarrow$  With the increasing longevity, the proportion of old age people will surely increase in the future.

$\rightarrow$  So, in order to feed this increasing dependent population, we need to educate & train the young population (6-14 years) and the women population

### Employed

Main worker  $\rightarrow$  Any one who works for more than 183 days more than half the year in a year.

Marginal worker  $\rightarrow$  A person who works for less than 183 days in a year.

## Longevity

Life expectancy @ birth.

The avg. no. of years a person is expected to live at the time of his birth, in a given society.

source: Census of India; Registrar-General

Longevity	Workforce 37.5% to 39.1%	Literacy 52%; 26%	Dependency ratio 734 b596
1991 to 2001 2001 to 2011 2011 to 2012			

Male-female

States  
(high,  
avg.,  
low)

OBC,  
SC, ST

Rural-urban

Faith groups

→ Kerala, Mizoram

→ Bihar, Jharkhand

\* Prepare this table; (for India) ⇒

→ Discuss the geographical basis of federalism.

→ Discuss the

## FEDERALISM

Association of more than two sub-units under a central unit with shared objectives-

Shared objectives → defence, Communication,

### Unitary features

- 1) Single Constitution
- 2) Single citizenship
- 3) Indestructible union with destructible states
- 4) Residuary powers with the Centre.
- 5) Universal applicability of FR & DPSP leads to uniformity of law.
- 6) Appointment of Governor by the Centre.
- 7) Higher powers to Centre in concurrent list.
- 8) Integrated judiciary.
- 9) Emergency provisions.
- 10) CAG → Audits & Accounts the states.
- 11) Removal of President.

### Federal features

- 1) Rajya Sabha → state council.
- 2) Supremacy of Constitution.
- 3) Election of president.
- 4) Zonal councils.
- 5) Inter-state councils.
- 6) Independent judiciary.
- 7) Panchayati Raj.
- 8) Rigid amendment procedure for items regarding federation.

## Geographical perspective of federalism

(2B)

Why Unitary spirit?

- 1) A geographical structure with Himalayas in the north and sea on all other sides gives rise to a separate subcontinent  $\Rightarrow$  Indian subcontinent.
- 2) Absence of physical barriers within India has allowed easy movement of ppl and with them the culture & tradition. Thus, a unitary set of values (mostly Vedic culture Hinduism).
- 3) A single climate  $\rightarrow$  Monsoon climate. Thus, the fate of Assam ppl depends on winds originating near Andaman.
- 4) British administration united India through modern transport — Roads & railways — allowed inter-linking of ppl.
- 5) A unitary representation of sporting teams (Indian Cricket team, Hockey Team) consolidated the unitary form of govt.
- 6) Spread of English language & Hindi (in north).
- 7) To deal with centrifugal forces (separatism), a strong centre was envisaged. (Art. 22, 355, 365)
- 8) Huge variation in rainfall may cause social unrest in certain areas in particular areas. (Art. 245A)

## Why federal structure?

9) Huge disparity because of varied rainfall & resources.

To remove the disparities, Finance Commission & Planning Commission to distribute these resources.

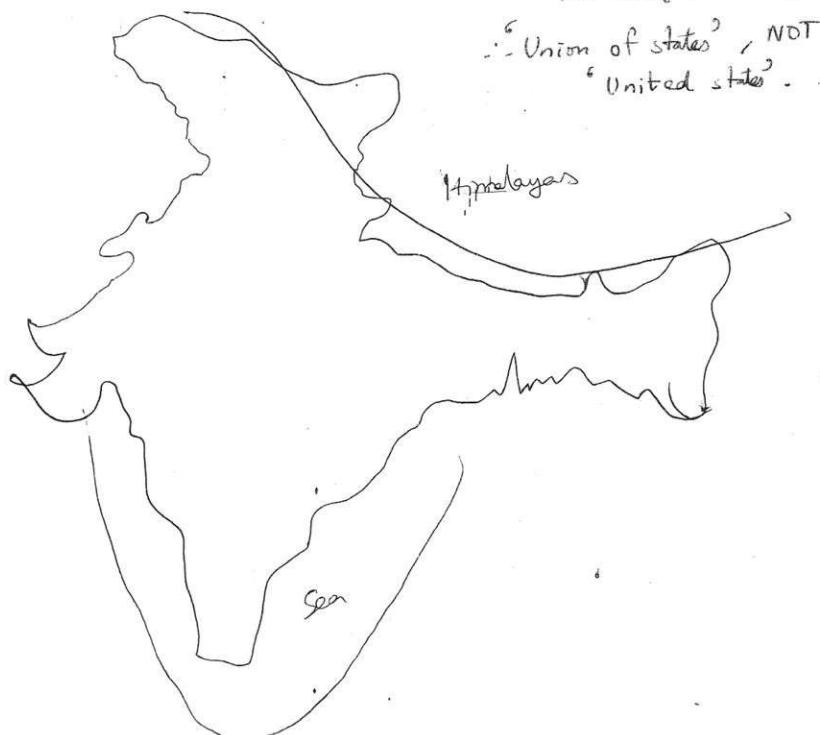
10) Two rivers united the states lying on the basin of the river, due to huge interdependences.

Indira Gandhi Canal → Rajasthan, Punjab, Haryana.

Kaveri → Kerala, Karnataka, TN.

11) To consolidate the unity of admin as reqd. by these geographical factors, Election Commission, All India Services & Integrated judiciary were formed.

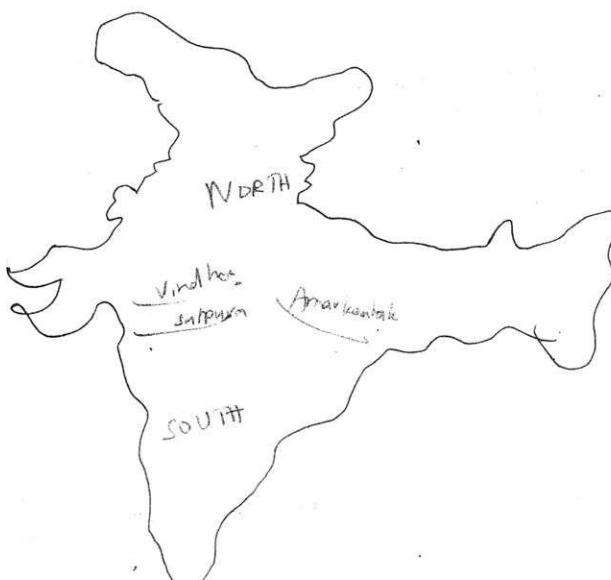
12) Unique, united geography → evolved history → evolved Constitution  
(a single, united, strong freedom struggle)  
INC  
No need for an agreement



## Federal structure → why?

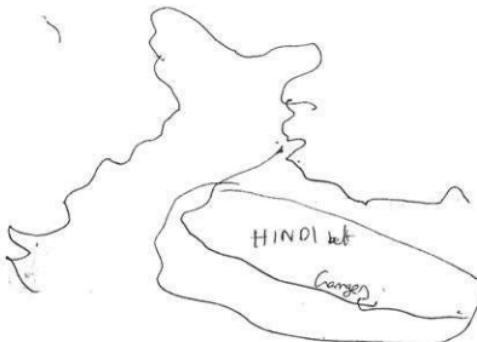


- 1) Undulating terrain in NE has placed the tribes (Nagao, Akgami Nagao - Apothorasee) in relative geographic isolation. So, a separate Schedule VI.
- 2) Vindhya & Satpura has relatively restricted the easy movement from North India to South India, resulting in distinct North & South culture.
- 3) Western Ghats has resulted in creation of new states & languages (Malayalam, Konkani) Konkanic → Malayalam
- 4) Eastern Ghats has prevented inter-linking of TN with Karnataka & Andhra. Telugu → Tulu Nadu hills of Srirangam, Brahmapuram, (Ghats) → STN
- 5) Undulating terrain of Telangana & Rayalseema has separated Andhra from Karnataka.

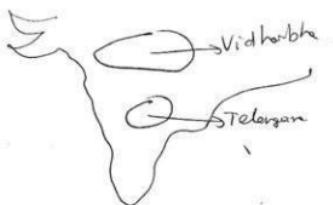


6) Thick forest cover in M.P., east Maharashtra, Chhattisgarh, North Andhra, Jharkhand  $\Rightarrow$  ethnic tribes.

7) Ganga river  $\Rightarrow$  Northern Plain  $\Rightarrow$  easy navigation  
intermingling  
spread of Hindi.



8) Low rainfall has resulted in social unrest & evolution of distinct culture in those dry areas.  
 $\Rightarrow$  Vidarbha, Telangana.



9) Presence of Khyber pass & Bolan pass allowed the waves of migration into India.  
This has resulted in cultural, racial, ethnic, religious mosaic.  
Art + 29, 30  $\Rightarrow$  to protect cultural identity.



10) Religious diversity due to migration in diff. points in time -

Ancient → Hinduism (Aryans (Indus))

Medieval → Islam (Turks, Persians, Afghans)

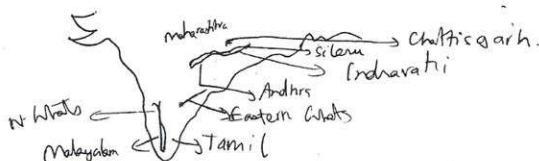
Modern → Christianity (British)

Indigenous → Buddhism, Jainism, Sikhism.

Articles 25 - 28 → Protection to religion

Secularism → Principle

11) Diff. languages ⇒ due to geographical factors.



Thus, linguistic reorganisation of states is primarily based on geographical divisions.

12) Diff. regions → diff. agro-climatic conditions

So, region-specific planning.

(Agriculture → a state subject)

Land → state subject.

13) Avoid friction b/w states.

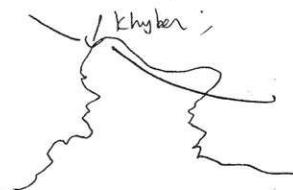
Zonal councils, Inter-state councils.

Thus, Constitution is a re-orientation & reflection of geography of India.

14) Huge area. To prevent centrifugal forces,  
diff. states,

Diversity → religious diversity

1) Presence of Khyber & Balak pass.



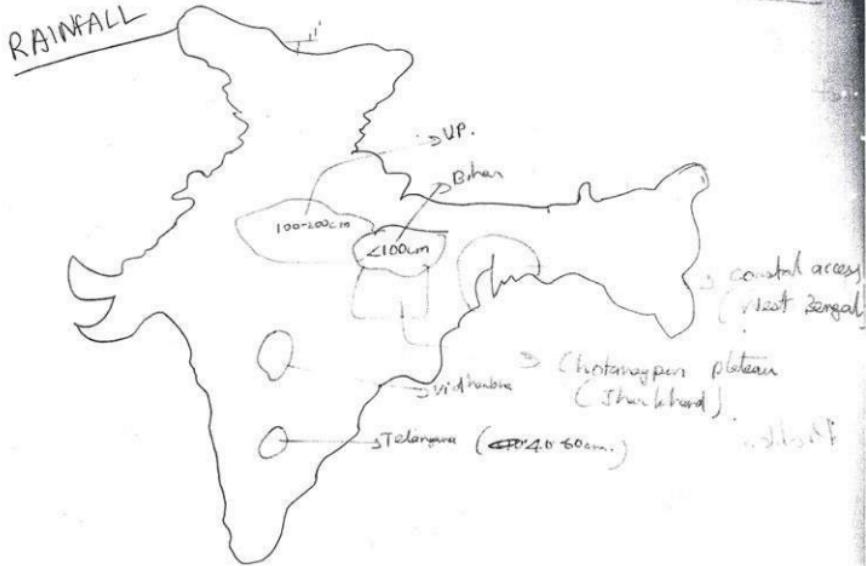
2) Location at the junction of diff. races (a cultural hotspot)



3) Geographical isolation → separate substrates

↓  
poverty  
↓  
social unrest  
↓  
evolution of religions (Buddhism, Jainism)

## Linguistic diversity



## Topography



## Cultural regions

Culture  $\Rightarrow$  an accepted way of life (behaviour)  
that has evolved over a period of time.

## Problems of Urbanisation.

- 1) Very dense, congested settlements.
- 2) High cost of living.
- 3) High ~~population~~ pollution: (traffic, industry  $\rightarrow$  air & noise).  
bad Air & Water quality.
- 4) Lack of personal relationship.
- 5) Traffic congestion.
- 6) Water pollution (lack of proper drainage facilities)
- 7) Scarcity of water  $\rightarrow$  lack of sanitation
- 8) High crime rate, juvenile delinquency  
slums  $\downarrow$  increased population
- 9) Urban Heat island  $\Rightarrow$  emissions, tar roads.

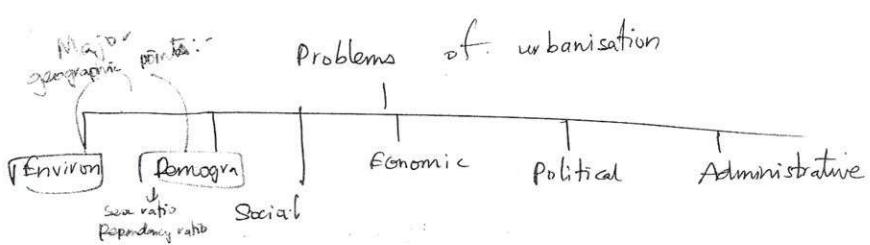
- 10) Low sex ratio → due to high migration.  
→ low attention to marginalized ppl.  
→ lack of sanitary dept.
- 11) Waste disposal sites → improper, random disposal  
→ flawed land policy.
- 12) Spread of <sup>communicable</sup> epidemics更为 rapid  
Ceg:- Malaria, <sup>super spreading</sup> Dengue, TB  
(due to congestion,
- 13) Urban expansion has led to heavy encroachments.  
→ lack of social housing.
- 14) Regional disparity (Rural - urban divide)  
↓  
induced migration → suburban exploration.
- 15) Cultural erosion → increased exposure
- 16) Huge rich-poor divide in cities is higher.
- 17) Urban lifestyle diseases → obesity, diabetes, hypertension  
25% of adolescents in Chennai are obese; high stress & risk of Type 2 diabetes.
- 18) Disintegration of joint family system...  
Anomie → lack of norms & social regulation
- 19) Increase in accidents.
- 20) Huge loss of property & life in case of natural disasters → cyclone, flood.
- 21) inability to provide basic amenities due to urban sprawl.

- 22) Generation of e-wastes, bio wastes, medical & sanitary wastes  
23) Increase in urban slums (lack of accessibility).

### Positives of urbanisation

1. Hold of caste system is weakened.
2. An opportunity for cultural amalgamation.
3. Acts as a melting pot.
4. Accumulation of capital → further industrial pr.
5. Enhancement of opportunities for employment.
6. Increased standard of living.
7. Better health facilities & educ. facilities.
8. Social mobility
9. cosmopolitan interaction b/w cultures

Despite these positives, an unplanned urbanisation ~~is~~ is a curse for India.



- To write in a geographical note,
- take specific case studies  $\rightarrow$  UN-Habitat's prosperous cities

India

Chennai  $\rightarrow$  pollution (conum)

Kolkata  $\rightarrow$  political

Mumbai  $\rightarrow$  slums

Bangalore traffic congestion

$\rightarrow$  Delhi  $\rightarrow$  crime (Noida, Lajpat Nagar)  
 destroying agri-reserves  
 SPM (suspended particulate matter)  
 pollution (Yamuna river);

Same similar answers for

- Problems of urban slums.
- Problems of Rural-urban fringe.

World

Sao Paulo

Meaico city  $\rightarrow$  drug crimes

Dhaka

Bangkok

Delhi  $\rightarrow$  worst environmental index (0.448/1)  
 of 10 cities studied by UN-Hab

Delhi  $\rightarrow$  lower safety than Dhaka.  
 Lranks below Sao Paulo, Seoul, Shanghai,  
 Ankara, Jakarta.

$\rightarrow$  Search  
 i) Demographic prob. in Mumbai ii) Pollution problems in Delhi.

$\rightarrow$  Compare the problems of urbanization in India & Brazil.

$\rightarrow$  Compare the urbanization problems of Delhi & Kolkata.

Urbanization problems in

- New York
- London
- Tokyo
- Rotterdam
- Bangkok
- Paris
- Sao Paulo
- Russia
- Barcelona
- Addis Ababa



Indicator

2001

2011

Leading

IMR

58/1000 44/1000

lag girls

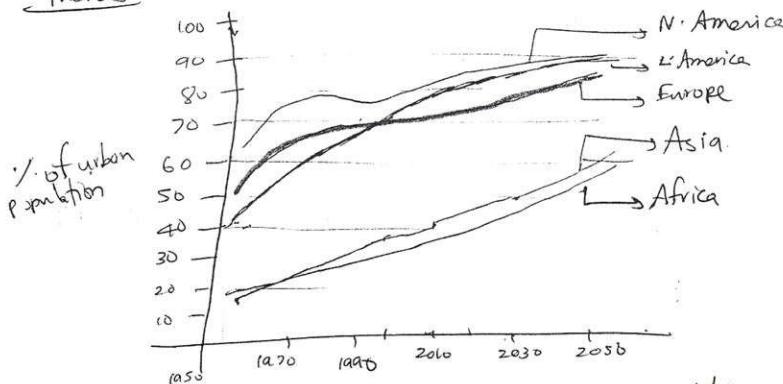
Ansari

10/11  
17/11

## Urbanization

Percentage of population residing in urban areas

### Trends



Source: UN Population division.

Problems with urbanisation in Brazil  $\Rightarrow$  (Rio-Sao Paulo growth centre)

Brazil  $\rightarrow$  a large & populous developing country that is widely considered to have completed an early urban transition.

of Brazil has over the last 5 decades become a fully urbanized country. Cities have become the core of economic activity. (90% of GDP)  $\Rightarrow$  World Bank 2006.  
Brazil  $\rightarrow$  82% urban population.

### Major Problems

1. Historically rooted and enduring structure of social inequality -

Inequality came with the highly stratified social system of the Portuguese colonists (white city/black city). It was then fortified by huge land grants. That spawned a feudal landholding system & adoption of slavery.

2 - lack of proper definition of 'URBAN'.

Sao Paulo  $\rightarrow$  urbanism stretching out into rural areas to such an extent that rural-urban dichotomy has meaninglessness  $\Rightarrow$  leading to conurbation, metropolization & expansion of non-agri. activities in rural areas.

Relegation of rural world to an insignificant status  
- saich's identification of morality with backwardness & savagery.

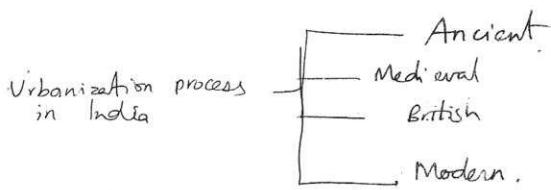
- 3) Slave labour & immigrant labour  
Internal & int'l. migrant laborers to the coffee plantations of São Paulo.
- Intense migration → housing shortages, public sanitation problems
- 4) Sex Ratio  
• MASCULINIZATION of rural areas (declined sex ratio in rural areas)  
• due to heavy female out-migration from rural to urban areas.
- 5) Declined fertility rate  
TFR dropping to 1.8 (below replacement level) in urban areas

24/11/12

## Urbanization process in India.

### Urbanization

Increasing ~~per~~ proportion of a country's population living in urban areas.



### Ancient

India is known for urbanization right from the ancient times e.g.: Harappa, Mohenjodaro, Chanhudaro, Lothal in IVC (3000-1500 BC).

It still stands a testimony to scientific methods of urbanization with well laid roads, drainages.

In the ~~Mauryan~~ Mauryan period (300-200 BC) and Gupta period (300 AD - 500 AD), urbanization peaked in India.  
e.g.: Pataliputra. S-India  
Post Mauryan (Sangam) Madurai, Puhar, Kanchi, admin. town port town admin. town

After the Gupta period, urbanization declined in N-India, whereas urbanization continued to grow in S-India.

### Medieval

With the arrival of Mughals, Delhi Sultanate Delhi became a major urban centre.

e.g.: Delhi, Fatehpur Sikri, Agra, Jaunpur, Allahabad  
↓  
Feroz Shah Tughlaq, Akbar, I. Lodi, Shah Jahan  
Hyderabad  
↓  
Nizam ul-Mulk Nizamates

In this period, urbanization was linked with the seat of power (capital)

### British period

With the arrival of British, the urbanisation process took a massive turn.

But, the urbanization percentage remained constant at 10% from 1800 to 1900. This period is considered as a ~~BLACK~~ DARK AGE in Indian urbanisation.

This was due to i) decline of native industries ii) unemployment iii) destruction of rural economy & growth iv) destruction of native kingdoms

But the nature and character of urbanisation changed. Most of the urbanisation was in the 3 port towns,

1. Bombay
2. Kolkate
3. Chennai

→ A new pattern of transport towns emerged in the country.

Railway towns → Warangal, Mysore, Tolrapet.

→ Urbanization crept into the hill station for the first time

eg: Shimla, Ooty, Mussoorie, Dharamshala

### Modern

1901-1941 ⇒ Low growth in urbanisation;

1901-21 → Influenza

1924-31 → Great economic depression

1931-41 → WW II

1941-51 → increased rate of urbanisation

due to refugee towns (partition) in urban centres.

1951-81 → Increasing rate of growth of urbanization

1981-2001 → Decreasing rate of growth of urbanization.

### General characteristics of urbanization in India

1. Ancient & Medieval

→ Urbanization associated with Kingdoms & capitals.

2. British

→ Urbanization associated with Port towns, cantonment (military) towns, railway towns.

3. Post-independence

→ Rapid, uneven, unplanned urbanization.

4. Post 1981  
Modern

Post 1981  
(percentage of pop in living areas  $\times 100^{-1}$ )

2001 → 27% urbanisation

total pop

2011 → 31% urbanisation

} but rate of growth of urbanisation is declined.

↓

51 million plus towns

5. Indian urbanization is due to urban employment

NOT urban environment

e.g. UN Habitat report

Mumbai, Delhi → 53<sup>rd</sup> best in prosperity (Most Prosperous cities)

6. Indian urbanization is multi nodal urbanization

↓  
Delhi, Mumbai, Kolkata, Chennai

↓  
Multiple places of attraction

7. Emergence of secondary metropolitan cities & Tier-I cities  
~~Due~~ - Due to state reorganisation & emergence of regional parties in power, there is a rapid urbanisation of state capitals.

e.g. - Bangalore, Bhubaneswar, Allahabad.

8. Southern states are more urbanized than northern states

e.g. - TN, Goa (more than 50% urbanisation)

9. Indian urbanisation is characterised by slums & squatter settlements.

10. Indian cities are characterised by congested roads and increased pollution, resulting in haphazard growth.

Thus, Indian urbanisation, unless handled carefully, poses a great threat to the administration.

Metropolitan cities  $\Rightarrow$  ~~> 10~~  $> 5$  million population.

2001 census  $\rightarrow$  6 metro cities in India  $\Rightarrow$  Delhi, Mumbai, ~~Chennai~~ Mumbai, Delhi, Kolkata, Chennai

## Town planning

1. ~~Segregation~~ relocation of industries

Segregation of industrial & residential segments.

creation of satellite towns to meet the increasing needs of growing population.

eg: Ghaziabad, Faridabad, Noida, Gurgaon

satellite towns of Delhi.

3. Rehabilitation of slum dwellers.

MOP 7: Rehabilitate 200 m urban slum dwellers by 2020.

4. Urban Renewal - since it is impossible to rebuild the city.

eg: building parking, transport systems

JNNURM.

5. Building outer Ring roads → to bypass the traffic and avoid congestion in the city.

6. Promote MRTS → Mass Rapid Transit system.

Distinguishes to private transport.

7. Creation of townships.

8. Urbanization management is NOT complete without effective development of rural areas.

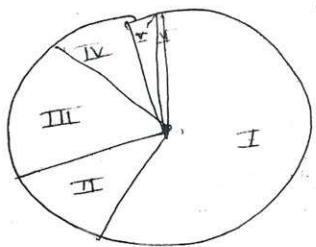
eg: PURA → Providing Urban Amenities in Rural Areas.

9. Promotion of green buildings, to  
↓ low power consumption,  
less waste production ensure sustainability.

10. Creation of green belts around urban centres -

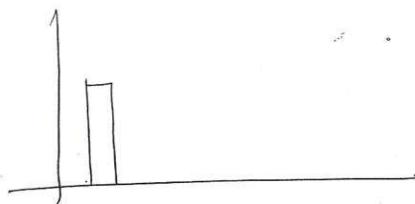
→ To prevent urban sprawl  
• To compensate for emissions of cities (trees in green belt segregate the carbon).

## Distribution of urban population in India



Population Size	% of total urban population
I - cities with more than 1 lakh population	61%
II - 50,000 - 1 lakh	12%
III - 20k - 50k	15%
IV - 10k - 20k	8%
V - 5k - 10k	2%
VI - < 5k	0.3%

## Statewise distribution of urbanisation % in India



## FUNCTIONAL CLASSIFICATION OF CITIES

Admin. towns → Delhi, Chandigarh, Srinagar, Chennai

Transport → Kendla, Kochi, Visag, Kozhi kode, Agra, Mughal Sarai

Industrial → Jamshedpur, Bhilai, Hazira, Coimbatore, Salem

Commercial → Kolkata, Saharanpur

Mining → Jharia, Bokaro, Raniganj, Awar

Garrison Cantonment

→ Mhow, Ambala, Jalandhar

→ Canberra, Washington, Islamabad, London, Plymouth, Portsmouth, New York

→ Liverpool, Detroit, Manchester,

→ Pittsburgh, Johannesburg

Plymouth, Portsmouth, New York

Plymouth, Portsmouth,

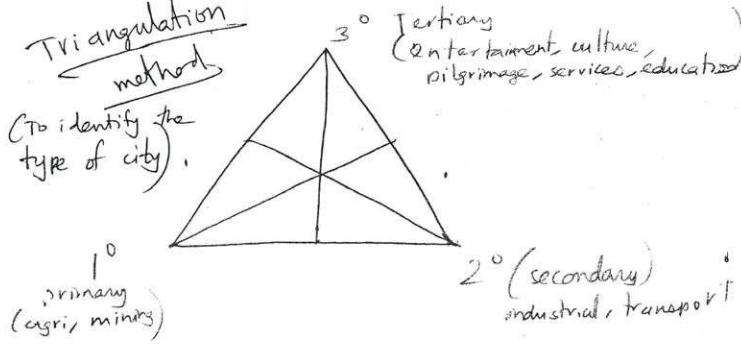
Urban sprawl (or) Rural-urban fringe (or) Limitations in the application of functional classification of towns.

### (or) Sphere of Urban influence

Functional classification → how to do?

→ How is Chennai influencing its neighbouring areas?

Triangulation method  
(To identify the type of city).



How to identify if a town has primary, secondary or tertiary; How to identify if an area is rural or urban or a rural-urban fringe

Methods.

Quantitative

- (No. of ppl engaged in a sector;
- Income generated from a sector;
- Literacy level;
- Density of population;
- Transport system;
- Modern recreation;
- Communication facilities;
- Hospitals & schools

Qualitative

- Dressing pattern;
- Food habit;
- Type of recreation;
- Spending nature;
- Health-seeking behaviour;

## Limitations of functional classification.

1. In modern ~~city~~ times, most cities have multiple functions.
2. The functions of a city are very dynamic (<sup>rapidly changing</sup>):
3. In cities with huge population, collecting data (for quantitative classification) consumes a lot of money, material & time.
4. Lack of skilled personnel to analyse the data collected.  
(or, only basic classification & analysis is available; critical & subtle analysis necessary for research & planning is NOT available).
5. The functions of smaller towns are subsumed by the neighbouring larger cities, esp. in post liberalisation era.

## World urbanization pattern



No. of ppl in urban areas  
Total population

→ High urbanisation. (75% - 100%)

→ Moderate urbanisation (30% - 75%)

→ Low urbanisation (0 - 30%)

Highest urbanisation (>90%) → Qatar, <sup>99%</sup> Kuwait, <sup>98%</sup> Belgium, Argentina, Venezuela, Uruguay, <sup>94%</sup> Israel, Japan, Abu Dhabi.

Lowest urbanization (<30%) → Burundi, ~~Sri Lanka~~, Uganda, Ethiopia, Nepal, <sup>10%</sup> India, <sup>15%</sup> Bangladesh, <sup>(31.3%)</sup>

### Continent wise

Continent  $\rightarrow$  % of world urban population

S. America  $\rightarrow$  22%

Europe  $\rightarrow$  59%

N. America  $\rightarrow$  79%

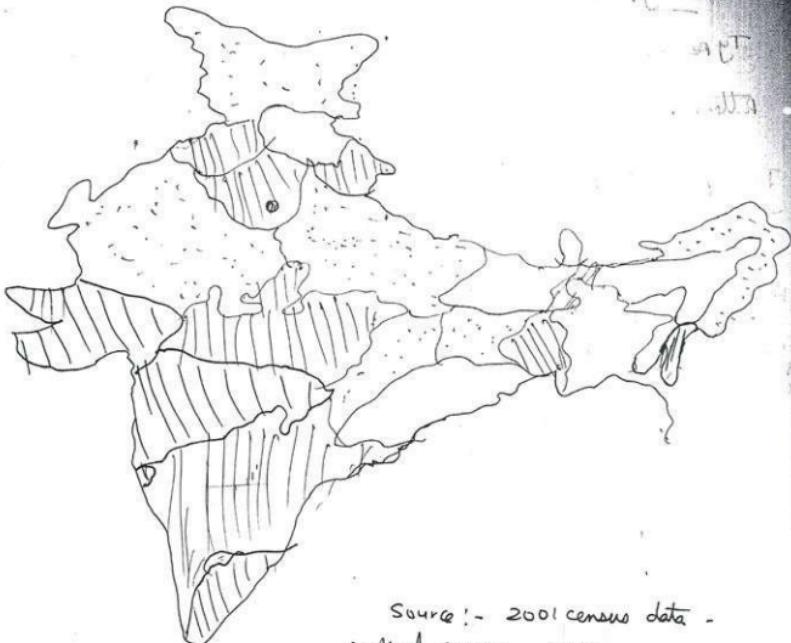
Oceania  $\rightarrow$  58%

Asia  $\rightarrow$  312%

Africa  $\rightarrow$  15%

Source:- UNFPA report, 2010

## India - Urbanization



Source:- 2001 census data  
National average  $\rightarrow 28\%$

|||||  $\rightarrow$  High urbanization ( $>35\%$ )

||||  $\rightarrow$  moderate high urbanization ( $25-35\%$ )

|||  $\rightarrow$  moderately low ( $15-25\%$ )

||  $\rightarrow$  very low urbanization ( $<15\%$ )

Highest urbanization  $\rightarrow$  TN, MH, GJ, Mizoram

Lowest urbanization  $\rightarrow$  Orissa, Bihar, Assam, ~~Uttarakhand~~ Himachal

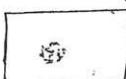
## Types & Patterns of rural settlements

Type → refers to origin & development

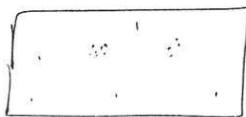
Pattern → spatial arrangement of settlement -

### Types of rural settlement

1. Compact → e.g.: Muzaffarnagar, U.P.

highly productive alluvial plains; primitive man → co-op to fight nature → compact settlements.  
Ganga plain, Hwang Ho, Nil - plains  
  
hunting & fishing communities → along Ganga & Brahmaputra  
Red Indians, USA;  
Naga → to protect against invading head hunters

2. Semi-dispersed → e.g.: Khadar village, Hardwar, Uttarakhand  
transitional stage in the growth of a compact settlement.

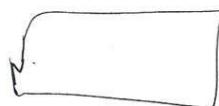


Semi-arid areas.  
Aravallis, hills of MP, Shimwarka;

3. Dispersed → e.g.: Bikaner & Jalore districts, Rajasthan.

extreme climate, hills, thick forests, poor agri. land → extensive farming  
Jodhpur  
  
along Khadar (new alluvium)  
prairies of N. America  
pampas of Argentina  
steppes of Russia  
velds of S. Africa  
Downs of Eng.

4. Hamlet



Hamlet → 5-6 houses

very small no. of households

## Why compact settlement?

- 1. security & protection.  $\Rightarrow$  in ancient days, compact settle  
to defend from animals.
- 2. ~~concentrated~~ scarce resources
- 3. Rich, concentrated resource.  $\rightarrow$  around an oasis
- 4. Hunting & fishing communities
- 5. Hill top (Naga) settlements  $\rightarrow$  protect & defend against invaders.

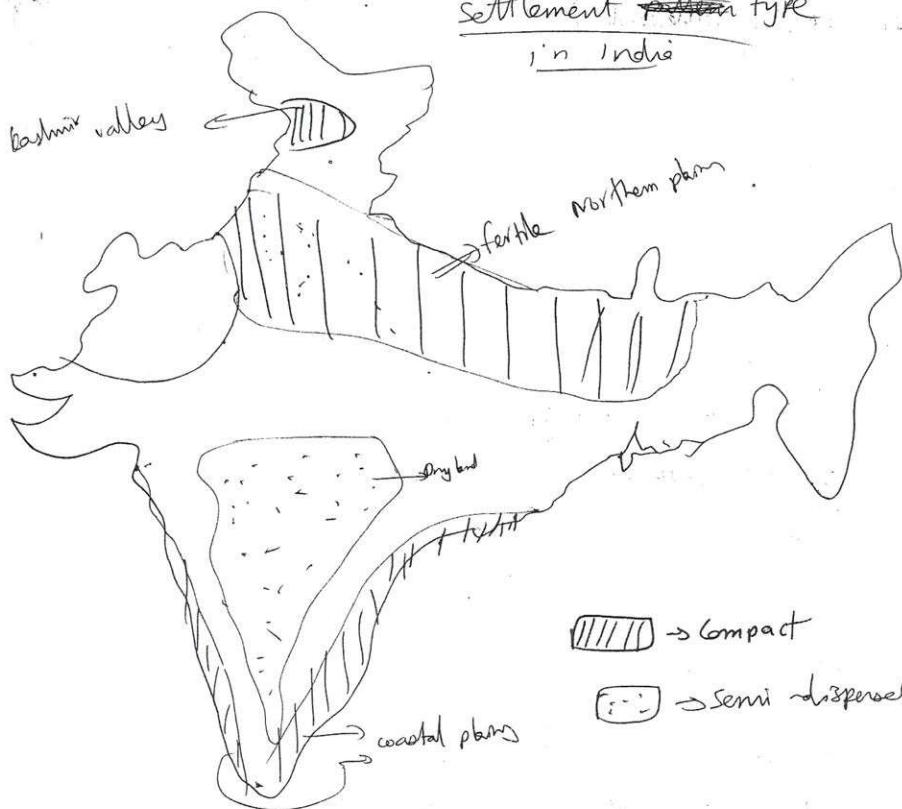
## Why dispersed settlement?

- 1. Rich & ~~short~~ large resource  $\rightarrow$  extensive cultivation.  
eg:- Great Plains of N. America.
- 2. Poor, infertile land  $\rightarrow$  large land area reqd. for sustenance.
- 3. Rugged topography.
- 4. Extreme climate

## Geographical factors determining settlement pattern

- 1. Rainfall
- 2. Terrain
- 3. Nature of agri-activity
- 4. Landholding size
- 5. Stage of economic devt
- 6. Soil fertility
- 7. Socio-economic conditions

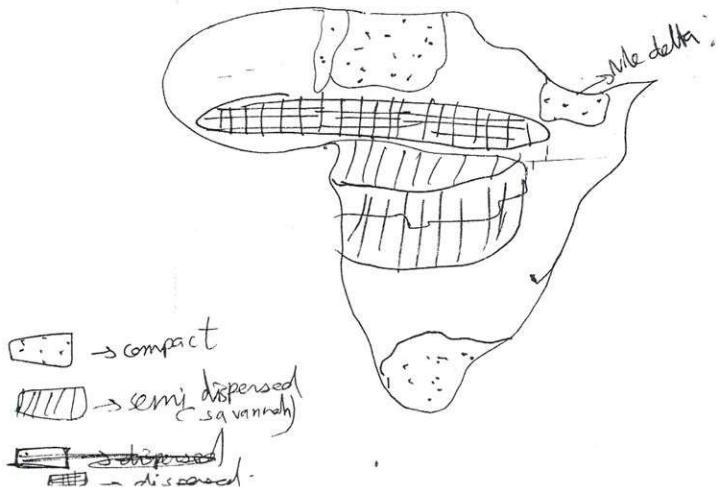
Settlement pattern type  
in India



N. plains → compact

↓  
fertile plains → heavy immigration

Settlement pattern in Africa



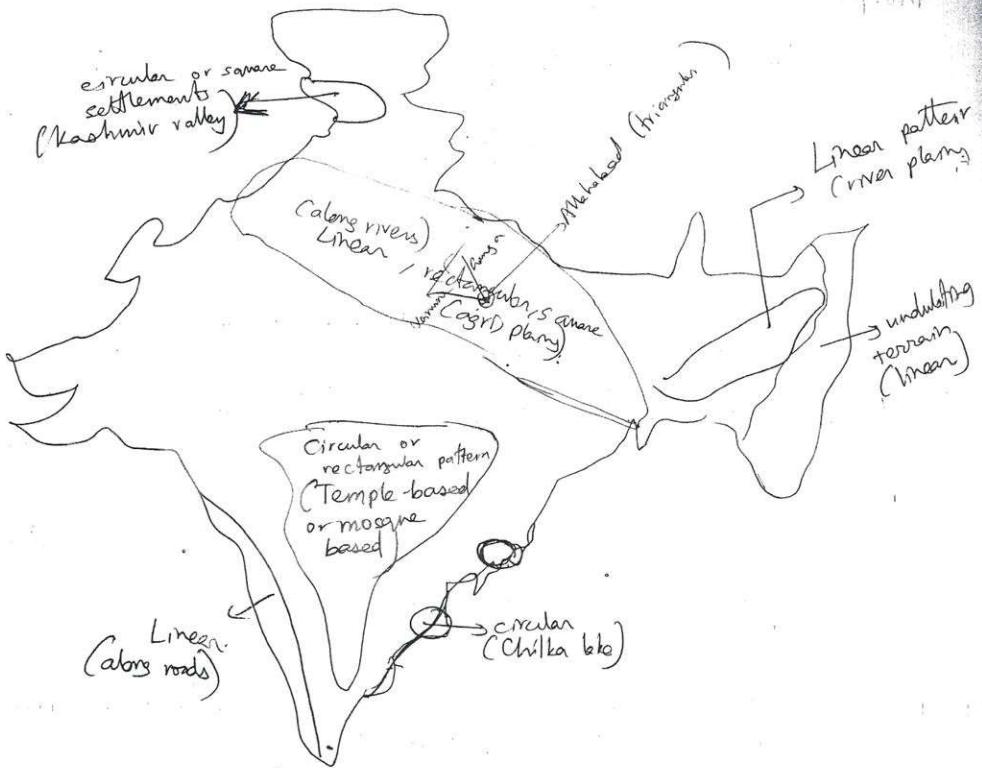
Settlement type pattern of the world

## Patterns of settlement

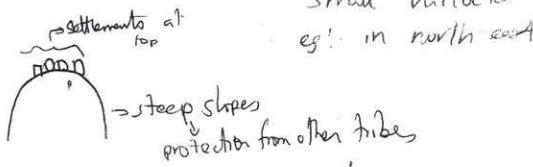
1.  $\rightarrow$  at confluence of rivers,  
eg: Allahabad.
  2.  $\rightarrow$  lakes  
oases.
  - 3.
  4. } agricultural plains  
plain topography; no impediment to settlement.  
eg:- well planned settlements of Germany, Russia, Israel, setting large farms so a uniform settlement.
  5.  $\rightarrow$  not practical (due to geographical impediments)  
planned (Cristaller's k values)
  6. horse shoe  $\rightarrow$  foothill towns  
eg:- Salem; Tiruvannamalai.
  7. circle with a hollow  $\rightarrow$  village around a lake  
shallow  
eg: Mylapore
  8. Linear pattern  $\rightarrow$  along roadways, rail, riverbed, edge of valleys.  
eg: Alps, Rockies, Andes, Pirineos, Shivalik, Ganga-Yamuna doab
  9. } junction of roads  
or junction of rails.  
eg: N.W. Europe, Punjab province, Poles, Yamuna-Sutlej Plains
  10. Semi-circular around bay  $\rightarrow$  Bay  
eg: Kaliyna bay also the meanders of Hinden river in UP
-

# Pattern of rural settlement in India.

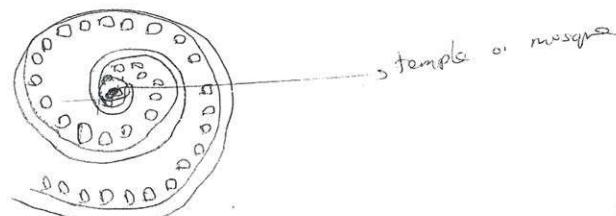
(53)



III. Hilltop settlement  $\rightarrow$  a hamlet on the top of a small hillock  
eg: in north east



12) Nucleus pattern  $\rightarrow$  arrangement of roads is circular which ends at the central location or the nucleus of the settlement.  
main landlords house, temple, mosque or church.



## Morphology of settlement

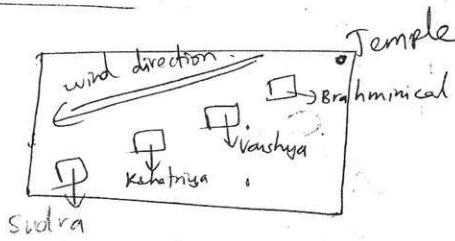
Internal structure & arrangement of any settlement

### Morphology of Indian <sup>rural</sup> settlements

Religio-ritual model

Socio-economic model

Religio-ritual model:-



↳ Sudra settlements mostly on periphery of the village.

Varna system ~~decline~~ weakening

↓  
more closeness among various settlements  $\Rightarrow$  distance b/w settlements decreases

Population in Sudra community increases.

more compact



Sudra settlement extends towards village interior

↳ The mosque or temple or church is the centre of attraction, around which the settlement develops.

# Problems of rural settlement

(55)

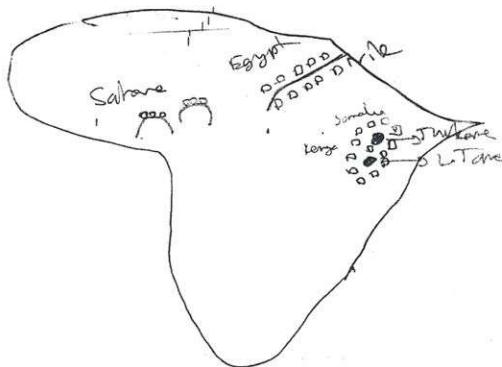
1. Poor intra & connectivity.
2. Open defecation → lack of toilets;
3. Poor housing → affected by rainfall
4. Animals & human in same settlement → interchange of diseases.
5. Long distance to fetch drinking water
6. Water borne diseases - cholera, malaria
7. Prone to flood & drought
8. Lack of economic security - drought agri.

## Africa

& compact  
Linear settlement → Nile in Egypt

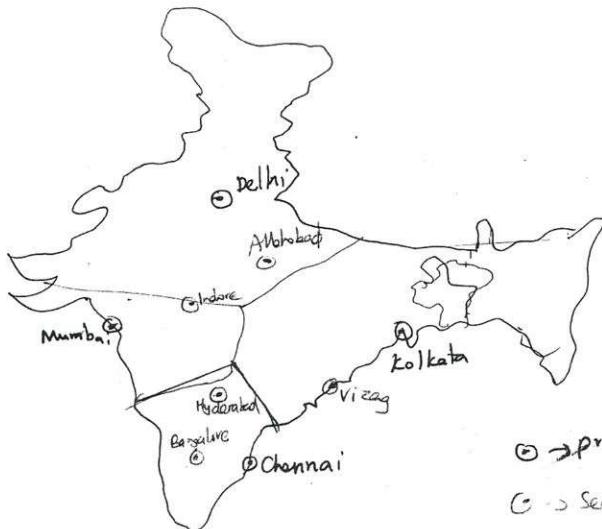
Circular → around, Tana, Turkana

Hilltop settlements → on mounds in deserts.



## Metropolitton regions

population  $> 5$  million  $\rightarrow$  6 cities  
 51 cities with population  $> 1$  million.



○ → primary metropolis  
 ○ → secondary (upcoming)  
 metropolis

## Conurbation



Two physically isolated cities grow and merge with each other.

Ex:  
 Mumbai - Pune  
 Hyderabad - Secunderabad  
 Bangalore - Hosur  
 Lucknow - Kanpur

Why conurbation in these places?

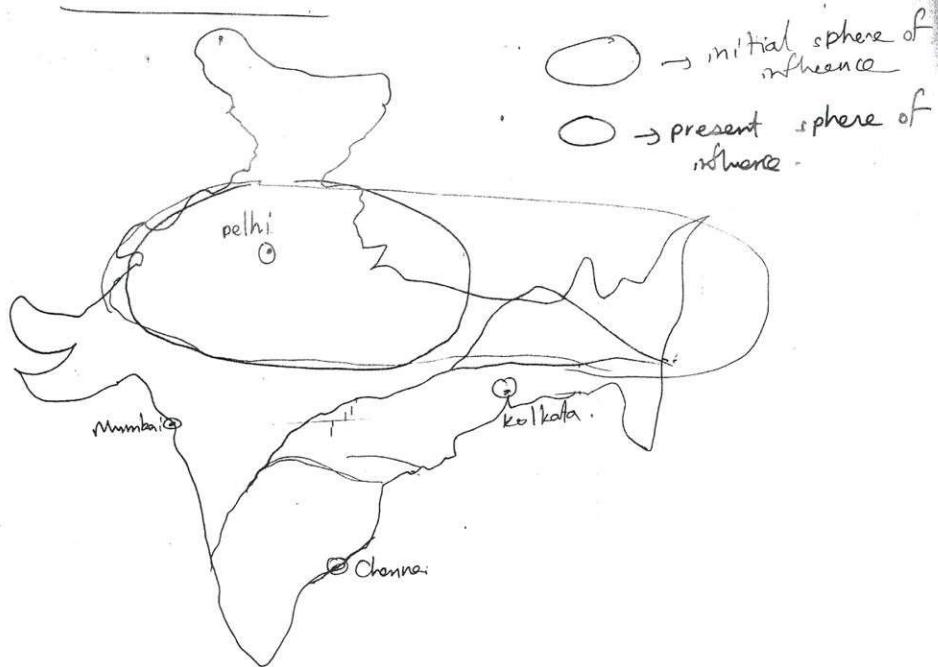
problems of conurbation / Management same as for urbanization  
 i) Task of urban management becomes more voluminous

## Sphere of influence

(3)

Range of a central place → The amount of distance a person is willing to travel to migrate to that city.  
(The distance which an average migrant covers to reach this city)

## Spheres of influence



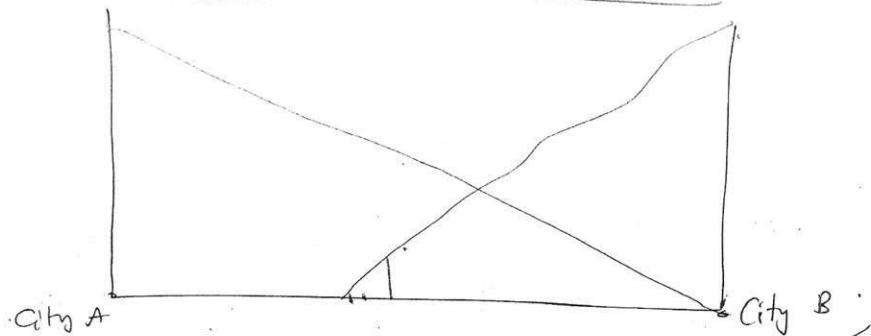
### Quantitative

1. How much distance an institution of a city is known?
2. How many ppl migrate?
3. How frequent of migrate?
4. Permanent or one-time settlement?
5. Range of goods & services
6. P.

### Analytic

1. Purpose of migration.
2. Culture & lifestyle of ppl. before & after migration

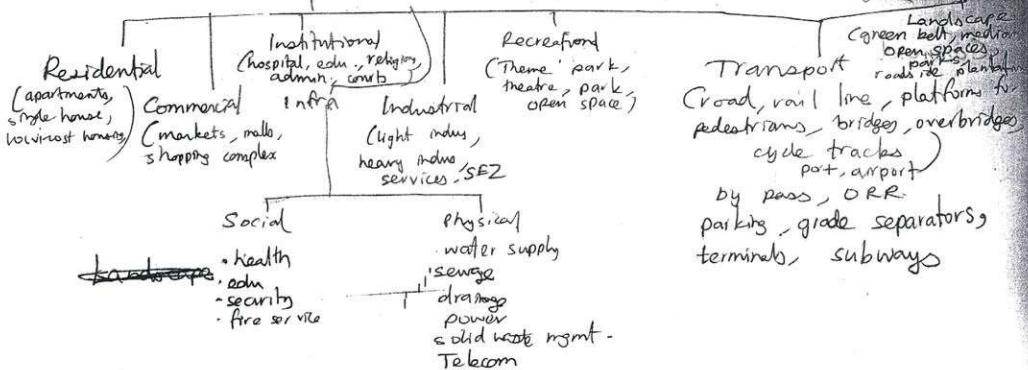
### Sphere of influence of A & B



Trend Analysis of sphere of influence -

1. Before 1911  $\rightarrow$  Kolkata had greater sphere of influence.
2. 1911-1960  $\rightarrow$  Delhi's sphere of influence grows;  
Kolkata's sphere of influence decreases.
3. 1991-2011  $\rightarrow$  Sphere of influence of northern cities decreasingly  
" " southern " increasing  
Sept 11                  Tier-11                  " increasing

# Ideal land use in a city



Landscape  
Green belt, medium open spaces, parks, roadside planting  
  
Transport  
Road, rail line, platforms for pedestrians, bridges, overbridges, cycle tracks, port, airport  
by pass, ORR, parking, grade separators, terminals, subways

## BASIS FOR SELECTING LAND FOR PLANNED URBANISATION

1. Proximity to linkage → distance from transport corridors
2. Proximity to existing settlements → to urbanising areas
3. Ground water availability → to support the new population
4. Soil type & bearing capacity → infiltration rate, fertility, geology
  - ↳ for drainage, infiltration, hard pan, suitable for settlement
5. Drainage pattern → channels - slope, rivers, surface water bodies
6. Proximity to ecologically sensitive areas → no nearby forest or protected area.

25/11/12

## Regional Development & Planning

### Command Area Development Pgm.

Agri. Land available  $\Rightarrow$  140 m hectares

Potential created for irrigation  $\Rightarrow$  110 m hectares.

Actual area used for irrigation  $\Rightarrow$  98 m hectares

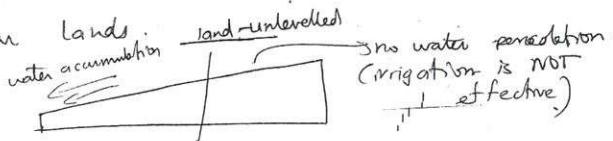
Why this gap  
in usage of  
available facilities?

1. Debris blockage of canals
2. Leakage & seepage losses in canals.
3. Grassed waterways

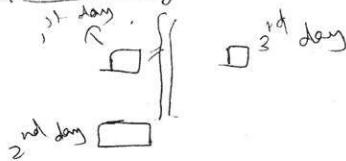
Command area drpt. pgm. is started to plug the gap  
b/w potential created (110 m hectares) and actual utilisation (98 m hectare)

#### Concerns in utilisation

1. Ineffective water delivery system.
2. Seepage, percolation & evaporation losses.
3. Absence of rotational (warabhandi) irrigation system.
4. Irregular lands.



#### Warabhandhi system



### Measures taken

- 1 - Cemented water delivery system
- 2 - Loans for land levelling.
- 3 - Intro. of Warabandi system.

→ Discuss the CAD<sup>pgm</sup> in Gauvery delta.

→ What are the drawbacks of CAD<sup>pgm</sup> in Indira Gandhi canal

→ Measures for Command Area devt - in Narmada's command area -  
or Damodar Valley

Identify the problems, govt. measures & suggest your suggestions for devt. of  
Backward Area development

→ N.E.

→ Malwa

### Desert

→ Rajasthan

### Drought

→ Vidarbha → Telangana.

→ dry areas of North T.N.

### Hill Area

→ U.P.; → H.P.; → Jharkhand region;

→

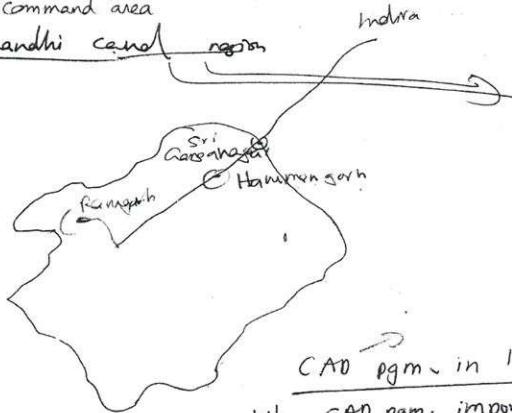
### Tribal Area

→ Jharkhand

→ Chhattisgarh

Dvpt. - of command area

### Indira Gandhi canal



(NIT canal improvement  
pgm; overall draft  
pgm -

CAD pgm. in Indira Gandhi canal → 1974

Why CAD pgm. important here?

(regional)

- i) Conveyance loss of water high in sandy soils.
- ii) It is a newly settled area, devoid of basic amenities.

### Problems

#### Irrigation

→ Evaporation loss.

→ Siltation.

→ Salination of soil.

- iii) Wind erosion & desertification cause siltation in canals.
- iv)

#### Salient features

- 1) On farm dvpt. → surveying, land levelling, land reclamation.
- 2) Afforestation & pasture dvpt, sand-dune stabilisation.
- 3) Providing communication & civic amenities, markets and drinking water.
- 4) Modern Agri inputs → HYV seeds, fertilizers, extension

#### Industry

→ No investment.

#### Transport

→ Sand ⇒ difficult to build roads.

water

5) Water efficiency → sprinkler, drip.

6) prevent conveyance loss → segmented waterways

#### Disaster

→ Drought

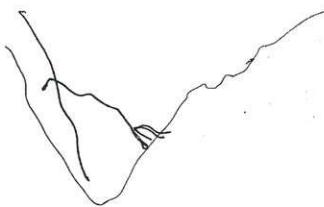
#### Ill-effects

- i) Water logging and soil salinity;
- ii) Rapid decline in coarse cereal production

#### Advantages

- i) Increase in productivity.
- ii) All year season cultivation → no seasonal unemp.
- iii) New crops → wheat, cotton, mustard, groundnut.

Command area dpt  
of Cannery region



problems

Agriculture

- Monocropping → rice, rice
- Seepage & percolation loss in lower command area.
- Seasonal nature of river.

Resource

Aspects to be looked into before implementation CWD.

- 1) Topography & soils
- 2) Existing land use
- 3) Cropping practice
- 4) Present source of irrigation
- 5) Groundwater resources
- 6) Population & major occupations
- 7) Land holding size
- 8) Land tenure
- 9) Household income
- 10) Availability of agri-labour
- 11) Transport facilities

5th FYP (1974-80)

MAJOR COMPONENTS OF ANY COMMAND AREA DPT. P.M.

- 1) Reclamation of waterlogged areas.
- 2) Construction of Field Irrigation Channels (FIC)
- 3) Construction of field drains
- 4) On-farm dpt. (OFP)
- 5) Adaptation of WARABANDI system for distribution of water.
- 6) Adaptation & enforcement of suitable cropping pattern.
- 7) Conjunctive use of surface and ground water.
- 8) Extension, demonstration & training pgns.
- 9) Implementing Participatory Irrigation mgmt.
- 10) Overall dpt. of agri-
- 11) Road linkage to farms
- 12) Credit

→ Command area short  
Dpt. of Ladakh region



- subsidence of air mass  $\Rightarrow$  cold desert  $\Rightarrow$  no agri-land
- inadequate transport  $\rightarrow$  due to highly undulating
- slow industry growth  $\Rightarrow$  lack of investment.
- Regional dispute  $\rightarrow$  India - China
- Disasters  $\rightarrow$  landslides, avalanche
- Low population density
- Low productivity  $\rightarrow$  cold climate
- Secessionism
- Lack of employment for youth

→ Bench terracing → apple, plum.

→ Resource

↳ walnut, chinar

Kashmiri handicraft → cottage industry.

→ Industry

Tourism → Leh;

Cottage → handicraft → Buddhist goods → Market in India, Nepal, China.

↳ Pashmina shawl

Incentives for investment in Ladakh.

→ Transport

→ only one road → BRO's Leh to Kargil.

→ ~~tunnels~~ → Zoji La tunnel

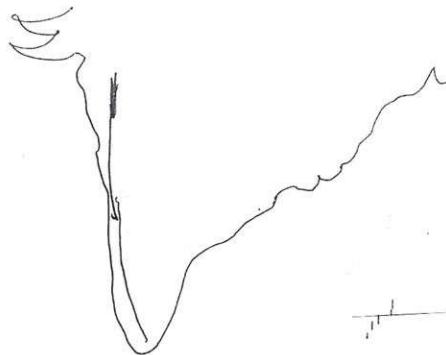
→ Integration with mainstream

→ Employment

→ Universities

→ Self-employ

## Regional deptt. of Wakhats



### Problems

- ⇒ 1. Expanding Urbanisation on Maharashtra side.
- 2. Konkan railways → disturbed
- 3. Poaching of animals → Resources
- 4. Disaster → Landslides
- 5. Fertilization of tea estates → eutrophication → algal bloom in lakes.  
→ deciduous forest; isocyanate gas
- 6. Forest fire in summer.
- 7. Reforestation → for timber
- 8. Tourism → pollution
- 9. Leaching → laterite soil (due to so)
- 10. Mining
- 11. Undulating terrain → lack of agri.

### Solution

- ⇒ 1. Eco tourism.
- 2. Promote road & connectivity, communication (with phone)
- 3. Bench terracing, check dams

ESAs → Ecologically Significant Areas

All devt. activities will be regulated under EPA, 1986.  
to protect ongoing significant biological processes  
declaration as UNESCO heritage site [use its natural habitat for in-situ conserva]

• Wakhats → birthplace of all peninsular rivers

## Strategy for agro-based industry dpt. in N.Bihar

1. Lichi
- 2 - Jute
- 3 - Pear
- 4 - Sugarcane
- 5 - Mango.

→ fruit juices, collaboration with MNCs - stroffy.

→ Paper industry → molasses of sugarcane

→ Jute → jute bags ;

\* Key words for regional dpt.  
problem & suggestions for

- ① Agri .
- ② Resource
- ③ Transport
- ④ Industry
- ⑤ Disaster

## Integrated Rural Development programme (IRDP 1978):

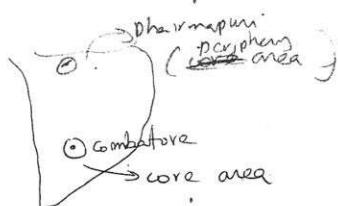
Integrated devpt. pgm.  $\Rightarrow$  a holistic development for all particular village areas in India.  
 providing credit; irrigation; infra; transport; communication; education; health; employment.

Regional devpt.  $\Rightarrow$  diff. & specific pgm. for specific region (area).

Balanced growth  $\rightarrow$  To concentrate uniformly on the devt. of all areas simultaneously by allocating equal funds & equal no. of projects.

Unbalanced growth  $\rightarrow$  To select a particular place and make it a growth pole, expecting it to bring trickle down growth to ~~no~~ other areas through forward & backward linkage.

## Core periphery model



By developing a periphery area, it acts as an effective supplement to core area by BACKWARDING.

Growth pole/growth centre

Section-wise planning (To concentrate on a specific section of population)

- Women → Sabla, Swadhar Greh, JSSY
- Child → ICDS, JSSY
- OBC → 27% reservation
- Muslims → Sachar Committee
- SC / ST →

Sector-wise planning (To select a key sector and focus on its growth)

Specific dept. strategies for

- Agri. sector
- ITES (BPO) sector
- IT sector
- Manufacturing sector
- 

By adopting these various strategies of planning,  
India it is expected to become

→ Study growth pole theory

## India's experience in regional planning

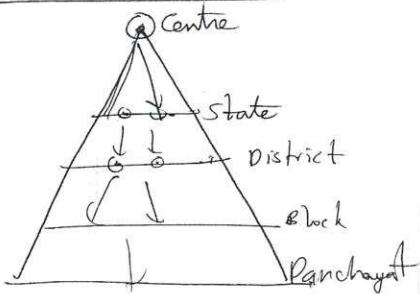
Criticism of Growth pole & growth centre theory.

1. Lack of trickle down.
2. ~~Bad~~ Red tapism.
3. Corruption.
4. Urban explosion.
- 5.

## MULTI-LEVEL PLANNING

Planning at various levels of government  
(Central planning, state planning, district, block, panchayat planning).

### Top-down approach

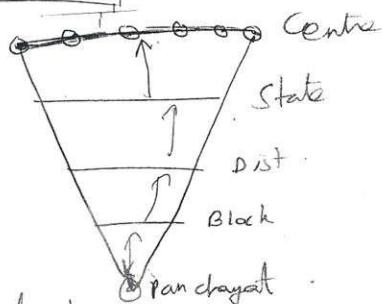


Centralised planning

To bring about uniform dept.

Needs to be scheme till 1970's

## Bottom-up approach



- Decentralised planning.
- Region-specific (grass-root) level planning.
- Need based, resource based strategy.
- Promotes people participation in planning.
- Takes huge time lag for implementation of plans.
- Decentralised planning → corruption has penetrated to lower levels.
- Lack of trained, responsible panchayat leaders.
- Benami leadership → male relatives of the ~~orachal~~ woman panchayat leaders are ~~are~~ running the Panchayat.
- Lack of self-sustaining village economy.

## Neopolitics vs. Geo-strategy

political alliance (or)  
adversaries esp. virtue o'  
geographical reasons

eg: Indo-Pak = Kashmir issue,  
Sri Lanka

Indo-SL → Gulf of Mannar  
fishermen problem.

Indo-Bhutan - friendship;

India's Look East policy

Strategic advantage or disadvantage due  
to geographic (or) location factors

eg: - Rimland (Indian Ocean Rim)

Himalayas → isochinal → steep slope on  
Indian side

strategic disadvantage.  
Siachen glacier → upland  
strategic ad.

## ECOLOGICAL ISSUES

### Environmental hazards

1. Land slides
2. Earthquakes
3. Tsunami & floods
4. Drought

### 6. Epidemics

Diseases

- Epidemic → spreads ~~too~~ rapidly throughout an area in a small time.
- Endemic → localized to a particular area and has been associated with that area for a long period in history.
- Pandemic → prevalent throughout the world.

Contemporary

→ Discuss the epidemiological map, geographical reasons for the spread, measures to check Dengue (or) avian flu (or) conjunctivitis (or) chikungunya

Disaster management

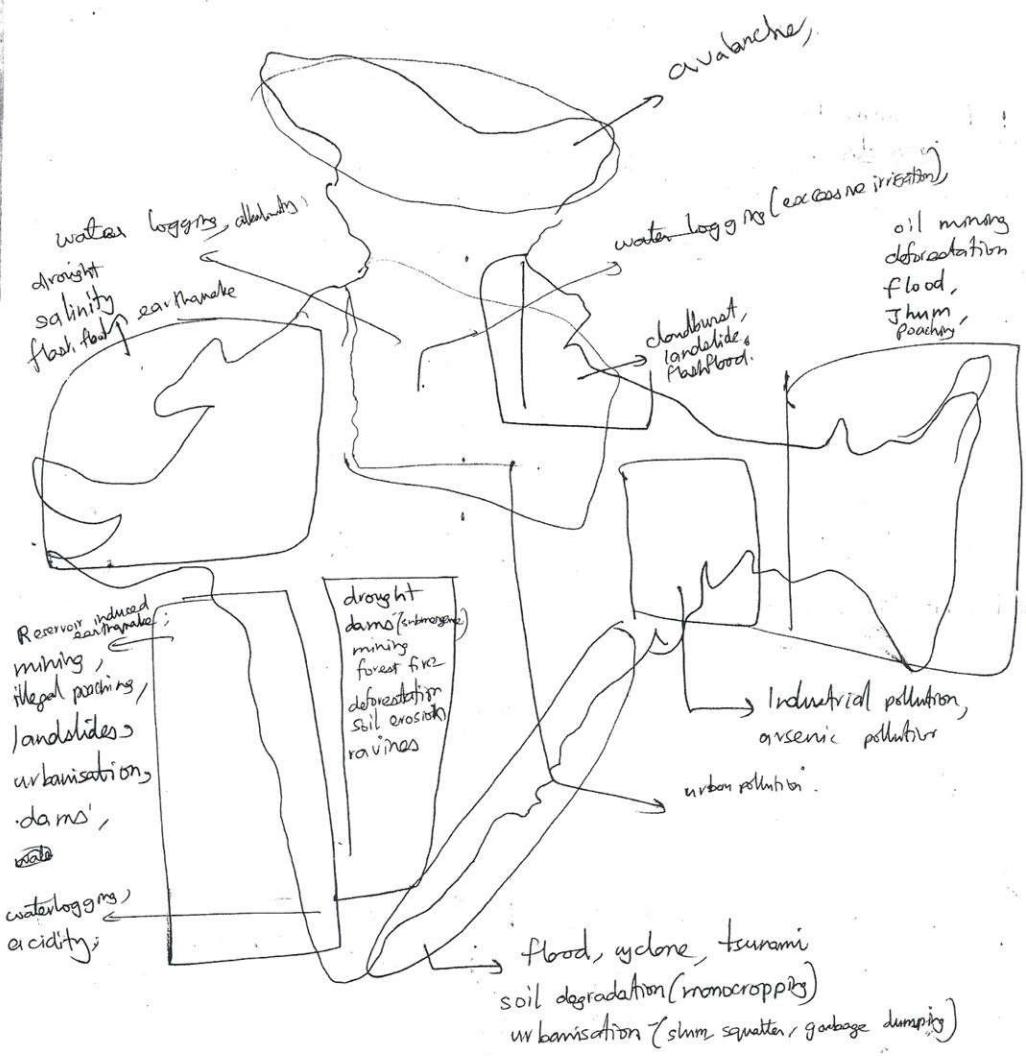
- pre-disaster (awareness)
- during
- post-disaster (rehabilitation, resettlement)

Disaster → sudden & intensive impact  
earthquake, tsunami, flood, drought

Hazard → slow & gradual impact;  
arsenic pollution, deforestation, air pollution

Disasters also create hazards.

Bhopal gas disaster creates envt. hazards.  
(polluted water)



Island regions → deforestation, unsustainable tourism,  
 rising sea level, coral bleaching, tsunami  
 tropical & equatorial epidemics (malaria)  $\Rightarrow$  since closer to equator.

## Endemic diseases

Kala azar disease → N Bihar → Leishmania donovale → Sandfly

→

Bird flu → N.E.

Dengue → T.N.

~~Hypothyroidism~~ Iodine deficiency → hilly areas  
(goitre, hypothyroidism) (Himachal, J&K, Uttarakhand)

PEM (Protein Energy Malnutrition) → Central India → lack of proteins

Kwashiorkor, Marasmus

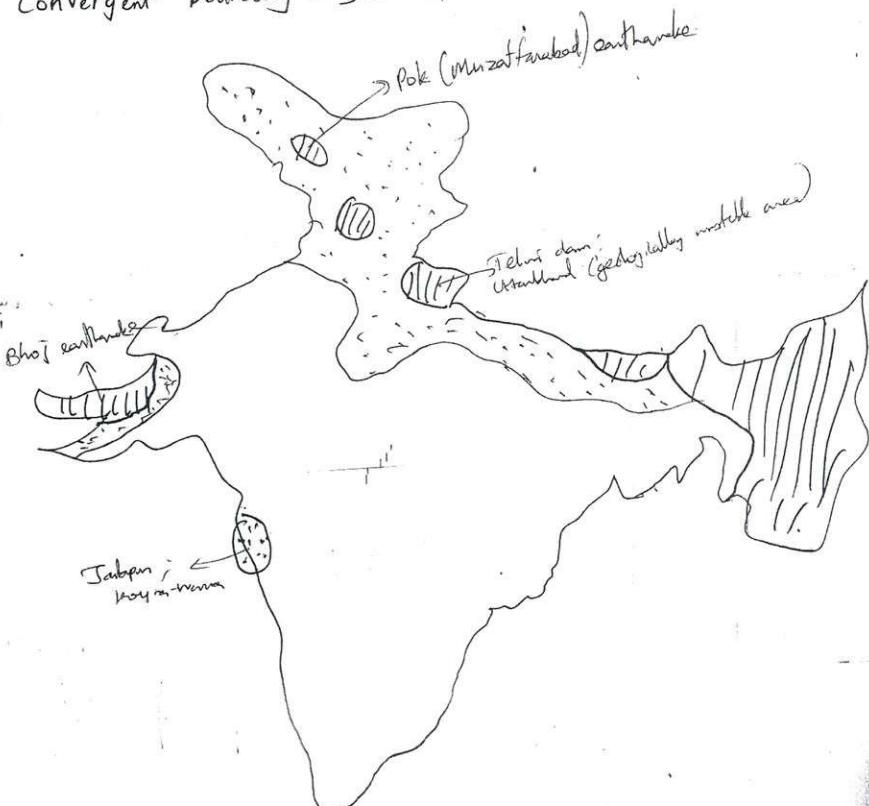
Japanese encephalitis → S. India & E. India

Earthquakes - F

Convergent boundary → b/w Indo-Axis plate & Eurasian plate -

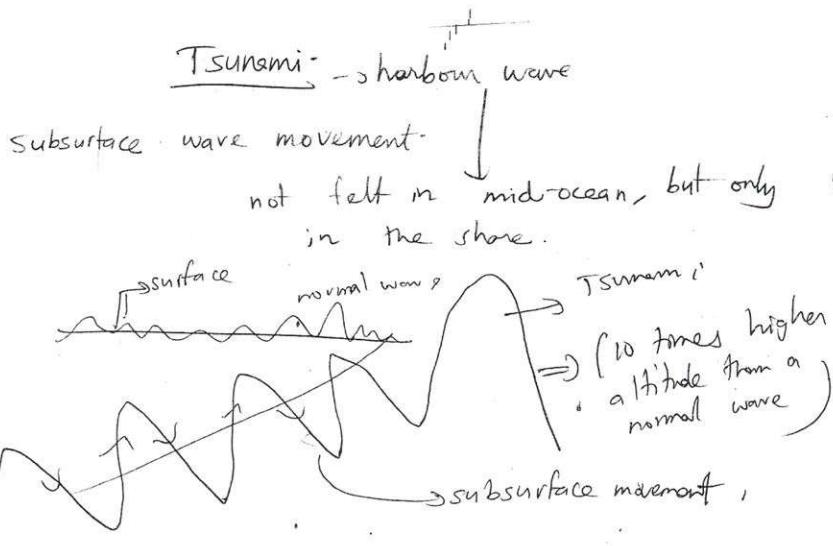
Convergent boundary

Convergent Divergent conservative (shearing)



Anthropogenic activities  $\rightarrow$  Koyana-Wanra

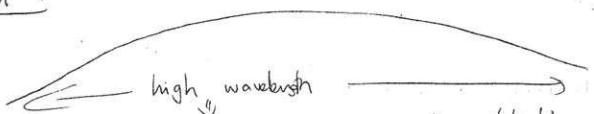
RIS  $\rightarrow$  Reservoir induced seismicity  
Tehri dam  $\rightarrow$  accelerated the impact of earthquake



### Reasons for Tsunami

Under-ocean

1. Earthquake



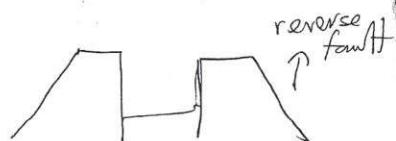
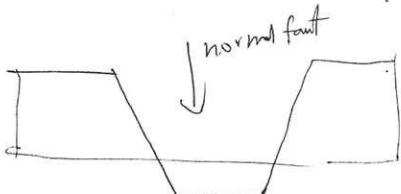
Tsunami has a very high wavelength, that it appears more like a tide than a wave.

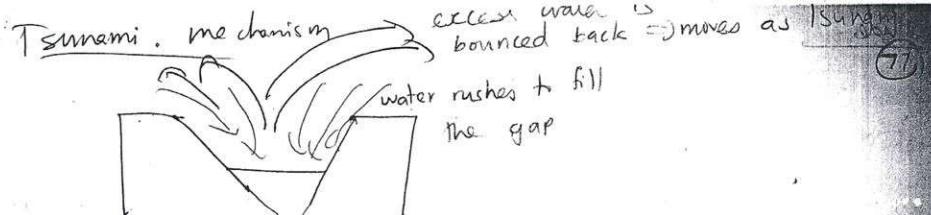
Not all oceanic earthquakes create Tsunami.

Tsunami is caused only in dip-slip movement earthquakes

(normal or reverse fault)

due to divergent earthquake

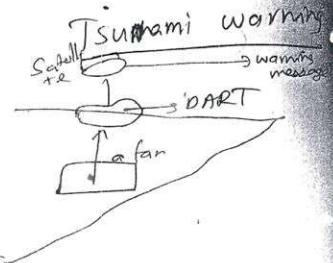




2. Volcanic eruption in ocean.

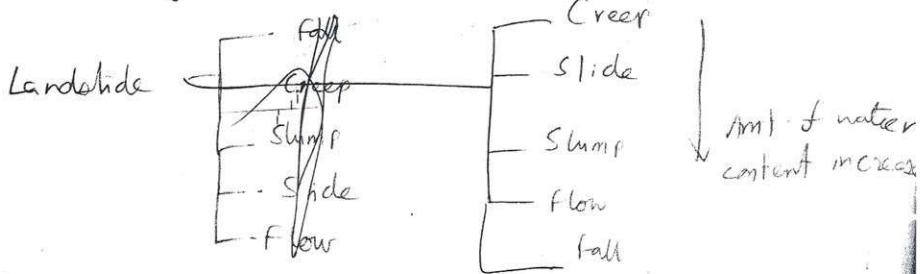
3. Landslide in coast.

4. Meteoritic fall in ocean.



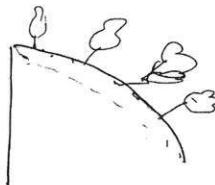
### LANDSLIDE

- Fall of large pieces of rocks, esp. due to action of gravitational force (Mass wasting).

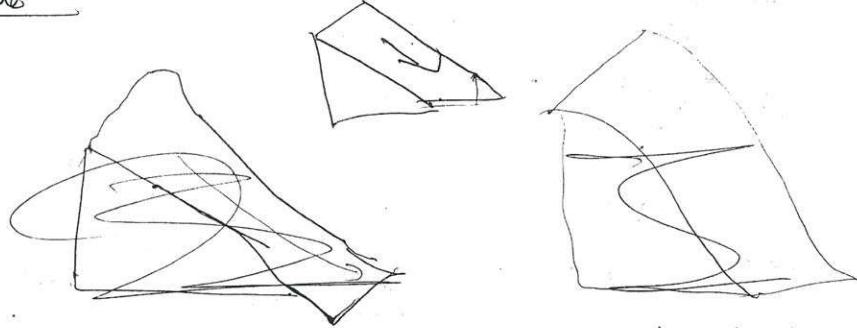


### Creep

Slow movement of surface earth material  
 (soil, debris, vegetation).

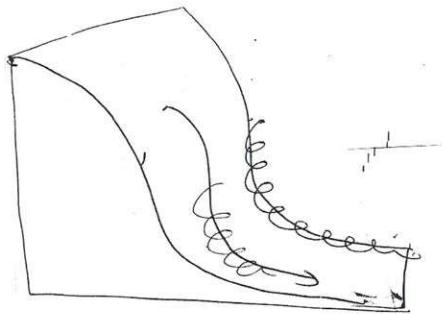


## Slide



Slippage of rock or earthen material without backward rotation.

## Shump



With backward rotation

## flow

Movement of surface earthen material in a slurry form (due to presence of large amount of water).  
eg:- Mountain floods like accompanying showing

## Fall

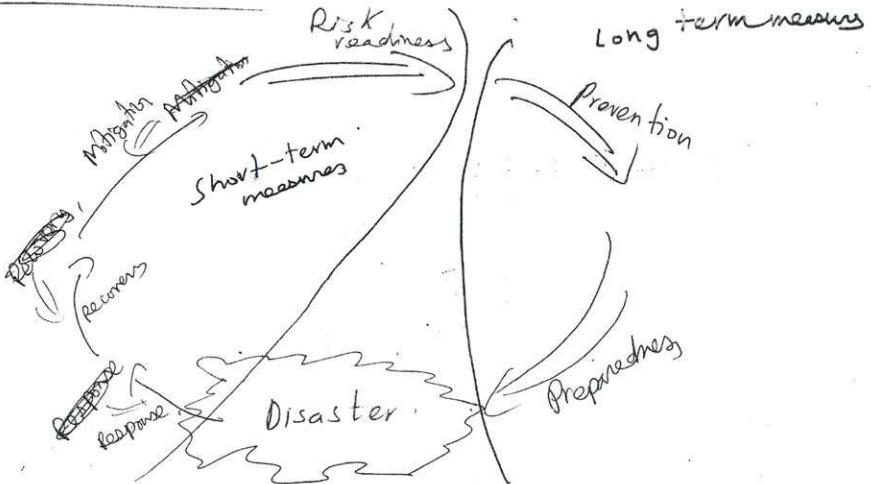
free fall of a broken or unfragmented rock  
under gravity

## Avalanche

Sudden, large, quick movement of  
huge mass of earthen material or glacial material



## Disaster management



Pre

- Mock drill
- Awareness
- Training
- Dissemination of information

{ Preparedness }

During

- Prone areas (vulnerability mapping)
- Forecasting - Dissemination of info.
- NGOs, doctors, fire personnel, donors, students for
- Make an emergency no. available.  
(e.g. helpline during Uttarakhand flood)

{ Preparedness }

Post-disaster

- Rescue operations
- Providing food / medicine
- Airlifting of supplies
- Temporary camps

{ Response }

Post Recovery

- Remove debris

Est. essential infra → schools, hospitals, ration shops, dwellings:-

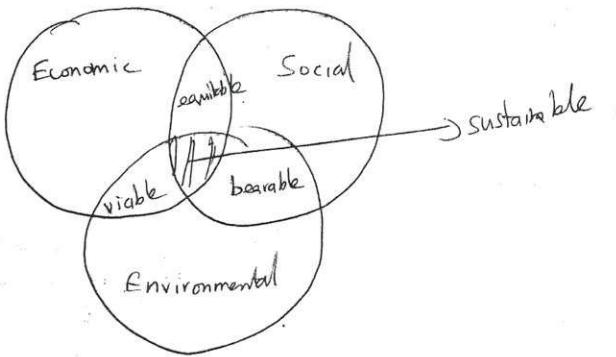
Mitigation (sociologically, psychologically, economically)  
communities  
- Counselling  
- Relievers → cultural  
- Alternative employment  
compensation (relief fund)

~~Response, recovery, mitigation~~  $\Rightarrow$  similar for all disasters;  
prevention, preparedness  $\rightarrow$  varies from disaster to disaster

## Sustainable development

Meeting the needs & aspiration of the present generation without compromising the needs & aspirations of future generations.

Sustainable development coined by Brundtland (former Norway President)



Limits to sustainable devt

1. Resource (fossil fuels, land)  
↳ fridges, cars, controversial  
monoculture
  2. Lack of technology (prohibitive cost, patented by developed countries e.g. HFCs → Montreal protocol)
  3. Lack of infra.
  4. Pollution → coal, diesel fumes
  5. Lack of awareness → short-term impact on environment
  6. High population → increasing food demands
  7. Regional disparity [inter-regional, intra-regional]

→ Bring out a strategy for the sustainable devt. of India.

## Strategy



1. Resource analysis & trend;
2. Non-renewable resources (R&D);
3. Binding policies (intc. into mainstream pol);
4. Awareness of importance of sustainable devt.;
5. Efficient use of available resources.
6. Conservation of resources.
7. Better technology (framewrd - R&D)

- Land based
- Water based
- Air based.
- Vegetation based

### Land-based

- Organic manure → Allowing land to remain fallow for some time.  
Organic manures-vermicompost,
- Land reclamation → ravines, prevent soil erosion → store, cropping, mulching
- Evergreen farming (IPM, INM) rather than green revolution.
- Do NOT dump non-biodegradable wastes.
- Crop rotation
- Social forestry → P's; E SAs → reduce in deserts, mining  
Regulated dust in geologically vulnerable areas → Himalayas (HP, Uttarakhand)  
Regulated tourism in buffer areas -

### Water based

- Rain water harvesting, water bodies  
Prevent water pollution.
- Increase percolation & prevent run-off through checkdams.
- Aquifer recharge.
- Desalination.
- Effluent treatment, before letting off into river.
- Bioremediation of water → using oil zapper bacteria to treat oil slicks
- Prevent over-fishing.

### Air Based

- Reduce fossil fuel -  
more carbon sinks → forests, oceans.
- Carbon sequestration.
- More non-conventional fuel.
- Reduce demand - mass transport;  
Int'l. binding protocols → Kyoto, Montreal.
- Electrostatic precipitators in chimneys.

### Vegetation based

- Selection of suitable crops  
- coarse cereals for drylands.
- Crop rotation
- Native varieties → to preserve gene pool, conserve biodiversity
- Agro-forestry.
- Natural vegetation conservation → no monoculture
- REDD - REDD+.
- Public trusteeship → Nagoya → IAS clause.

## Brahmaputra

Source :- Mansarovar lake, Tibet

In China (Tibet), it is called Yarkung Tsangpo.

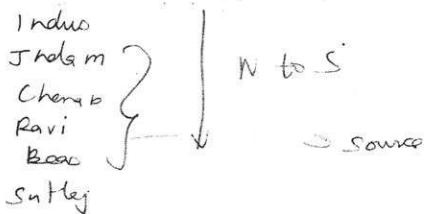
Brahmaputra  $\Rightarrow$  called Dihang (in Arunachal), Brahmaputra (Assam)

Jamuna (B'desh), Padma (after joining with Assam), Meghna (near delta)

Left hand tributaries Debang, Lohit, Dibang

Right-hand "  $\rightarrow$  Subansiri, Manas, Teesta, Sun Kosi; Assam  
(IASMA)

## Indus river system



Only Indus & Sutlej originate outside India (in China)

## Power projects across Indus:-

- Nartha Jhakri  $\Rightarrow$  across Sutlej in H.P.  
proposed largest HEP
- Dululpur navigation project
- Kishenganga

09/02/12

## Morphology of Urban settlements

Internal structure & arrangement of an urban area.

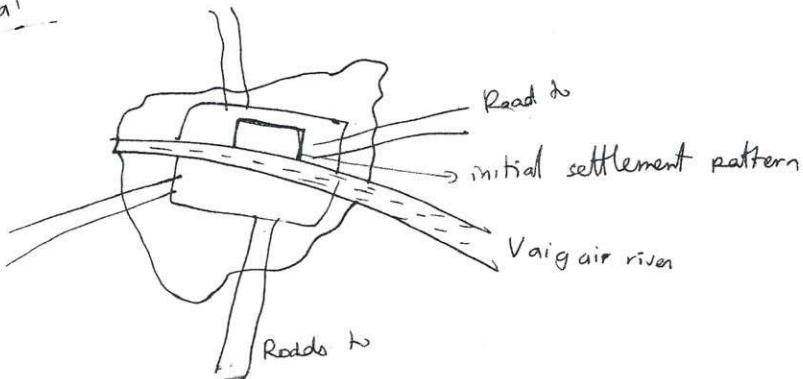
### Morphology of Indian urban settlements

- 1) Hindu town → developed through TEMPLE or FORT;  
eg:- Madurai, Panna
- 2) Islamic → Allahabad, Agra
- 3) British → Kolkata, Mumbai, Chennai
- 4) Modern planned town: → Chandigarh, Noida, Jaipur.

#### Hindu town

- devd. through temple or fort.
- Wooden structures → eg: patra
- Bazaar based, ⇒ (but there is segregation of bazaar & residential areas)
- Clear cut settlement division based on Varna system.
- Disturbed by new development. Mixing of industrial & residential areas.

Madurai



### Islamic town

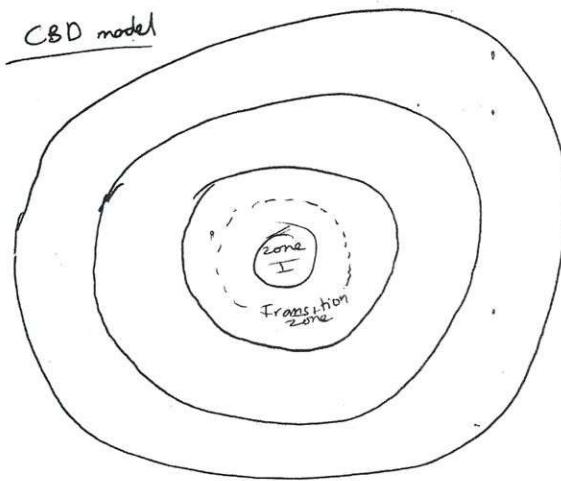
- Develops with either palace or fort as the centre.
- There is no segregation of bazaar & residential areas.
- The entire town is fortified  $\Rightarrow$  (enclosed by big walls).
- Modern devt. takes place outside the fort in an
  - planned manner.  
eg:- Golconda fort & Hyderabad;

### British towns

based on concentric or Zonal theory given by E.W.Briggs.

started ~~in~~ in Chicago.

It is called a CBD (Central Business District) model.



#### Zone I

- Central Business district.
- Very busy in day-time, but nobody in night-time.
- Heavy congestion in day-time.
- Centre for all business activities.

## Zone II (Transition zone)

- Low class working ppl. → blue collar jobs.
- They reside here, very close to CBD, to reduce transport cost.
- called China town → smuggling, underworld, rumours, illicit, drug

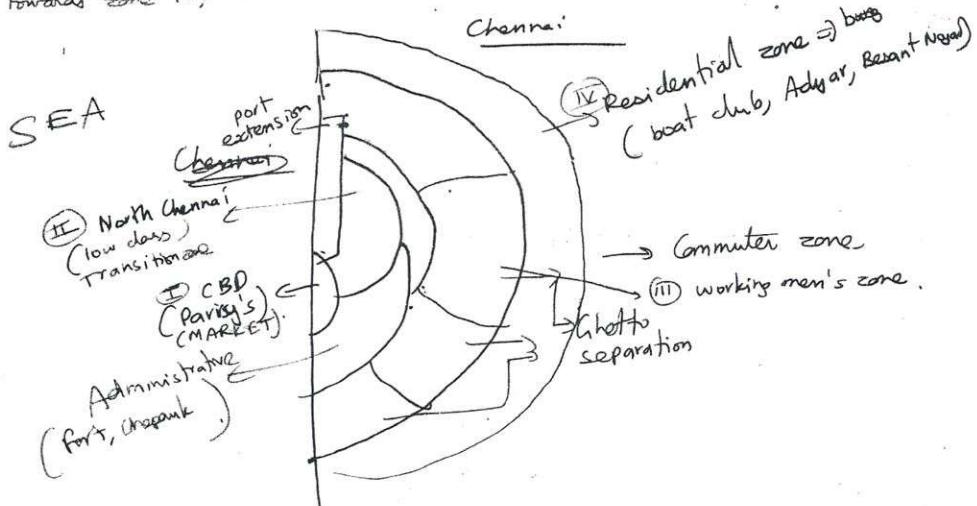
## Zone III (Working men's zone)

- clerks, white collar employees.
- So, in Chennai, Brahmins who assisted British white collar jobs, developed a working men's zone.  
eg:- Triplicane, Mylapore.
- Second-generation migrants

Earlier, they were in zone II, but now have outmigrated to zone III.

## Transition

- Zone I → Zone II → Zone III → Zone IV
- CBD enlarges and expands.
- ppl in zone II are pushed towards zone III, ppl in zone III are pushed towards zone IV; zone IV are shifted along roadways.



Ghetto → a settlement consists of a similar class of people.

eg:- Sowcarpet → Jam ghetto.

### Zone I V

Residential zone ⇒ high class  
↓  
Large, individual houses.

- Very far from CBD, but these rich ppl
- Single family dwellings.

### Drawbacks of CBD model

- No space for roads.
- No sol. zone for <sup>heavy</sup> industry. (only market & CBD & light industry)

### Applicability

- Chennai, Kolkata, Mumbai.
- Chicago CBD model is completely replicated in all European & US cities.

### Relevance

- One concentrated market ⇒ 1 CBD → In Europe, ppl do bulk purchase. And, they can also reach the CBD in a short time.

- India ⇒ no bulk purchase

High congestion ⇒ very long time to reach CBD -

∴ so, CBD is dispersed in India  $\Rightarrow$  more than CBDs in a single city.

CBD 1  $\rightarrow$  Parry's

CBD 2  $\rightarrow$  T. Nagar

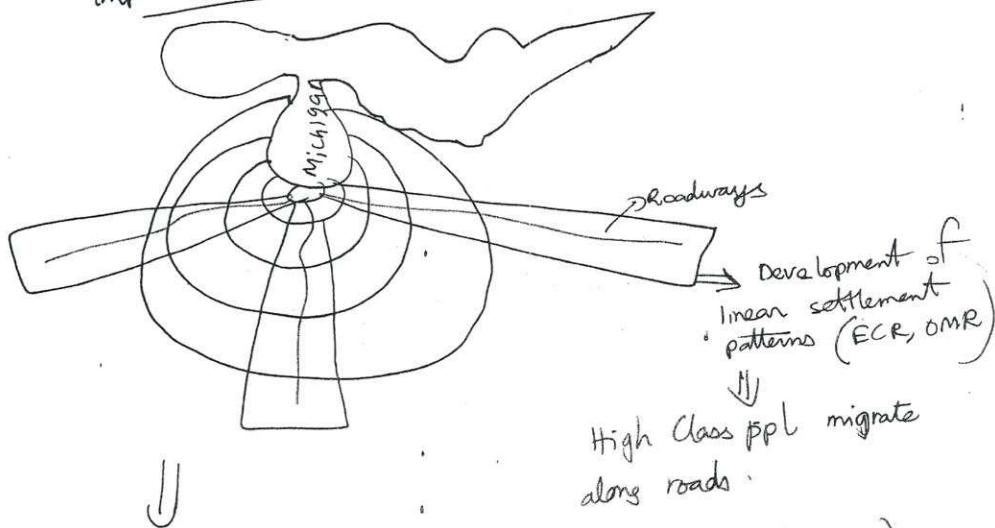
CBD 3  $\rightarrow$  Velachery

### Bike Culture in Indian urban areas

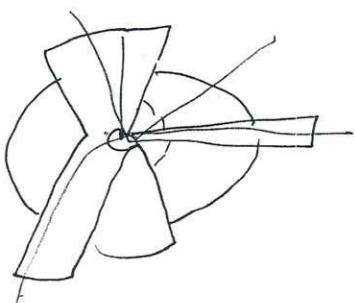
$\Downarrow$   
due to absence of proper MRTS;

modifications of CBD  $\rightarrow$  Sector Theory

Impact of roadways

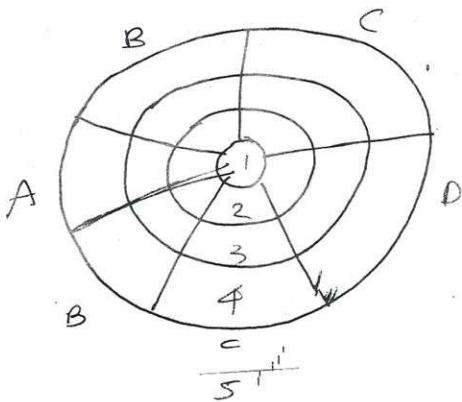


Sector theory  $\Rightarrow$  (new evolution of CBD)

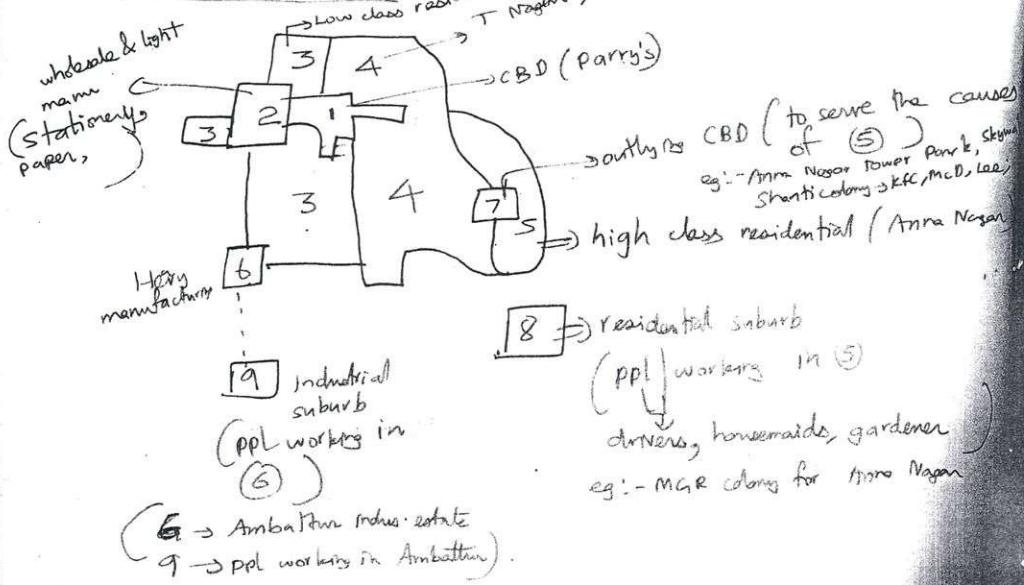


## Petermann model

(modification of CBP;  
hypothetical;  
NOT applicable anywhere).



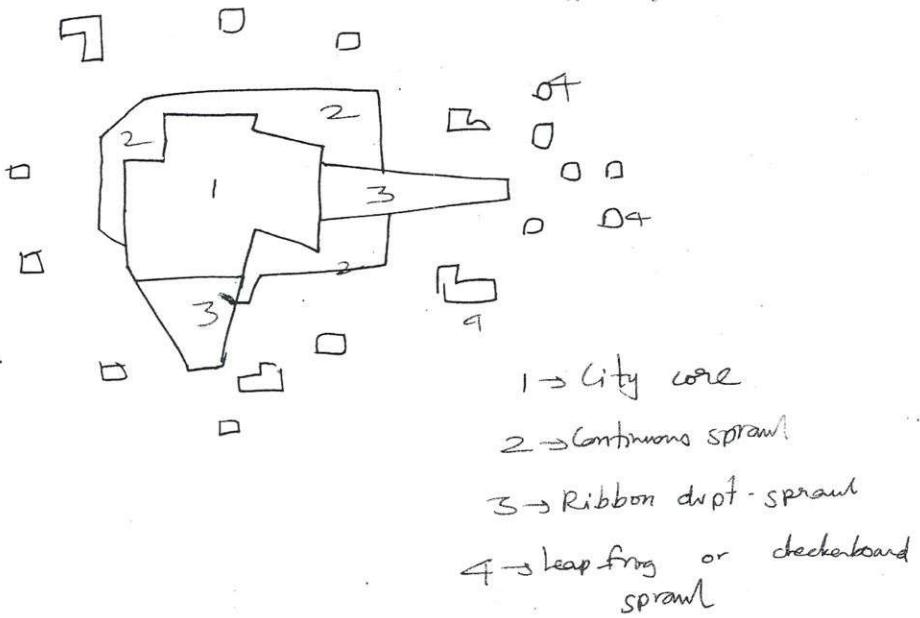
Multiple CBD (here ① & ⑦ are CBPs).  
Multiple nuclei theory.



## Explosion city model (a speculation model)

↓  
the real-estate speculation

(an ORR to come,  
a cottage to come up here)



## Applicability of various models

CBD → Chicago, UK

Sector → UK

### India

Initially CBD (concentric or zonal model)  
(before independence)

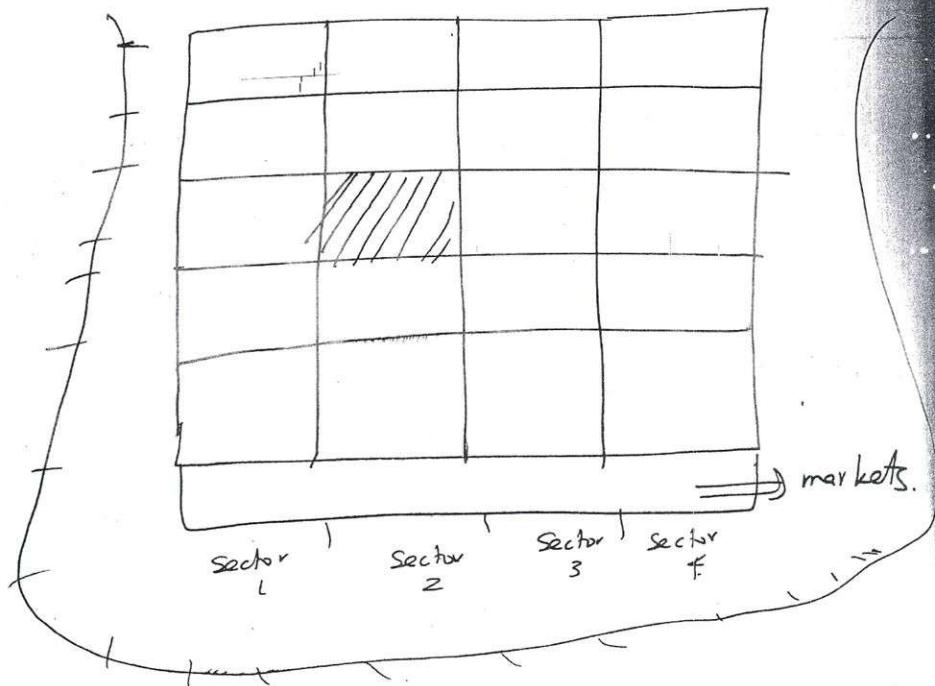
↓  
Sector ~~model~~ model (post-independence)

↓  
multiple nuclei (1980s-2000s)

↓  
Explosion city model (real estate boom)  
After 2000s'

Grid pattern

(eg:- Chandigarh)



- Sector-wise division

- Disadv :- of Chandigarh (see Colbush):

- 1. Markets in one corner (not in centre)

2. Takes huge time to reach  
day to day purchase of Indians

3. Widely spaced houses (no shadow of one building  
another),  
so, high heat felt, in roads.

Deterioration

3. Hence in east-west direction  
↳ sunrays enter @ 6 - am; heating up).

Study These models (search in net  
YBD)

Ahmedabad

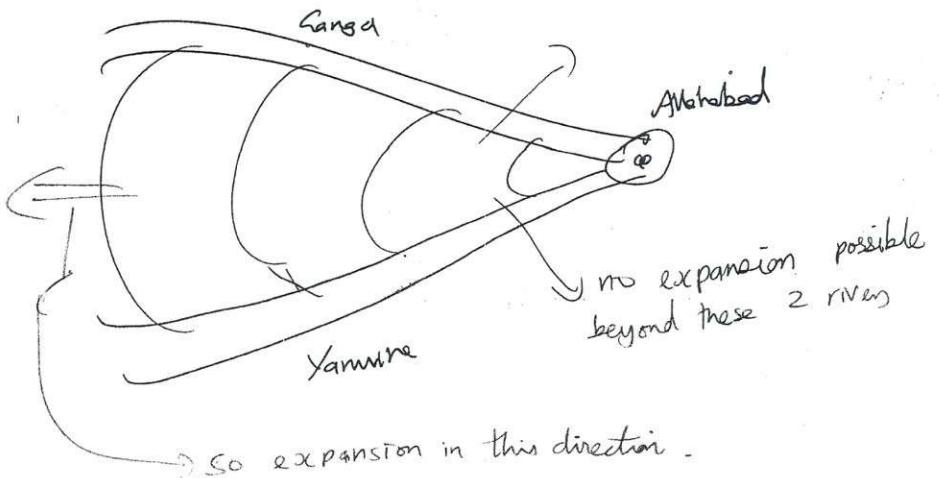
Jaipur, Noida

Delhi

Patna, Bhubaneshwar, Mumbai, Kolkata

relevance of grid  
(Chandigarh model) has been  
modified & adopted successfully  
in NOIDA, JAIPUR

Athababad - a collapsed model.



→ Compare the Indian urban morphological pattern with

~~the~~ European morphological pattern.

→ How has the grid pattern of Chandigarh modified & successfully adopted in Noida?

→ Explain how Howrah bridge has modified the urban morphology of Kolkata?

03/12/12

Food Security  $\rightarrow$  MDG  
To eradicate extreme poverty & hunger.



AAA of food with sufficient nutrition

Evergreen awastry

(both in case)

1. Food security
2. Sustainable devt
3. Energy crisis
4. Regional disparity

~~Availability~~  $\rightarrow$  to increase the production of grains:

- Green revolution
- Fertilizer subsidy  $\rightarrow$  non-plan revenue expenditure
- = Minimum Support Price

Accessibility

- PDS
- Mid-day meal scheme

Affordability (to increase the purchasing power) to give away food grains at cheap price

- Antodaya Anna Yojna  $\Rightarrow$  T PDS

- Employment generation  $\rightarrow$  MNREGA (earlier Food for work scheme)

MSSRF  $\rightarrow$  food insecurity map



### Schemes

1975 → ICDS  $\Rightarrow$  nutritional supplement

Janani Shishu Suraksha Yojna.

PDS

Direct cash transfer for ration.

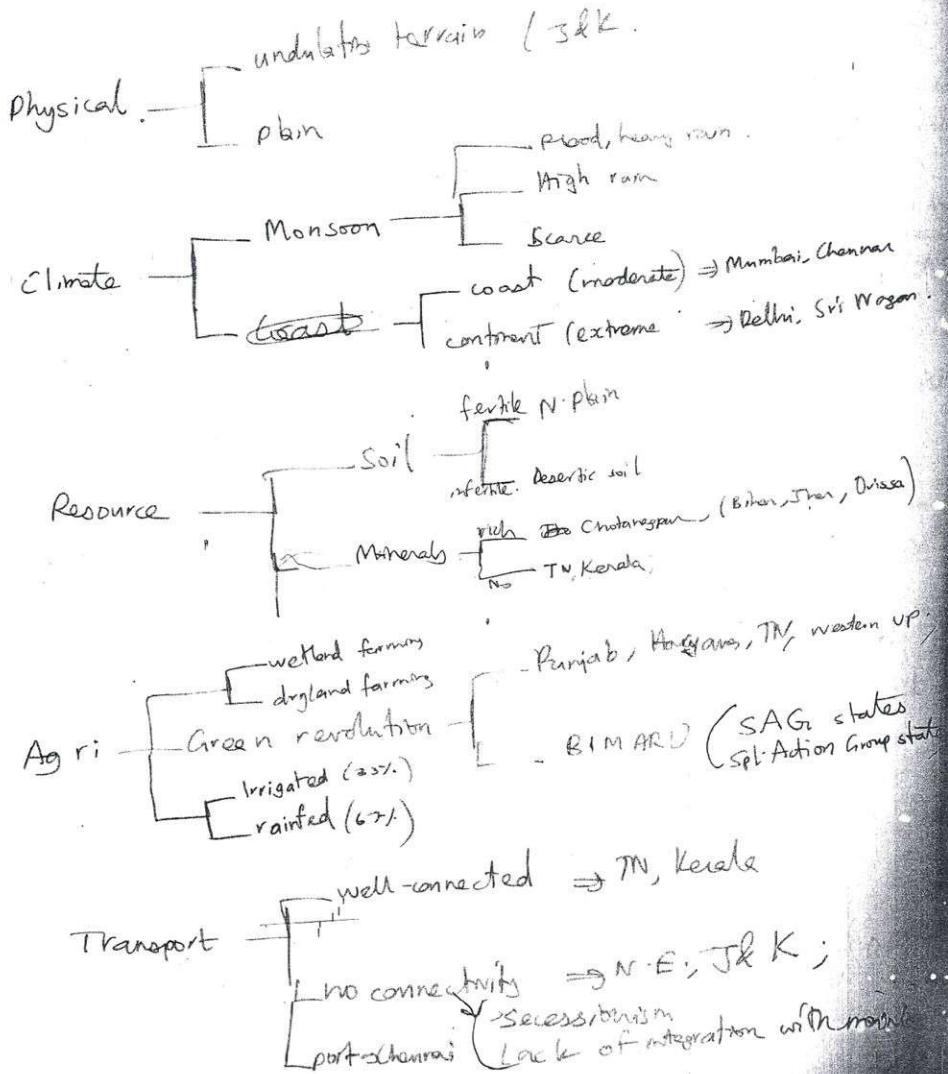
FSA (Food Security Act)

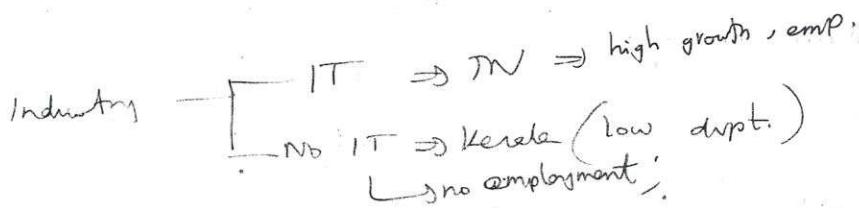
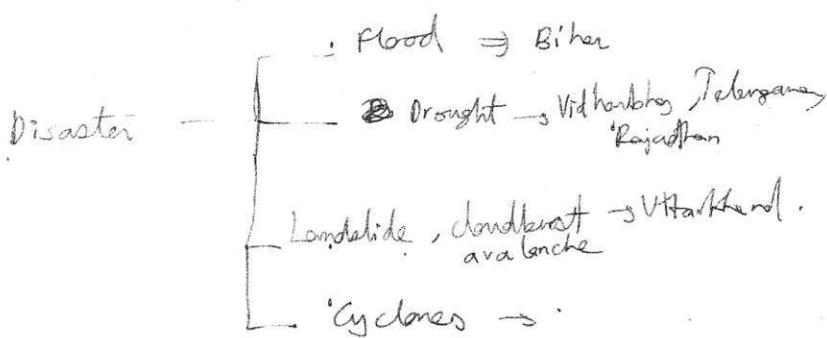
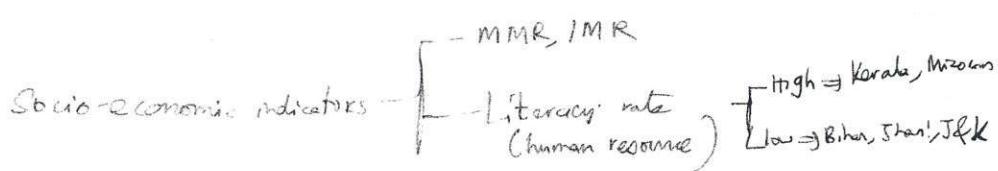
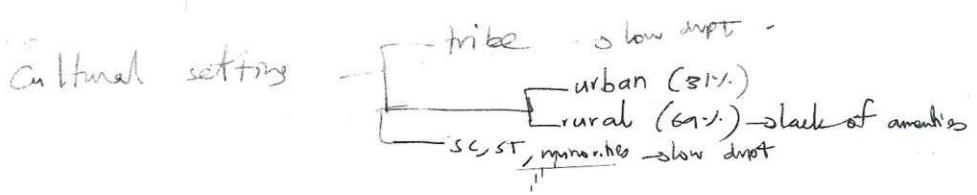
Food coupons (WIC scheme of U.S.)  
Women  
Infant children

# Regional disparity in India

(Touch all the chapters in paper II)

- 1) Physical
- 2) Climate
- 3) Resource
- 4) Agr.
- 5) Industry
- 6) Transport
- 7) Disaster
- 8) Socio-economic indicators
- 9) Cultural setting





How to remove regional disparities:

- 1) PURA
- 2) Literacy
- 3) Growth pole, growth centre, core-periphery model,  
section wise, sector wise
- 4) Robust growth → inclusive growth

# EIA (Environmental Impact Assessment)

Process of Anticipating or predicting the social, economic environmental impact of a project, even before its implementation.

## Basic principles (8 guiding principles)

1. Participation → local community participation in every stage of the project, right from initiation. An appropriate & timely access to the process for all interested parties.
2. Transparency → info detail awareness about investment, procedure, All assessment decisions & their basis must be open & accessible.
3. Certainty → certainty about deadline & completion of project to prevent cost over-run.  
Process & time of assessment should be agreed in advance & followed by all participants.
4. Accountability → responsibility on the stakeholders for any collateral damage at all stages (initiation, running, post-completion) → to all the parties.
5. Credibility → trustworthiness of the EIA report.  
Assessment undertaken with professionalism & Objectivity.
6. Cost effectiveness → profitability  
To assure environmental protection & minimum cost to the society.
7. Flexibility → to be able to adapt to future dynamic developments.  
Assessment process must be able to adapt to deal with any situation.
8. Practicality → feasibility of a project in the given area.  
Info. & decisions provided by assessment processes should be readily usable in real-time decision making & planning.

## Participation

local community to be consulted for traditional knowledge, to know the psychological & social orientation.

## Operating principles

Project screens

Determines

The necessity for EIA requirement.

Scoping

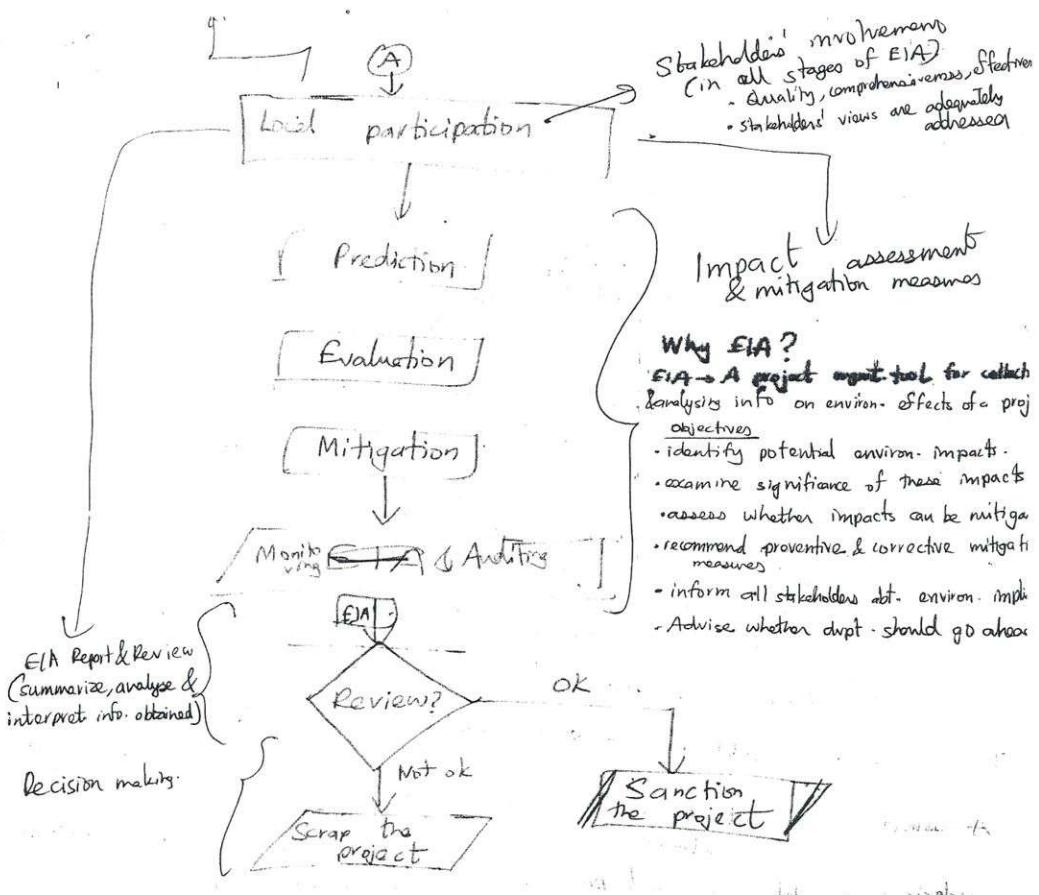
↓

Identify alternatives

↓

See UNESCAP

Information gathering stage.



## Scoping -

- provides project
- identifies project's potential impact
- provides project alternatives
- provides basis for developing TOR

## Identifying alternatives

- Evolving multiple alternatives

Location  
scale of projects  
process  
Layout  
operating conditions

## Public participation

- Public hearings → to gather opinion

Link: public are NOT forthcoming in this fast, individualistic world

The mind of public is changing in nature.

... - Indian culture

Prediction of impact

prediction of impacts (quantitative impacts)  $\rightarrow$  measurable  
magnitude  $\rightarrow$  extent (area)  
of an impact  $\rightarrow$  duration

Evaluation of impact

Significance & importance of a particular impact will be analysed.

Mitigation of

How to reduce the impact?

To design systems/processes to avoid  
reduce & minimize adverse impacts  
To enhance beneficial outcomes

Monitoring & Auditing

Identifying impacts that require i) monitoring, ii) auditing.

EIA

- NOT technical report  
- Put in the public domain (e.g. - WRI EEP report  
in MoEF website)

summary  
methodologies used  
results  
interpretations  
conclusions

- Easy for anyone to understand.

Review

- Assesses adequacy of issues addressed.  
- Facilitate decision making process.

LOO PS  $\rightarrow$  a loop given to the first stage, at every stage, to review & propose alternatives

- In every stage, a loop is given to the previous stages (to analyse the alternatives right from the first stage).

## EIA in India.

very four organisations in India are equipped to create EIA:  
NEERI → National Env't. Engg. Research Instt.

ISSS → Tata Instt. of Social Sciences

- A separate govt. body should be estd. to prepare EIA report. Today prvt. cos. are entrusted with this job.

⇒ The power to review EIA should be given to an independent body rather than MoEF.  
(since MoEF does NOT have sufficient technical expertise)

→ Plagiarism in preparing EIA, due to ICT

How to improve EIA as:- Lawassa ..

- More education & training for preparation of EIA
- An independent EIA authority for govt
- More awareness among ppl for the importance to involve in EIA
- Improving credibility of EIA reports (by addressing the issue of Plagiarism)

## Agrarian & industrial unrest

since all problems of labour are addressed  
post-liberalisation, communism has declined; industrial  
unrest scarce - (ex: - Marcas plant);  
sporadic protests.

Agrarian unrest is more in India rather than  
industrial unrest. since many of the land reforms have NOT been  
implemented properly

(Tinkarukkunnu dam, Jan Satyagraha  
(landless labourers

Small farmers (Kisan) → disparity b/w small & rich farmers widened due to  
the resource-intensive Green Revolution.

Agrarian unrest [Peasants (Mazdoor) → land reforms have NOT been implemented properly  
eg:- Naxalbari movement; Bhagat Singh movement  
violent]

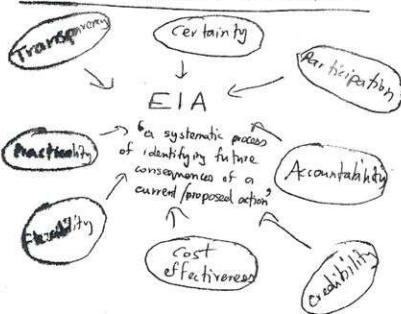
# World economic devpt.

- Various stages of economic devpt.
1. Primitive Africa
  2. Pre-condition to take off India e.g. Take off (China, Brazil)

4. Drive to Maturity US

## 5. Age of Mass consumption Europe

### EIA → GUIDING PRINCIPLES



## World agri

British market gardeners, fruits, vegetables		
Orchards	wheat, maize, corn, soya	Mandarin (rice)
		Mandarin rice

### Benefits

### EIA-Benefits & flaws

### Flaws

1. Provides systematic methods for impact assess. The methods are time-consuming.
  2. Estimates cost/benefit trade-off of alternative actions sometimes, alternative actions are too costly.
  3. Facilitates public participation. Little public participation in actual implementation
  4. Provides an effective mechanism for coordination, environment integration 3) negotiation 4) feedback.
  5. Provides an INSTITUTIONALIZED APPROACH.
  6. Achieve "balance b/w devt. & environ. protection".
  7. Integrates conservation as a part of the project.
- Too scientific  $\Rightarrow$  uncomprehensible, bulky report  
Lack of reliable data ; Plagiarism.
- EIA's spirit & recommendations are seldom followed, once project takes place.
- More education & training on i.e. necessarism ; it is still found want

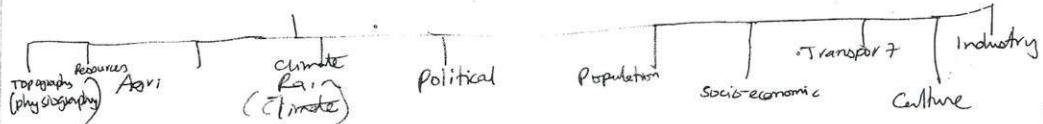
## Famine

~~famine exist only in Africa.~~ (Senegal, central Mali, Niger, Chad, central Sudan, Eritrea).  
 SAHEL region  $\rightarrow$  part of Sub-Saharan Africa.  
 transition region b/w Sahara & Savanna

→ Causes, impact & measures to tackle famine in Africa.

→ Impact of climate change on food production.

→ Regional disparity in the world.



To remove

first choice

Paper I

~~3. questions from first 5 chapters~~

Models & theories

Population  $\Rightarrow$  basic (concept) (growth, migration, distribution)

last choice (sphere of urban influence, urban sprawl)

Paper II

Map

3 questions from first 5 chapters

Contemporary issues

→ Population as social capital.

### Social Capital

"What we cannot do alone, we can together."

Creating a 'we' feeling among the people to synergise their energy and achieve common aspirations & goals.

eg:- successful stories of social capital

- 1) AMUL → co-operative → White revolution.
- 2) Apico, Charkhi -
- 3) Self Help Groups
- 4) Grameen Bank (MPFI) in B'desh.
- 5) Sugarcane & wine co-op in Maharashtra.
- 6) NGOs
- 7) IAC (India Against Corruption)
- 8) Arab Spring
- 9) Community forestry.

Similarities b/w Primitive & mo.

Primitive

Modern

Consumerism → no savings

no rigid work time

reduces dress

Living together concept

Social ~~independence~~ interdependence  
(Arab Spring) IAC

i. No savings

2. no rigid work time

3. Naked ; half naked , ,

4. No institution of marriage .

5. Community life .

### Self help group

- A small group of women save small amount of money  $\rightarrow$  start a bank account.
- Bank gives cheap credit to the SHG to develop an enterprise.
- Enterprise - women empowerment, rural devt.
- Accountability  $\rightarrow$  since the entire group is accountable to the bank, no one woman can stop payback.

### Disadv.

Instead of starting an enterprise, SHGs have become moneylenders. Though this is undesirable, it has also helped rural ppl to find a credit at a lesser rate than moneylenders.

### REGIONS

#### Region

A region is an area having some homogeneity w.r.t either culture, geographical.

#### Geographical

Indo-Gangetic region

Peninsula

Prairies

#### Religious

W Asia  $\rightarrow$  Islamic

West  $\rightarrow$  Christian

India  $\rightarrow$  Hindu

SE Asia  $\rightarrow$  Buddhist

## Economic divts-

- First world  $\rightarrow$  West & N America & Europe
- Second world  $\rightarrow$  Communist
- Third world  $\rightarrow$  Developing countries.

## Caste-wise regions

Kongu belt (TN)

Lingayat (Karnataka)

Patel belt (Gujarat)

## Cultural regions

Saurashtra

Tulu

## Industrial regions

Detroit

Chotanagpur

Shanghai - Beijing

Japan

Ural

Depending on the nature & objective of study, any one of the above classification can be adopted  
for any classification, qualitative & quantitative parameters can be considered.

## Methodology



Qualitative

Area pattern

Quantitative

Distance

No. of ppl.

Agri  $\rightarrow$  nature of agri  
commercial or subsistence  
mixed or P  
f

Agri  $\rightarrow$  Productivity  
 $\Sigma$  Intensity.

Culture -

- living habit
- Food habit
- dress
- lifestyle

Culture → Language  
Religion

Climate → seasonal variation  
→ pleasant/extreme.

Climate → rainfall variation  
→ temp.

Economy -

- well off
- poor
- boom/recession

Economy -

- per capita income
- sector involved
- GDP

tomorrow's topics

- Nittel's classification
- principles of regionalisation

polity

### General studies

(25 m)

(10)

→ The fathers of Constitution wished the UPSC to be an independent body immune from the changing political dynamics in India. How did they ensure this in the Constitution? What are the additional functions & advisory role of UPSC, NOT mentioned in Art. 320?

→ Do you think that PRIs (Panchayati Raj Institutions) will provide a decentralised planning process, able to address 2 major issues of rural devt. in India - (i) increasing rich-poor divide & (ii) ecological disasters?

→ What do you mean by identity politics in Indian context? Briefly explain the impact of identity politics on gender equality.

→ History

→ As per some critics, the real father of Pakistan was NOT Jinnah or Rahimtullah, but Lord Minto. Analyse the statement.

### Current Affairs

→ As a food surplus and grain exporting nation, India can and must address malnutrition, which is caused by structural neglect and systematic failure, with resolute govt. and alternative interventions. Do you agree with this? What are the major observations by Hungama Report?

2 m

- Key findings of Annual Health Survey.
- Briefly explain the 'National Map Policy' of India, with a spcl. mention on defence series map & open series map. Which map projection is employed in the preparation of Indian physical map?
- Citizen's right to grievances redressal bill, 2011
- 36<sup>th</sup> Int'l. Geological Congress

25m

Polity

- Who are the citizens of India and explain the concept of biological citizenship, in the context of Aadhar initiative of GoI?
- Explain the effects & implication of coalition govt. and the political scenario in India. Do you agree with the statement most of the coalitions are engaged in conflictual behaviour, rather than cooperative behaviour.  
Justify your answers.

→ It is true that Article 17 does NOT create any spcl. privilege for anyone. But, it is a great FR. a charter of delivery to  $\frac{1}{6}$ <sup>th</sup> of the Indian population from perpetual subjugation & despair, from perpetual humiliation & disgrace. Critically analyse the statement.

- Elaborate the statement "Constitution is what the judges say it is". Do you think this idea holds true in the case of Indian Constitution?
- Briefly explain sex ratio problem indicated by 2011 census of India. Do you think that the sick culture of preferring sons is the main factor attributed to this observation?
- Discuss the roles of public private partnership in India and briefly comment on the draft National PPP policy 2012.

→ Recently, WHO formally issued their recommendations asking for ban on junk foods. In this context, what does a junk food refer to and what are the current issues associated with junk food in India. Write a note on junk food market and its regulations in India.

- 10m
- Criminal law amendment bill, 2012
- 6th economic census of India.
- Chemical weapons convention amend. bill 2012.

(12 m)

→ Key findings of Annual Health Survey.

→ Citizens' Right to Grievances Redress Bill, 2017.

→ 33<sup>rd</sup> Int'l. Geological Congress.

25 m

→ Who is a bureaucrat? (A bureaucrat's aim is to emphasise results rather than procedures, teamwork rather than hierarchial status, flexibility & decentralisation rather than control & authority). Analyse the statement, considering yourself as an Indian bureaucrat.

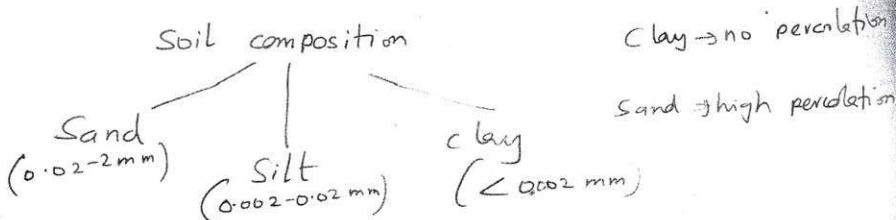
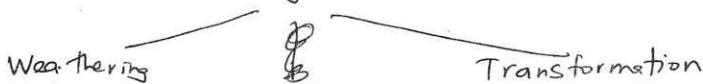
→ What are pressure groups in Indian politics? The role of pressure groups in India is marked by a number of remarkable features distinct to Indian political system.

→ If the PM wants to use Planning Commission as the pivot of economic planning & drpt., it will acquire a lot of importance. If he does NOT want to use it, the Commission becomes useless. Critically evaluate the statement with a focus on structure & functions of Planning Commission.

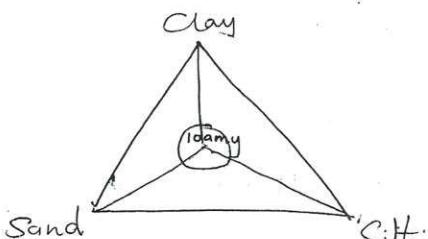
→ Analyse the concept, purposes, functioning and prospects of the notions of judicial review & judicial activism in India.

02/12/12

SOILS  $\Rightarrow$  disintegrated (weathered) parent rock material  
Soil genesis  $\Rightarrow$  Pedology  $\rightarrow$  Study of soil



Soil triangulation (soil texture classes):



Clay  $\rightarrow$  no percolation

Sand  $\Rightarrow$  high percolation

Loamy  $\rightarrow$  most suited for cultivation

Soil texture  $\rightarrow$  relative size of the individual particles (sand, silt, clay) of the soil. Texture determines the water-retention.

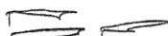
soil structure  $\rightarrow$  Aggregation of the individual particles (lumps, pods)

to form various structures. The aggregation is due to cementing action of ions in the soil.

soil structure  $\rightarrow$  Structure of aggregation

(horizontal layers)

Platy



(columnar)  
Prismatic



Blocky (clay)



Crumb (humus):  
 $\Rightarrow$  good tilth (arable).  
 $\Rightarrow$  best for seed germination.  
most suited for cultivation.



Texture  $\Rightarrow$  composition of various particles (sand, silt, clay) in the soil.

Texture can NOT be changed.

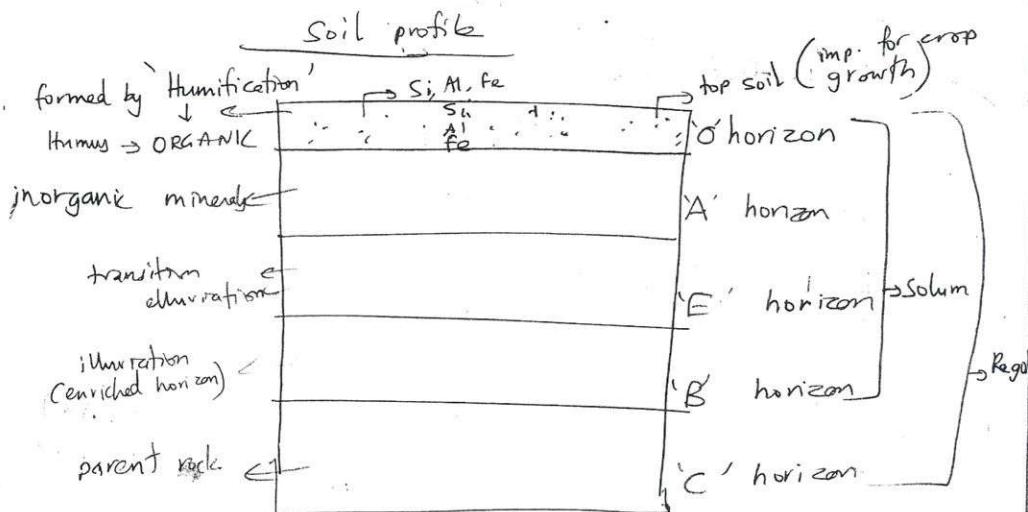
Structure  $\rightarrow$  Structure of the soil can **NOT** be changed by i) Wetting or ii) Drying.  
raking; forking (in gardens); ploughing, harrowing (in farms)

### soil column

MUNSELL chart  $\rightarrow$  to identify the type of nutrients in a soil, just by observing the colour of the soil.  
black  $\Rightarrow$  humus; brown or grey  $\Rightarrow$  less humus; Red  $\Rightarrow$   $Fe^{3+}$  ( $Fe_2O_3, Fe(OH)_3$ ); Blue or grey  $\Rightarrow$   $Fe^{2+}$  ( $Fe(OH)_2$ )  
 $\downarrow$  cool-humid                           $\downarrow$  acid, semi-acid;                           $\downarrow$  well-drained  
(poorly drained)

### Soil Profile

The vertical arrangement of soil horizons is called soil profile.



(parent material)

O horizon

↓  
organics → humification → humus

on heavy rain, the organic matter in 'O' horizon is either leached and washed away or the organic matter in 'O' & inorganic matter in ~~A~~'A' form a colloid and reaches B layer.

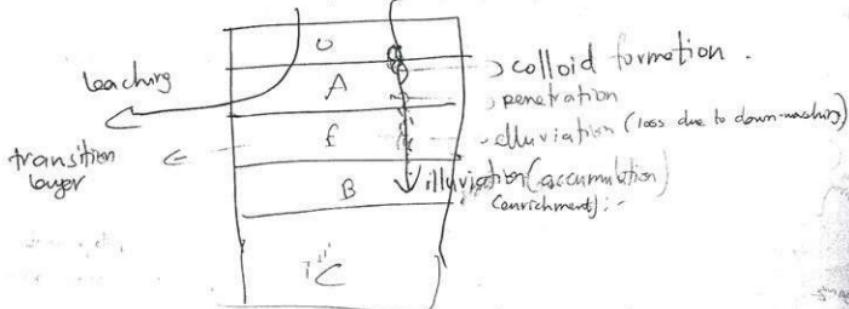
'E' layer horizon is a transition layer b/w ~~A~~'A' & 'B' horizons.

E horizon (eluviated)

B horizon (illuviated)  
↓ accumulation from A

C horizon → parent material  
↓

Before towards rain



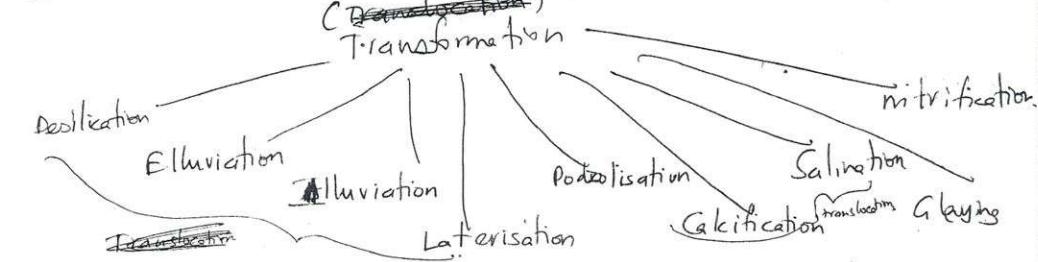
Weathering  $\rightarrow$  disintegration (detachment) of parent rock material into unconsolidated matter.

Physical  $\rightarrow$  freezing ~~thawing~~, expansion, contraction, Thawing, plucking

Chemical - ~~attrition~~, hydrolysis, carbonation, solution

Biological  $\rightarrow$  plant root, earthworms - rodent  $\downarrow$  burrows

Transformation  $\rightarrow$  creation of the various layers of the soil.  
~~transformation~~ Due to rainfall, humification, illuviation, eluviation, the unconsolidated weathered parent material arrange into diff. layers, to form a soil profile. This is called soil transformation.



- trans location  
1. Elluviation  
2. Illuviation  
3. Laterisation  
4. Podzolisation  
5. Calcification  
trans location  
6. Salinisation  
7. Gleying  
organic  
8. Nitrification  
9. Desilication

Translocation  $\Rightarrow$  main agent  $\rightarrow$  water:-

humid  $\Rightarrow$  downward movement of water.  
Leaching  $\Rightarrow$  downward movement of material in solution or colloidal suspension.

Elluviation  $\Rightarrow$  physical downward washes of clay and finer particles.  
Illuviation  $\Rightarrow$  redeposition of eluviated particles, in the lower zones of soil profile.

Arid  $\Rightarrow$  upward movement of water (capillary action)  
Potential Evapotranspiration (PET)  $>$  Precipitation (PE)

- Ineffective leaching
- ~~podzolisation~~; Salinisation / alkalinisation
- Calcification

Laterisation (Desilication) → humid soils

Top soil → Si; Al, Fe

↓  
Sesque-oxides

Laterisation → In high rainfall areas (cavator, W Ghats), silica is washed (leached) out but sesque oxides (Al, Fe) are left behind in the top layer.

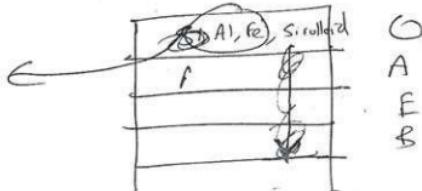
Laterite soil → slow organic content  
in humid, warm tropics.



Pedogenesis → (or Chelivation) → in acidic soils  
eg: - Polar regions. (Coniferous areas)

In coniferous areas, there is daily leaf fall & humification. So, Si forms a colloid with Al & Fe. So, on rainfall, the sesque oxides are washed away, but the colloids of Si are penetrated & accumulated in F layer.

ash-grey colour,  
amethyst-like sand;



## Calcification

- evapotranspiration  $\rightarrow$  leaching
- Occurs in arid & semi-arid areas.
- In dry seasons, due to capillary action (since the soils become dry, water from underground rises to the surface) upward.  
of water, the water moving up the layers (horizons) of the soil, it evaporates and dissolved salts due to inefficient leaching  
(Sodium & Calcium are accumulated in the 'A' layer. In grasslands (savannah, steppes) fibrous rooted grass absorbs Ca and when it dies Calcium is deposited on the soil. This is called calcification.)

Salinisation/alkalisation In desertic regions, there is NO grass (vegetation). So, Ca & Na in 'B' layer is left behind due to soil aggregation in 'B' and it forms a sub-surface salt pan.  
eg:- due to over-irrigation in Punjab/Haryana.

This salt pan prevents percolation of water and this results in flash floods in deserts.

Rann of Kutch  $\rightarrow$  Long time acc. of Na & Ca in sub-surface. Over a period of time, the salt pan appears on the surface.

## Ephemeral

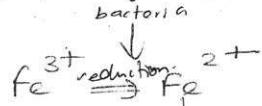
downwashing  
Accumulation of salts resulting  
Removal of minerals by downwashing.

## Illuviation

Accumulation of minerals

## Gleying

wet or Water logging  $\Rightarrow$  anaerobic condition



results in bluish grey colour (bleached look) :-

## Nitrification

The transformation of an nitrogen compound to another absorbable nitrogen comp by plant is called nitrification.

With transformation involving all these processes the soil gets transformed into distinct horizons - C, A, E, B, C - each with a diff. colour & nutrient composition.

It is necessary to preserve the soil and use it sustainably without over-exploitation,

## \* Soil profile - open ended

at

- Refn:-
  - How formed  $\Rightarrow$  2 to 3 lines
- Diff. layers
  - How form
- Brief explanation of layers.

~~Need for~~

## → Need for soil profiling

- 1) Crop selection
- 2) Application of fertilizer
- 3) Soil classification
- 4) Soil drainage
- 5) Method of irrigation
- 6) Disaster mitigation. (eg:- flash flood prediction)
- 7) Agro-climatic classification.
- 8) To predict the future of that soil in a region, depending on its profile & processes.

## Soil genesis

→ Soil - defn.

→ Types of soil particles ~~- sand, silt, clay~~

→ soil texture; structure

→ weathering, transformation  
↓  
inert matter

→ Translocation

→ 

- ↓ leaching
- ↓ evaporation
- ↓ infiltration
- ↓ calcification
- ↓ salinisation

Need for soil profiling

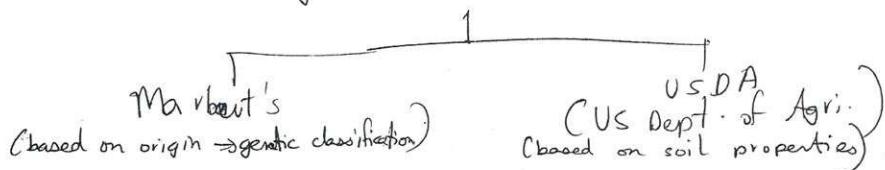
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### 1) Fertilizer application-

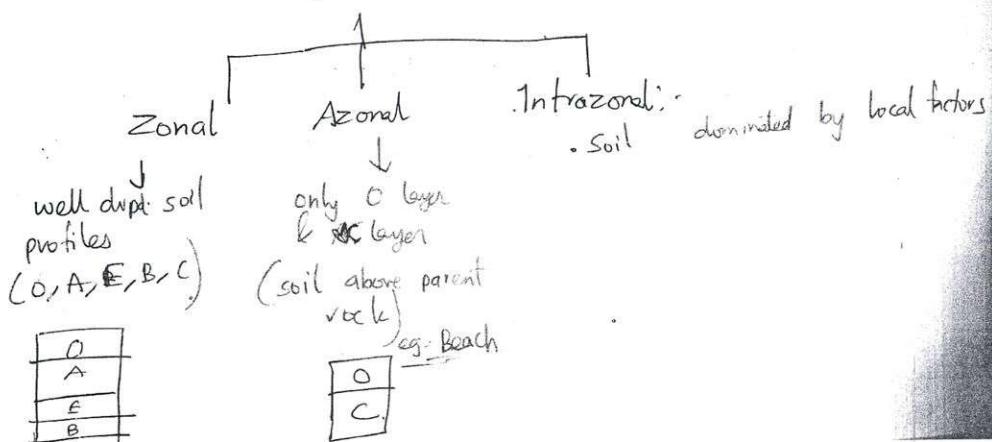
The ~~80%~~ fertilizers (P & K) form a complex with the soil. These complexes, if leached, result in eutropication & a bacterial bloom.

### 2) Crop selection

## Types of soil classification



### Marbut's system of soil classification



## Soils in India

Podzol  $\rightarrow$  Spodosols

- Tundra coniferous acidic  $\Rightarrow$  humic (organic) acids  $\Rightarrow$  chelating agents
  - Podzolization dominates
  - ash grey (Si colloids)
  - bleached & humus-enriched B;
- ↓ chelation (or) podzolisation.  
form colloids with 'Si'.

Brown earth  $\rightarrow$  Inceptisols

- Deciduous forests  $\Rightarrow$  less acidic than podzols
- No downward leaching of sesami oxides  $\Rightarrow$  sesami oxide distributed on upper surface  
brown colour :-

$\rightarrow$  Histosols

Tundra

- cold climate  $\rightarrow$  slow rate of decomposition  $\rightarrow$  peaty layer (bog); -  
humus.

$\rightarrow$  solifluids

Chernozem, chestnut & prairies

steppes

varieties of chernozem

low grass steppes

(STEPPE)

~~Similar to black soil material~~

- Dark colour  $\rightarrow$  due to mineral rich matter

- Light rainfall  $\rightarrow$  incomplete leaching  $\Rightarrow$  calcification (in B profile).

- Low humus content  $\rightarrow$   $< 10\%$

Crumbly structure  $\rightarrow$  chernozem

Parent - Lored

e.g.: N. America (prairie), Russia (steppe)

blw chernozem & sicrozem  
Chernozem  $\rightarrow$  grid side of Chernozem.  
illuminated carbonated layer is closer to surface.

Prairies  $\rightarrow$  transition blw chernozem & brown earth.

- Crumosel ~~soil~~ (more close to black soil) (SAVANNAH) (121)
- Dark clayey soil.
  - Warm climate with wet & dry seasons = Savanna or grass lands.
  - Solum (O, A, E, B) rich in base minerals  $\Rightarrow$  black colour.
  - Calcification in 'B'.
  - Dry-season cracking (self-ploughing).

Sicrözams ~~soil~~ (extreme form of chestnut) (DESERTIC)

Desertic & semi desertic.

- 'Ca' comes more upward (upper than 'B' layer) due to capillary action.  $\rightarrow$  salinisation - Alkalisation Lime ( $\text{Ca(O}_3\text{)}$ ) Gypsum ( $\text{CaSO}_4\cdot\text{H}_2\text{O}$ ).
- No vegetation  $\rightarrow$  no humification  $\rightarrow$  no organic matter.
- ~~High~~ High base mineral (minerals are NOT used, since no vegetation).  $\downarrow$  on irrigation, it may become very fertile.

Ferrals ~~soil~~ (Lateritic soil)

rich in  $\text{Fe}_2\text{O}_3$ ; Red, yellow soil  $\Rightarrow$  colour due to sesquioxides ( $\text{Fe}, \text{Al}$ )

- Top soil washed away  $\rightarrow$  slow humus  $\downarrow$  below bases  $\rightarrow$  low fertility.
- no 'O' horizon; Top layer is A horizon (made of Fe, Al)  $\downarrow$   $\text{Mg}, \text{Ca}^{2+}$  leached away;

## Intrazonal → Local factors.

Calcimorphic (Terra rossa)

• Calcareous (Ca) parent material

Terra rossa → mineral soil - Mediterranean region  
Rendzinas → organic rich chalk soil - Britain.

⇒ Karst topography

X Yugoslavia

~~HYDROMORPHIC~~ ⇒ waterlogged wetlands → marshes, swamps poorly drained upland

↓  
GLEYING - [ground-water gleying.  
surface-water gleying.]

Halomorphic (saline) soil → deserts:

halide → Na

• Deserts

3 types

Solonchak

white alkali soil  
(white salt crusts)

Solonetz

(black alkali  
Na<sub>2</sub>O<sub>3</sub> soil)

due to intense alkalinisation

Sodic

↓ Leaching M  
Local factor: presence of excess  
Na - bleached, eluviated, sandy loam, similar  
to podzolic

AZONAL

• No soil profile due to lack of time for drift

Active flood plains → sedimentation & burial of old soil  
eg: Alluvial soil of Northern plains.

Regosols → dry & loose sand dunes or LOESS

Lithosols → steep slopes → erosion rate high ⇒ erosion removes soil as soon as it is formed.

↓  
imperfectly weathered  
rock fragments



# Basis of soil classification

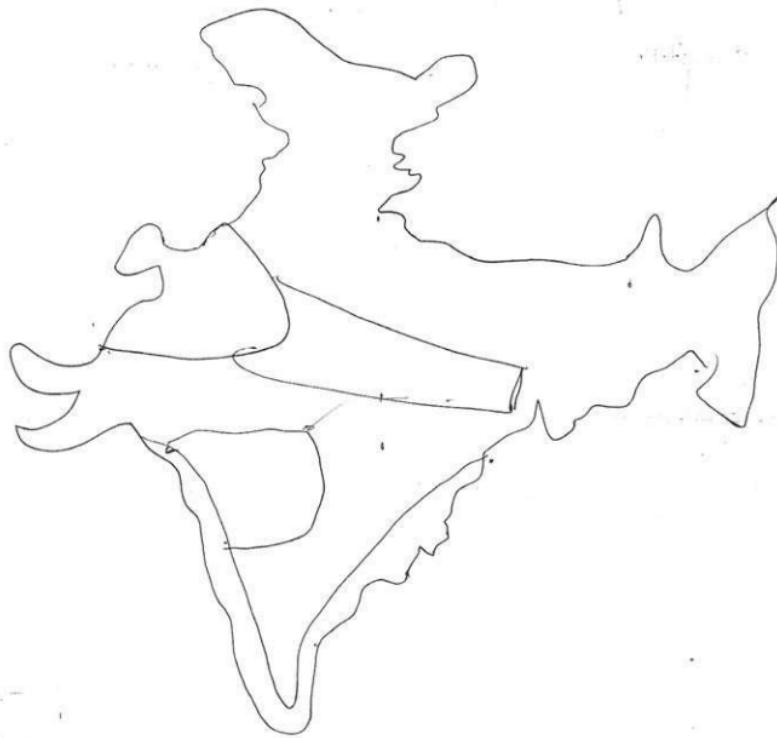
(123)

Quantitative		Qualitative
Soil productivity		Soil colour
Mineral content		Water retention
Nature of parent material		Organism
Soil profile		Life
Soil texture		Soil fertility
Soil structure		
<del>Soil depth</del>		

$$\text{Soil} \Rightarrow f(C, O, R, P, T)$$

Climate      Organic      Parent  
 Felsic              Time





Soil degradation  
Water erosion

sheet, gully, ravine, rill,

Wind erosion

How to conserve soil?  
mulching, shelter belt, sand dune stabilisation.

## Major gene pool centres

Potato  $\rightarrow$  birth place of potato is S. America.  
 Andes

Groundnut

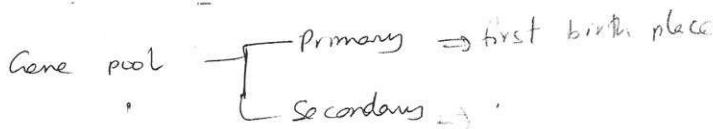
Citrus  $\rightarrow$  China

Sugarcane  $\rightarrow$  India (*Saccharum officinarum* L.)

Rubber  $\rightarrow$  Brazil (*Hevea brasiliensis*)

Mango  $\rightarrow$  India (*Mangifera indica*)

Gene pool  $\Rightarrow$  a place abundant with in a particular species



$\rightarrow$  Mention the gene pool centres of the world & examine the need for gene pool conservation. What can be the steps in this regard?

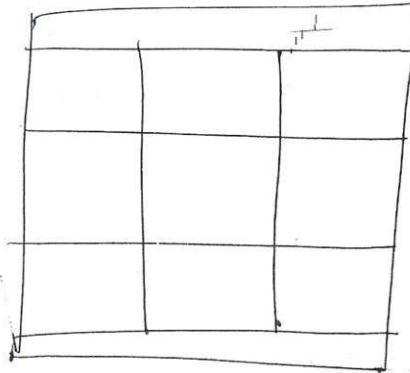
# Environmental geography

Factor

Environment's influence on man.

Human ecological adaptation

} (A spatial concept)



Environment dictates

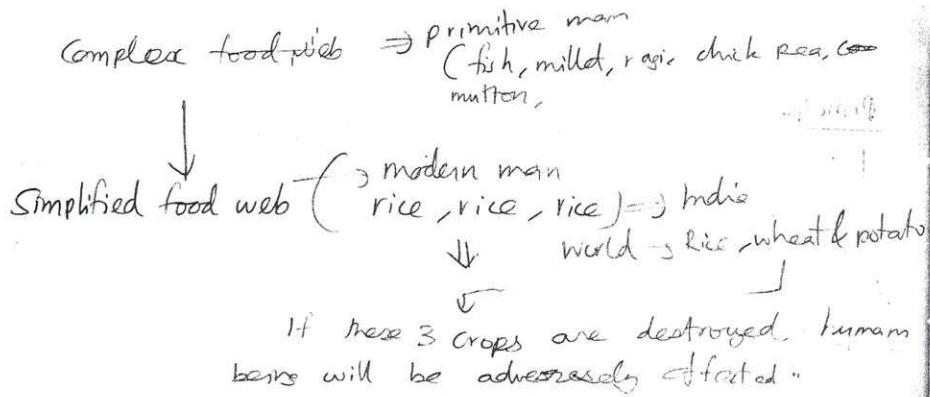
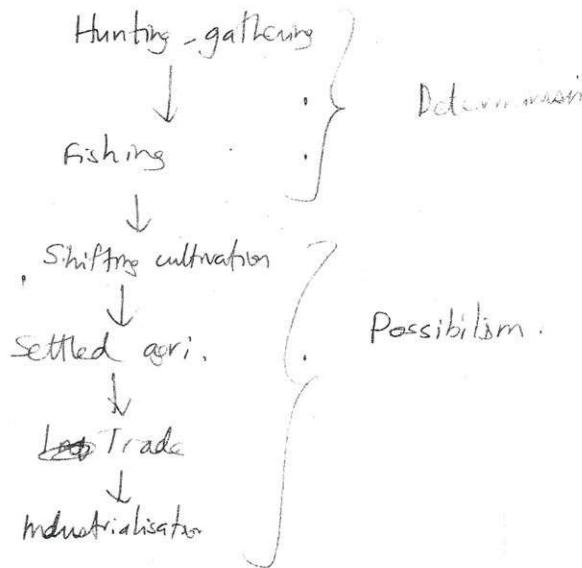
- 1) Occupation
- 2) Food habit
- 3) Culture
- 4) Festival
- 5) Dress

Take the extreme climatic conditions & explain

eg: Desert, savanna, Tundra

Man's influence on ecology.

Temporal phenomenon



Man's influence on ecology → 1. Land 2. Air 3. Water 4. Vegetation

While explaining pollution or man's influence on ecology, discuss with specific case studies (Great Lake region; Allahabad-Delhi region;)

Great Lake Region.

# Principles of ecology

3 types of ecological pyramid -

1. Number pyramid
2. Biomass pyramid
3. Energy pyramid

Energy pyramid can NOT be inverted ...

↓  
as, there is loss in energy @ every stage  
(respiration, ...)

Primary consumers are also called secondary producers.

All herbivores are primary consumers. But  
NOT all primary consumers are herbivores.

eg:- A herbivore is a primary consumer.

## Principles

1. Any ecosystem can be studied by subdividing it into several sub-systems. Indian ecosystem → lake ecosystem & coastal demerse ecosystem

2. Uniformitarianism → All physical & biological processes that operated today have operated in the past and will operate in the future, but with varying

~~intensity & direction~~  
Ecosystem follows uniformitarianism

3. All ~~things in the ecosystem~~ — whether (biotic) living or (abiotic) non-living —

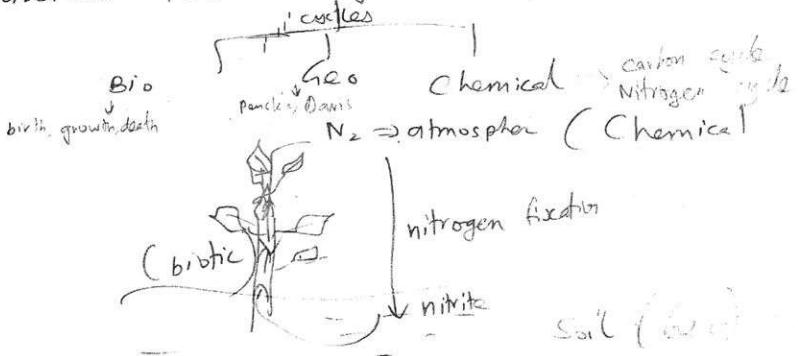
are mutually interactive in nature -

Before 1940s, the biotic & abiotic components were considered as separate entities and the influence

of abiotic components on man was NOT revised  
(25)

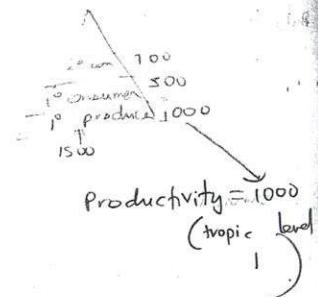
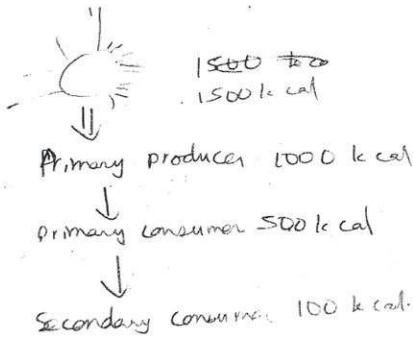
- d. 4. Ecosystem functions through the input of solar energy. This energy is unidirectional in nature.  
∴ Energy pyramid can NEVER be inverted

5. Material flow is cyclic in nature -



### 6. Ecological productivity

This productivity refers to production made by autotrophs at the primary level.



Productivity =  $1000 \times 100 \times 100 = 1600 \times 1000$  X

Productivity =  $100 + 500 + 100 = 1600$  X

Yield of primary producer  
for the consumer to be considered.

Ecological productivity → rate of growth of organic matter per unit time per unit area by autotrophs at trophic level 1, through photosynthesis.

1. Ecological productivity →

High → savanna  
Low → desert, poles, ~~deep~~ ocean.

Higher the sunlight, higher the ecological productivity  
e.g.: deep ocean, pole → low productivity

7. Ecosystem has an inbuilt regulatory system. It is in a state of Homeostasis.  
↓  
constant internal equilibrium.

But, if any external factor affects the system, it is difficult for the system to regulate.  
e.g.: a stable ecosystem can recover over a period of time, after a devastating flood.  
But, if man destroys (cut down) a tropical rainforest, it can NOT recover easily.

8. The ecosystem continues to evolve through

1. Natural selection      2. Mutation.  
survival of the fittest.

↓  
sudden, inheritable change.

When ecosystem evolves, more no. of species are added to the ecosystem.

## NUMBERS

- Nu      Nudate T<sup>1</sup>      eg:- in a previously uninhabited ecosystem, a plant grows :-
- M      Migrate      → plant growth invites other organisms
- F      Ectasis      → a species cat. its own ecosystem  
(adaptation with environment)
- C      Competition
- R      Reaction      → reaction of one species to the P  
intro. of another species

S      Stabilisation → a stabilised ecosystem, where all species learn to adapt with each other and with environment.

Chinax  
Evolution reaches a Chinax.

### Monoclimactic evolution

- ~~all~~ Man is the chinax of all evolution.
- Man is the peak species. There is no evolution after man.

### Polyclimactic climate

- There are diff. climactic species for each ecosystem. Chinax <sup>sp.</sup> Ecosystem

Tiger → Steppe

Lion → Savannah

Man → urban ecosystem

A climatic

— There is NO climatic sp.

↓  
No Evolution never stops

↓  
even, man will evolve.

q. Man is an integral part of the environment  
and is a potential threat to the environment

### Quantitative revolution

Introduction of statistical, methodological  
research into geography. e.g.: - Koppen's  $\Rightarrow$  amt. of rain, temp, etc.

Objectives of quantitative revolution:

1. To change the descriptive character of geography  
and make it a scientific discipline.

2. To explain & interpret spatial pattern of geographical  
phenomena in a rational & objective manner.

Use of mathematical language, rather than  
literary language, to universalise geo. in all languages.

e.g. Af climate  $\rightarrow$  equatorial.

Fr climate  $\rightarrow$  desert

e.g.: Webber's Industrial location theory, Jefferson's primate  
city, Zipf's rank size rule, etc.

Assumptions

— Man is a rational person, always trying to optimize the profit.

Man has infinite knowledge of his space

Space is an isotropic surface.

There is NO space for normative questions.  
normative

e.g.: - Von Thunen's, Crystaller, Weber's Industrial location.

Drawbacks

1. There is NO isotropic surface.

2. Normative questions (social ) play an important role. (human psychology, his values, norms)

Hunger → less efficiency

materialistic → more efficiency

Spiritualism

Even man's economic behavior is sometimes determined by the social values & customs.

3. Man is NOT an optimiser, he is a maximiser.

4. Man does NOT have infinite knowledge of space.

5. Use of geometric & econometric language makes it difficult for MAN to understand.

6. Development of models & theories has made man a passive player (inhibited his lateral / creative thinking and individual decision making).

→ Demographic & universally applicable model  
↳ Industrial capitalism.  
e.g. KFC, Wal-Mart.

08/12/12

### India - Map marking

Longitudinal Bifurcation of India  $\Rightarrow$  [Delhi] Bhopal, Agra, Bangalore, Kanyakumari

Horizontal  $\Rightarrow$  Bangalore, Mangalore, Hassan, Mysore, Kolhapur, Chittor,  $\odot$  Trivandrum, [Chennai]

Horizontal  $\Rightarrow$  [D.U.] Jalgaon, Amaravati, Nagpur, Durg, Raipur, Simbalpur,  
~~Ego~~ Balareshwar.

Horizontal (Around Tancan)  $\Rightarrow$  [Gulf of Kutch], Ahmedabad, Gandhinagar, Ujjain,  
Bhopal, Jabalpur, Shahdol, Ambikapur, Ranchi, Durgapur, Asansol, Aizawl.

Horizontal  $\Rightarrow$  Rajasthan - Gujarat border;  
~~○ - circle~~ Palanpur, Udaipur, Guna, Panna, Rewa, Dumbra

- Use  $\odot$  for places - so that the outer circle gives a certain chance of coincidence.
- Use  $\blacktriangle$  for peaks

★ trench

$\square C \rightarrow$  pass

↳ but use the passes, in the same direction as given in map  
The pass should be parallel to the railway;

$\overleftarrow{\overrightarrow{C}}$   $\rightarrow$  Bolan pass

$\overleftarrow{\overrightarrow{C}}$   $\Rightarrow$  Jelep La

$\overleftarrow{\overrightarrow{C}}$   $\Rightarrow$  Diphu pass

### GIVE LEGENDS

$\odot \rightarrow$  places

$\blacktriangle \rightarrow$  peaks

$\square C \rightarrow$  trench (deep)

$\square C \rightarrow$  pass

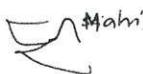
-  $\Rightarrow$  Roads



While drawing roadways, mark the important places located on the roadway.

- Cauvery river

$\Downarrow$   
Show some critical bends



- In case of basin,

$\circ \circ \circ$   $\Rightarrow$  Grasslands (eg: Sonamarg, Amarnath)

$\square \square \square$   $\Rightarrow$  desert

$\square$   $\Rightarrow$  plateau

$\nearrow$  waterfall

Dam  $\Rightarrow$  perpendicular to river flow

$\sim \sim \sim$   $\Rightarrow$  Range (Ajanta, Harishchandra,

For Lakes, draw the approximate shape

eg:  $\rightarrow$  Pongol Tso  $\curvearrowleft$   
 $\rightarrow$  Sambhar  $\Rightarrow$   $\circ$

Chilika  $\Rightarrow$   $\text{C}$

### M A P

- Places  $\Rightarrow$  strategic importance; recent news; major city;
- Peak
- Lake
- Mountain
- Ranges
- Desert
- Plateau
- Biosphere reserves N.P., sanctuaries.
- Passes
- Waterfalls
- Dams

- Only 'Places' are Dynamic.
- $\downarrow$  Mark from every day's paper. (without referring to map)  
~~closed~~ Try & error
- ~~Never~~ Make a spiral binding of these maps.

How to write points for places?

### PLACE

1. Industry associated with that place;
2. Functional classification  $\Rightarrow$  admin. town, pilgrimage,
3. Is it a million-plus city  $\Rightarrow$  (5) million-plus cities  
in India  
(Identify)

$\Rightarrow$  Sp. points of that place -

### LAKE

- Geology (old stage)
- Wetland (Ramsar convention)
- Bird sanctuary
- Fishing
- Tourism

DAMS

- HEP
- Irrigation
- Siltation
- On which river?

MOUNTAIN

~~Geology~~  $\Rightarrow$  fold or block or residual or volcanic

based on slope  $\Rightarrow$  isohypse, monoclinal, ...

Vegetation,  $\rightarrow$

Biosphere reserve  $\rightarrow$

Glaciers  $\rightarrow$

Deforestation; source of river;  
mining; Disaster - landslides

Passes

- Strategic imp.
- Connectivity
- Economic importance

Waterfall

• Geology  $\Rightarrow$  youth stage of river

• HEP

• Tourism

River

- Source
- Mouth  $\Rightarrow$  delta or estuary?
- Pattern  $\Rightarrow$  mostly dendritic
- Irrigation
- Navigability
- Pollution
- Landforms  $\rightarrow$  rapid, waterfall, meanders, river bend, lake, delta, estuary

- Recent - volcanic = basaltic; peninsular plateau  $\rightarrow$  wind erosion  
older - lava, fluvio-deltaic  
 Issues - Aridity, shifting sand dunes; desertification  
 Climate  $\Rightarrow$  subtropical  $\Rightarrow$  aridity  
 Monsoon  $\Rightarrow$  drought?  
 Patterns

- Highlands
- Dry or wet?  
↓  
erosion; bisection of land
- Landforms  $\rightarrow$  Canyons, Mesas, buttes.
- Minerals?

## 15 and 16

- Stratigraphy
- Flora, fauna
- Fingers & ravines
- Climate

Place	Dehradun	Kanpur
Climate	influence of longi valley (W.M. & S.W.M.)	plains
Flora	disaster $\Rightarrow$ landslides	winter cold wave 100 cm - 150 cm
Fauna	H.R. tigers, M.A., Forest bear, boar.	disaster $\Rightarrow$ cold waves, 100
Agri	X	Rice, wheat
Industry	X	HAL, ordnance factory
Transport	connectivity to Nepal, China	
Others	Mongolia! High risk, high MMR	Density highest high est? Industrialisation of India Twin town of U.P.

OngolePhysiographynear  
mean  
sea levelClimate

N.E. monsoon  
summer dry;  
winter rain; ~~disaster~~  
DISASTER → tropical cyclone

Resource

Ong.

J. P. JaiguriGrid in above 1000  
Hill station  
Tropical forest200 cm rain  
fishwater → flood  
~~Tista~~

1 horned rhino

Agri

Ongole cattle breed

TeaIndustryTransport

NHS

Inaccessible  
Chitwan neckCulture

Mixed

Suppose you get an unknown place

e.g.: Haflong .



from name, deduce

North East

it may be in

Tribal pol.

Mongoloid race;

200 cm rain

Bamboo, rhododendron



handicraft

forests, tourist site

Common points  
for North East

## Dal Lake

- On Jhelum river; high altitude
- winter freezing; summer thawing
- pollution  $\Rightarrow$  application of fertiliser to apple plantation  
    ↳  
    biomagnification  
    ↳  
    eutrophication -
- tourist spot.

## Chilka Lake

- Mahanadi delta -
- Tiger prawn, catla, rohu are caught here;
- Brackish water.

## Population density

Major Tier I metros  $\Rightarrow > 10,000 \text{ ppl}/\text{sq km}$ ;  
for tier II cities  $\Rightarrow$  ppl density  $\approx 2 \times$  ppl. density  
of that state

## Aravali

- residual mountain
- ↓  
erosion due to wind
- S.W. to N.E.
- ↓      ↓  
Udaipur      Delhi
- Southern  $\Rightarrow$  granite
- Northern  $\Rightarrow$  copper
- } mining  $\Rightarrow$  deforestation
- Tourism  $\rightarrow$  Guru Nanak Dev, Phihwara
- Parallelism with SW monsoon.

## Mizo Hills

- Part of eastern (Purvanchal) Himalayas
- Intense compression  $\Rightarrow$  fold mountains
- Earthquake prone zone  $\Rightarrow$  landslides
- Mizo tribes - shifting, gathering
- Lower foothills - tropical forests  $\Rightarrow$  Jhum cultivation
- Middle - coniferous
- Upper - alpine
- Defores

## Narmada

source: W. tributaries

- ~~Narmada~~ Vindhya - Satpura rift valley
- Narmada meets many tributaries.
- Sardar Sarovar project  $\Rightarrow$  proposed for irrigation.
- Etwa  $\downarrow$   
opposed due to

## Syok

Right hand tributary of Indus

- Source: snow fed from glaciers in Transhimalaya
- Source: winter flows
- winter  $\Rightarrow$  glacial flows  
crague, grotto, hanging waterfall

## BIOSPHERE RESERVE

Identify the major species of a region.

N.E.  $\Rightarrow$  one horned rhino, elephant, red panda, tiger

S. India (Western Ghats)  $\Rightarrow$  Nilgiri Tahr, Lion tailed Macaque,  
elephant  $\uparrow$  tiger.

Gujarat  $\Rightarrow$  Asiatic lion, wild Ass, Great Indian Bustard.

Identifying the climate & natural vegetation

(143) 20

N.E.  $\Rightarrow$   $> 200 \text{ cm rain} \Rightarrow$  tropical evergreen forest.

W-shots  $\Rightarrow 200 \text{ cm rain} \Rightarrow$  Shola forest,  
tropical semi-evergreen

Kanha (M.P.)  $\Rightarrow 100-200 \text{ cm rain} \Rightarrow$

There may always be SURPRISE ELEMENTS. Do not panic!

Tough places  $\Rightarrow$  don't panic

They may ask

Instead of places, regions (rainfall, soil, some mineral regime)  
(time zones)

No LATITUDE & LONGITUDE ~~will~~ will be given.

08/12/12

EN-17-10112

## Environmental determinism

environmentalists ↓

Strabo

Ratzel

Ritter

Semple ⇒ woman geographer

vs. Possibilism.

environmentalists

Lapla blache

Filzen

### Determinism

Determinists considered that man is a passive agent, on whom physical factors are constantly acting and determining his attitude and decision making process.

Man is a product of earth's surface. This does NOT only mean he is child of the earth, it's not of the dust, but earth has also not left him, set him his task, directed his thought, etc.

MAN → Reacts, NOT acts.

e.g. -

① Pts. in steppes are good horsemen.

Dried made his search for pastures, this not only shaped his physical (good body strength), but also mental (persevering) character

② Nomad tribes

(3) Those in cold climates areストレング  
 fat for insulation from heat;  
 fat for use during winter  
 for energy.

(4) fishermen (in coastal climate) have  
 strong arms → due to rowing;

(5) pygmies in Congo  
 Big eyes → reduced sunlight (live in dense tropical evergreen forest).

### Possibilism

→ Man is an active agent in the environment.  
 The true and only geographical problem is the utilisation of possibilities! There are no necessities, but everywhere possibilities.

Man has immense potential to modify the environment to suit his needs. He constantly modifies & exploits the environment, and controls the environment. Possibilities → determinism (Transhumanism)

e.g.; Cusians transcended the desert to higher grasslands  
 Meenches settled in desert itself → determinism

### Criticism

Possibilities gave man the chance to damage the environment. Man makes an explosive exploitative revolution. Environment gives a silent evolutionary reply in the form of increased diseases & disasters and decreased productivity & predictability.

Neo determinism (stop-and-go determinism)

In short - term ppl may dictate the  
answers. In the long term, nature's plan  
ensures that it prevails over humans and over  
a period of time, makes sure that ~~humans~~ it  
~~exists~~ at <sup>out</sup> a compromise out of its human occupants.

56 Man may win the battle; but, nature will win the war.

There is no limitless environment possibility. For every choice, price has to be paid. Man has to choose within the choices given by the environment, NOT beyond it.

A wise man has to understand that he is a  
citizen of a nation in a large city, who can alter  
the direction of the progress.

## Radicalism.

↓  
emerged after quantitative revolution &  
Vietnam war. (after 1970).

- As an ~~an~~ counter-point to quantitative revolution  
condemning the treatment of humans as mere  
production agent.

### Sources

- i) Vietnam war  $\Rightarrow$  Antipode
- ii) Discrimination of black race in USA.

### major concepts of radicals

- 1) Vociferously opposed megalithy, capitalism,  
discrimination, environment degradation.
- 2) Wanted to bring out a cultural revolution to  
eradicate sexism and ~~inequality~~ of females.
- 3) Opposed political centralisation & power concentration.
- 4) Opposed superiority of white.
- 5) Opposed regional disparities.

### Theory

White domination over black

$\downarrow$   
Social discrimination  
a persistent

deprivation of opportunities

Gender role institution

Oppression of women

Quantitative resolution

which leaves out of core decision makes to  
periphery

Feminist Human geographer Simplicity

Capitalism of wealth

Capitalism

exploitation

Radicidism → Marxism