



**An Institute for Civil Services**

**IAS TOPPER'S**

**TEST COPY**

**KUNAL SHOTE**

**RANK - 640**

**GEOGRAPHY  
TEST- 5**



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## GEOGRAPHY

Time Allowed: 3 hr.

Max. Marks: 250

### Instructions to Candidate

- There are EIGHT question divided in Two Sections.
- Candidate has to attempt FIVE questions in all
- Question No. 1 and 5 are compulsory and out of the remaining, three are to be attempted choosing at least one question from each section.
- The number of marks carried by a question/part is indicated against it.
- Answers must be written in the medium authorized in the Admission Certificate which must be stated clearly on the cover of this Question-cum-Answer (QCA) Booklet in the space provided. No marks will be given for answers written in medium other than the authorized one.
- Word limit in questions, wherever specified, should be adhered to.
- Attempts of questions shall be counted in chronological order. Unless struck off, attempt of a question shall be counted even if attempted partly. Any page or portion of the page left blank in the Question-Cum-Answer booklet must be clearly struck off.

98

1. Invigilator's Signature

2. Invigilator's Signature

*[Signature]*  
*[Signature]*  
*Rohit Lodha*

Name KUNAL SHROTE

Mobile No. \_\_\_\_\_

Date \_\_\_\_\_

Signature

*[Signature]*

### REMARKS

GS SCORE



SECTION-A

Attempt all questions:

1. Answer the following questions in about 150 words each:

(10 × 5 = 50)

- Influence of demographic factors on population distribution.
- Scope and challenges in fish processing industry in India.
- What is National Agriculture Market (NAM)? What precautions need to be taken for successful implementation of NAM?
- Scope and significance of food processing industry in India. Also discuss the challenges of this industry.
- Discuss the urban sprawls in India.

(a) Demographic factors refer to age, sex of the population. It has following

Narrow definition

influence.

2.5

According to Demographic Transition Theory of

Thomson, countries in different stages have

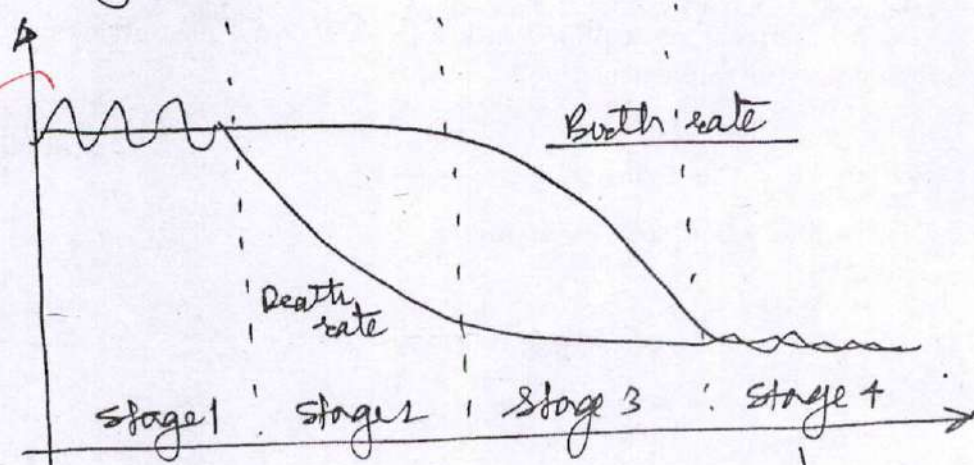
different distribution of population. However,

major population distribution is the function

Remarks

of birth rate, death rate and most importantly migration

Emphasis on these factors with example. Not required



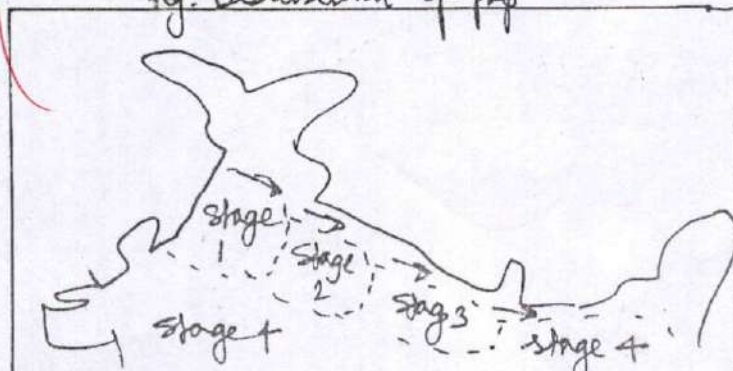
primitive

- population clustered
- living in tribes
- living in agriculture such areas/forest

modern concept

- population dispersed.
- people dependent on secondary and tertiary

fig: Distribution of pop<sup>n</sup>



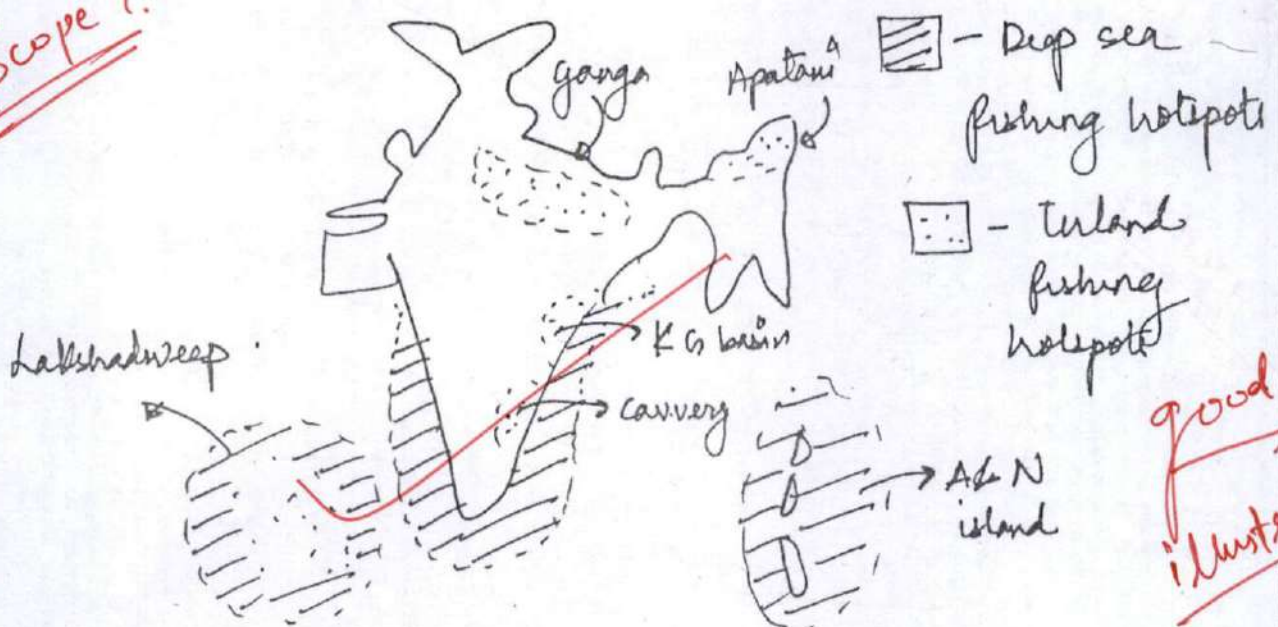
Remarks



- ② India has coastline of 7600 Km. ~~Major~~  
inland water drainage of 15000 Km. Tremendous  
potential for deep sea fishing, inland sweet  
water fishing ✓

3.5

Scope?



Challenges:-

- Fish processing and preservation not effective  
 i.e. Lack of cold storage in fishing vessels ✓

Remarks

Add more points like:

Complicated exporting procedures

High Operational Cost.

Can Add suggestions

- Improper branding and marketing of processed fish product
- disputes with neighbouring country like Sri Lanka, Mauritius, Bangladesh etc.
- Lack of private sector investment in commercial fishing and processing
- Formalin (cancer causing) used to store fish → Sanitary and phytosanitary barriers

- ④ National Agriculture Market is the platform for integration all local level mandis into a single nationwide agricultural market ✓

Remarks



### Precautions

- Agriculture is state subject. States need to be convinced for adoption.
- proper infrastructure like weighin scale, storage facility, grading facility at each APMC.
- proper IT services to make markets online and easily accessible.
- breaking the monopoly and cartelization of traders and providing single national traders licence.
- encouraging ~~to~~ encouraging private sector investment in upgrading APMC.

Add

→ removing interstate transfer barriers

→ including fruits and vegetables to reduce the volatility

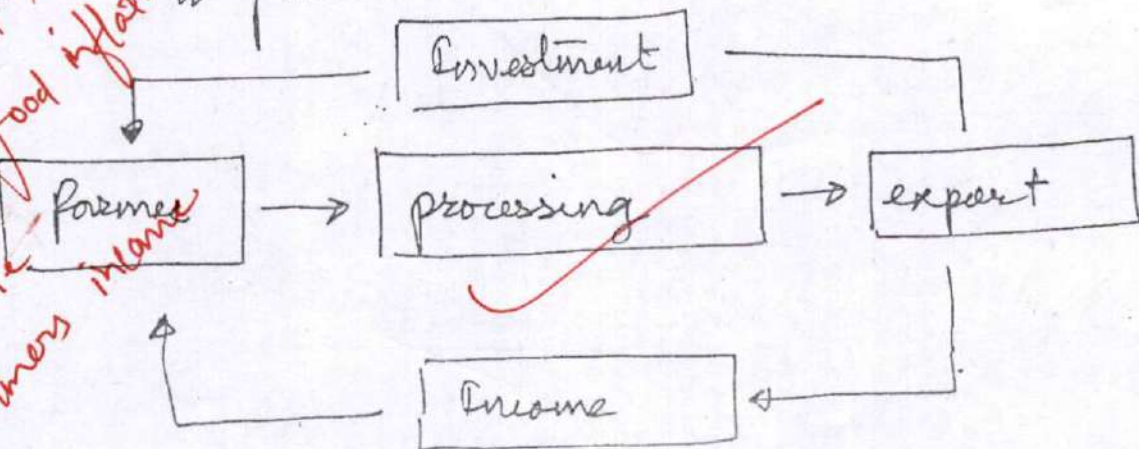
Remarks

(d) 20-30% of horticulture perishable produce is wasted due to nonavailability of food processing industry [Down to Earth].

Scope :- Indian processed food consist of less than 1% of global food trade.

17% of total food produced, is produced in India.

Significance : creating backward and forward linkage provide significant returns to farmers.



Remarks



farmers become part of both investment and income cycle. life of poor farmer significantly changes.

challenges:

- Land acquisition in setting up Mega food parks under SAMPADA scheme

- Sanitary and phytosanitary measures creating non tariff barriers.

- farmers not aware of future and commodity markets, FPO could not establish link with farmers.

Lack of Skilled workforce, Storage facilities, Transportation etc.

② Urban sprawl is the outgrowth of a urban place due to expansion of

4

Remarks

commercial and business activity of main city.

Unlike conurbation of Patrick Gedder, urban sprawl does not form its independent Central Business District. It still depends

on main city for its economic activity.

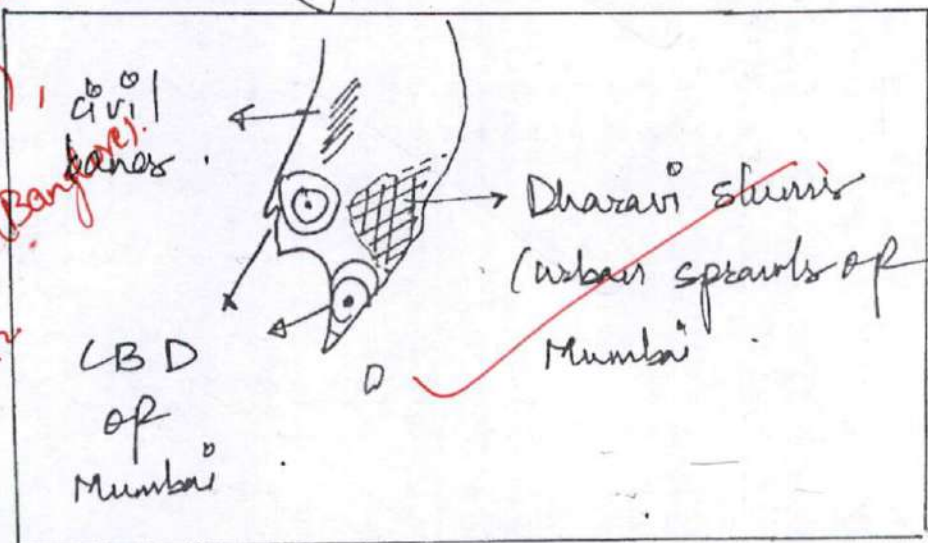


Fig: Island of Mumbai

social capital is very less

people engaged in manual work

urban sprawl

Breeds criminals

shanty/depleted houses

sanitation, hygiene is poor

Add more examples:-  
Pune, Noida, Devanahalli (Bangalore) etc.

Remarks



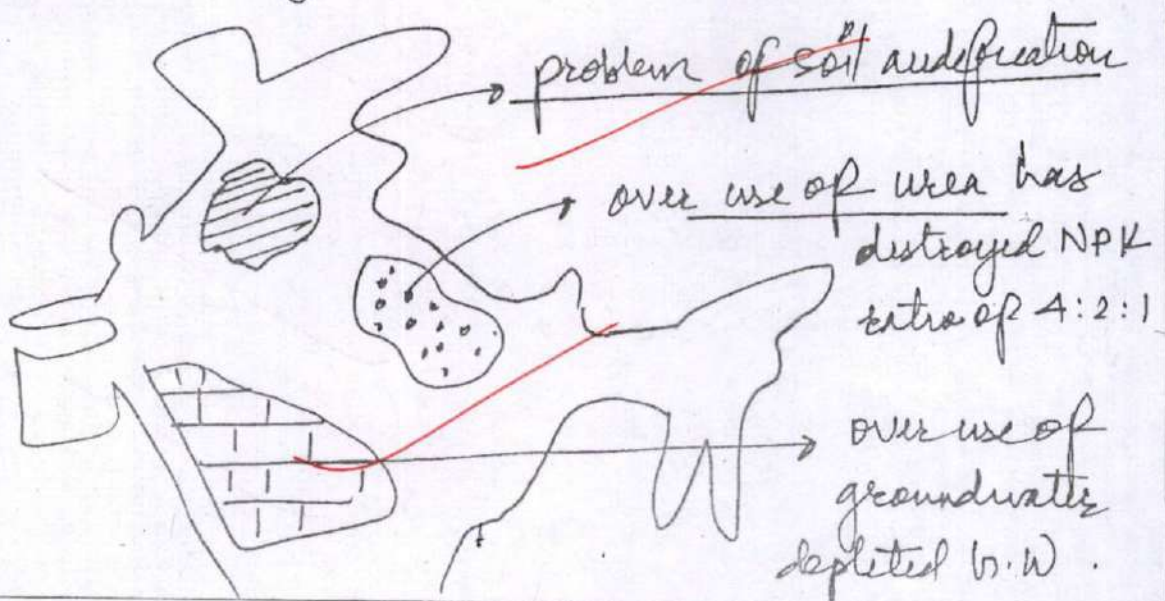
2. Answer the following questions:

- (a) What do you understand by Zero Budget Natural Farming? Discuss the various components, benefits and challenges of ZBNF. (250 Words) (20)
- (b) Discuss the salient features of FAME-2 scheme. How will it help to improve charging infrastructure? What steps under this scheme are being taken to make electric vehicles more affordable? (200 Words) (15)
- (c) Discuss the need of introducing solar manufacturing policy in India. (200 Words) (15)

(a) The concept of Zero Budget

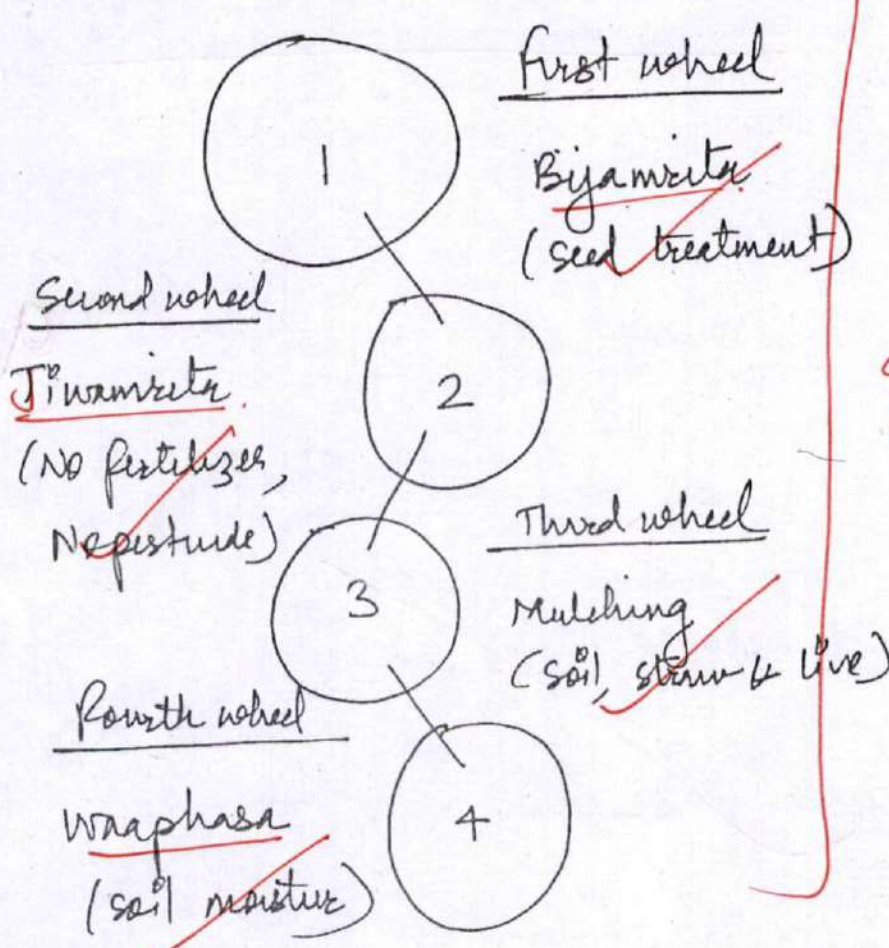
Natural farming by Subhash Palekar. This

concept was developed in light of increasing  
chemical fertilizers and pesticide use, and its  
associated damage to soil and environment.



Remarks

components of ZBNF



Bijamrita: treatment of seed with cow urine.

Jivamrita: treatment of soil with cow dung cakes and earthworms vermicompost.

Mulching: covering agricultural land with previous crop (straw covered).

Remarks



Whaapasa: soil moisture is further preserved by covering soil with straw of previous crops.

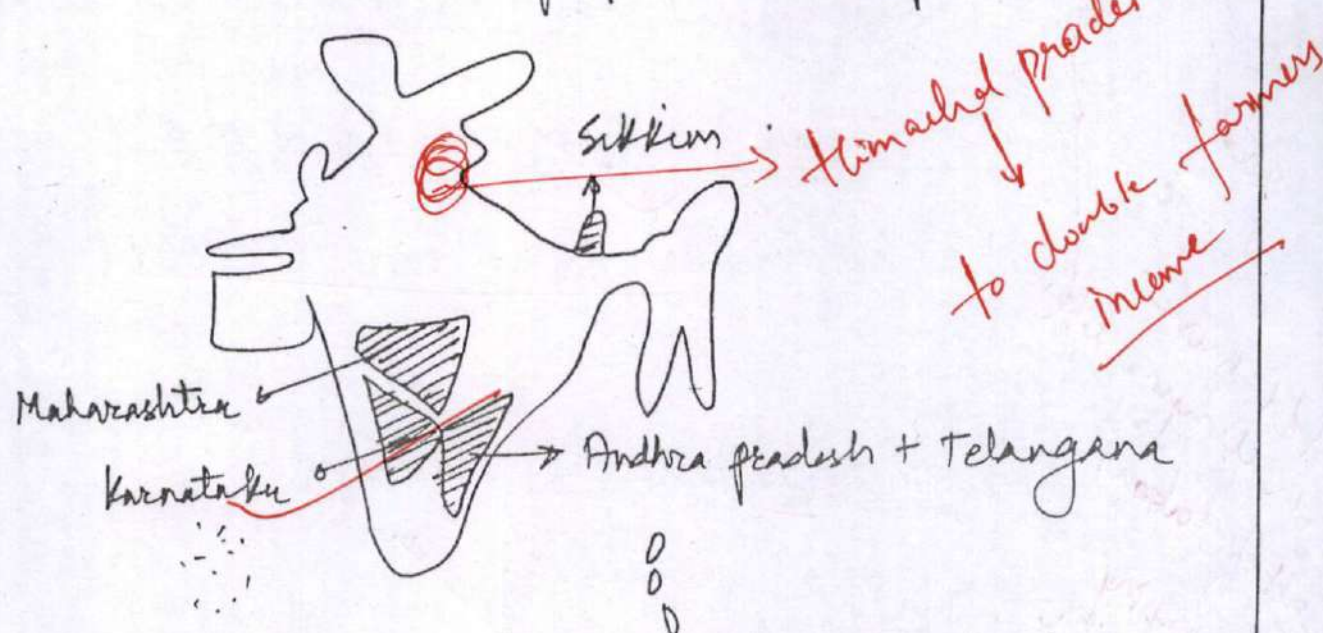


Fig: Areas reporting ZBNF

Benefits:

- Livestock + Agriculture become complementary to each other
- Farmer doesnot get trapped into vicious debt cycle by avoid expensive input cost.

Remarks

- Natural fertility of soil is restored and productivity per unit crop land increased.

It complements Indian farming scenario (85% farmer are marginal, less than 2 ha) and also complements agro climatic regions of country.

- Technical expertise is required to conduct ZBNF appropriately.

Information dissemination to small and marginal farmer is difficult.

Under the current scenario of climate smart agriculture, ZBNF offers the best solution. Andhra Pradesh's goal to adopt 100% ZBNF by 2025 should motivate other states.

Remarks



⑤

FAME II scheme launched

6.5

by NITI A706 will go beyond the FAME Iand extend benefits to existing vehiclesSalient features:It will cover two, three and  
four wheeled vehicles to cover potentialitiesby 2030- Electric buses compose a huge part  
of FAME 2 scheme.- To enhance electric mobility and- increase number of electric vehicle- outlay of Rs. 10000 crore by 2022

Remarks

has been granted

FAME II

electrifying two  
three wheelerDeveloping  
battery  
technologymake transport  
sustainableearn foreign  
exchangeexporting  
vehicle and  
batteryAgglomeration  
effect develop  
subsidiary industries  
like leather, electronics,  
carbon fibre, steel,  
aluminiumcreating  
growth poles  
of develop-  
mentas this  
growth  
expands to  
surrounding  
areasmake cities  
sustainablestop urban  
migration  
according to  
Jensen's law  
of migrationemployment  
to rural  
youth

Remarks



### Help improve charging infrastructure:

- Active investment by public and private sector.
- slow charging unit for one electric bus and fast charging for 10.
- Inter linkage of charging infrastructure with renewable energy source.

incentives to manufacturers

### Challenges

- changing mindset of people regarding electric vehicle (both reliability and range).
- Li-ion battery has to be imported specifically from china. Increasing trade deficit.
- New innovative models of PPP for setting up both factory and charging infra.

Cost of vehicles  
Technology  
Charging Infrastructure

Remarks

Despite all these challenges, the world is moving towards more green modes of transport. India should understand its challenges and learn from developed scandinavian country like Norway. FAME II is step in right direction.

Remarks



C

National solar mission under National Action Plan for climate change has set a target of 100 GW of installed energy capacity by 2022.

India already exceeded its 2019 target of around 20 GW. This shows the importance and acceptance of solar power as an alternate source of energy.

India is tropical country receiving at least 10 hrs of sunlight on any average day and has tremendous flatlands for

6.5

too long introduction.

Make it brief.

Remarks

setting up large solar parks

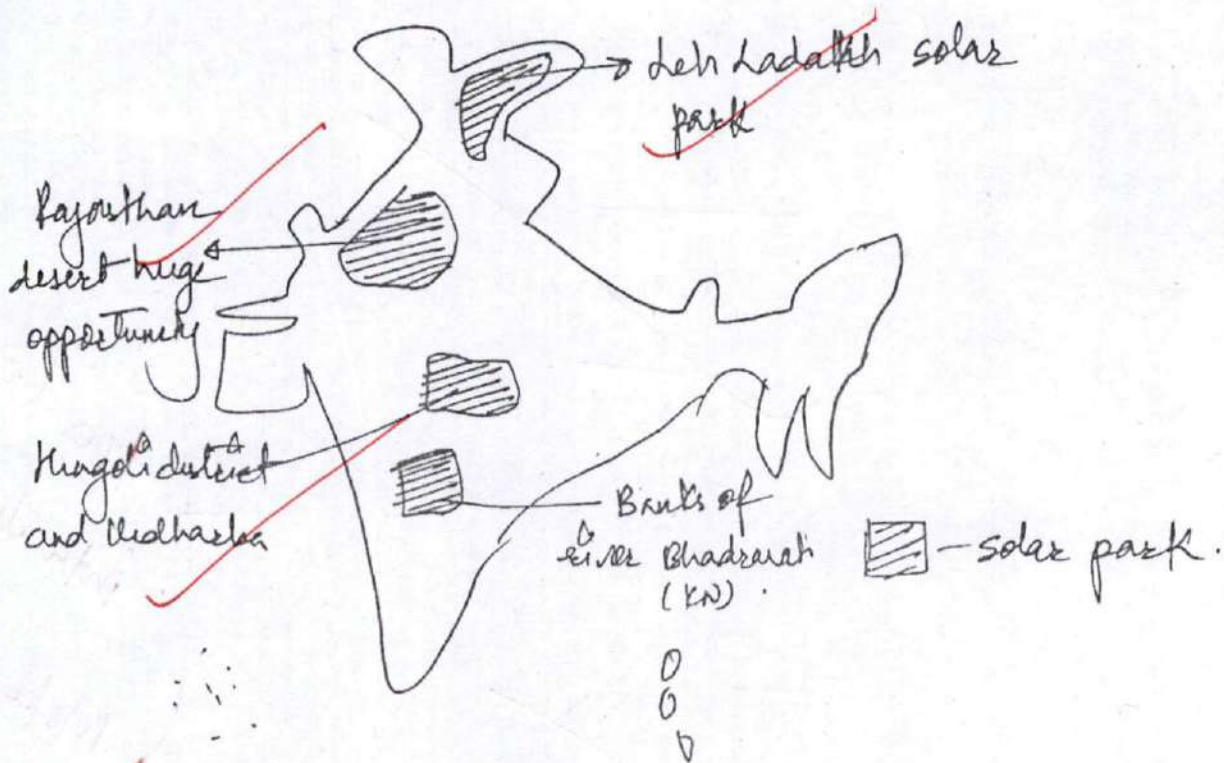


Fig. Distribution of solar park.

Need for solar manufacturing policy:

India currently imports majority of solar panels from China (case of dumping)

- India has limited resources of refined

Substantive  
Need for solar manufacturing policy:  
almost 90%  
in 2017

Remarks



Silicon required to make solar panel.

- With ever rising demographic dividend, opportunity to employ both skilled and unskilled labour.

- Jobs provided by solar manufacturing industry are future proof and sustainable.

- International Solar Alliance (ISA) provides

huge opportunity to India to capture solar market around the world by developing robust manufacturing infrastructure and skilled workforce.

Therefore to capitalise on this opportunity, India needs a solar manufacturing capacity policy.

Remarks

Opportunities in Silicon Production which is almost nil in India

You could have also

added challenges

which can be overcome by well

streamlined policy

3. Answer the following questions:

- Urban morphology of cities in India shows dual structure. It is either blending of indigenous features and Western-style structure or hybridized European features. Illustrate. (250 Words) (20)
- "India's 60% of farmers depend upon rainfed agriculture which is largely impacted by global phenomenon such as El-Nino effect." Critically evaluate overdependence of Indian farmers on monsoon. Examine the policy bias against rainfed agriculture with reference to rainfed agriculture atlas released by Revitalizing Rainfed Agriculture (RRA) Network. (200 Words) (15)
- Strategy for the rehabilitation of the slum dwellers in India is based on providing good quality, affordable housing for the poor on the marginal areas of city region. Share your views on viability and effectiveness of this approach. (Self) (200 Words) (15)

7

① Morphology refers to land use pattern. Urban morphology signifies the pattern of land use in urban space.

According to J-E. Brush, urban morphology of Indian cities are as follows:-

- Ancient capital: Ayodhya, Madurai, Indraprastha
- Palace of King was CBD, the untouchables were generally placed away from city.

Remarks



### Medieval city and towns:

- Islamic influence, forts, mosque, bazaars became CBD (Central Business District)

### Morphology of British (Modern) cities

- Civil lines, Railway stations, ports became

CBD

eg: Mumbai, Kolkata, Delhi etc

### Post Independent cities

- either industrial or administrative centers became CBD

eg: Chandigarh, Ranchi, Bhopal etc

P L Singh attempted the morphology of these cities. This is the indigenous features or Western type classification

Remarks

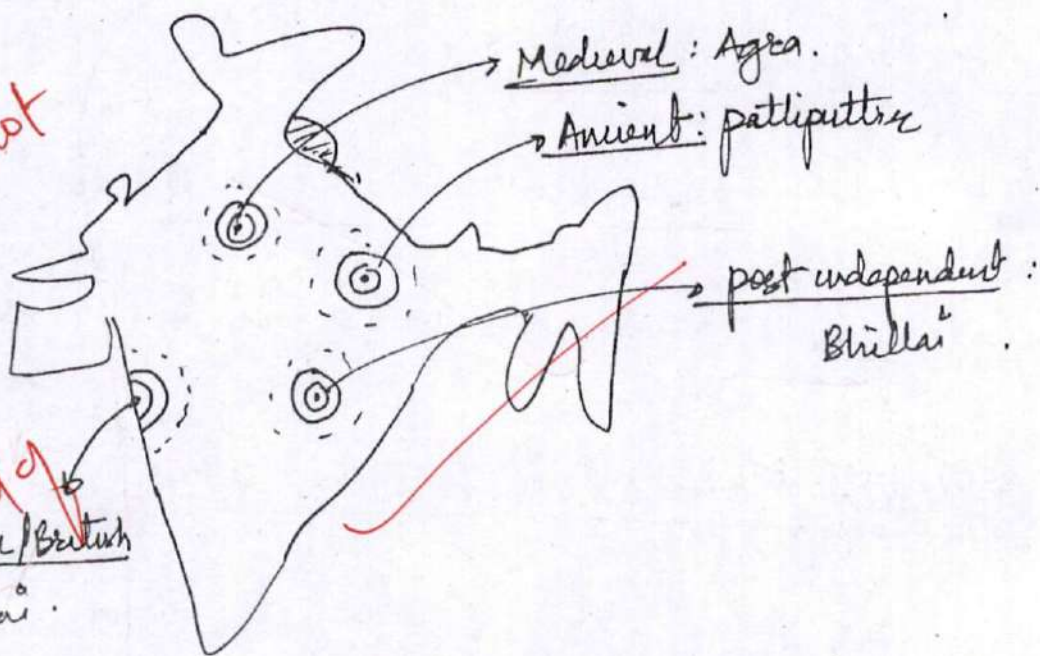


fig: Temporal Morphology of Urban cities

Another classification: Dual structure

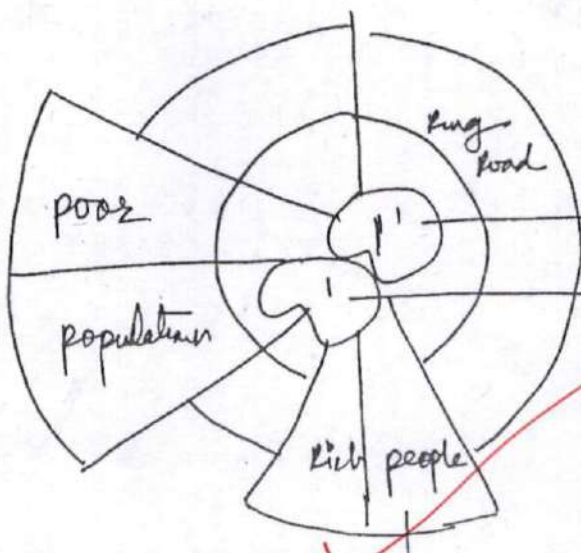
Bazaar model: Based on concentric zonal model of Burgess



Remarks



② Colonial Based model: Based on sectoral wedge model of Homer Hoyt.



old CBD during medieval times

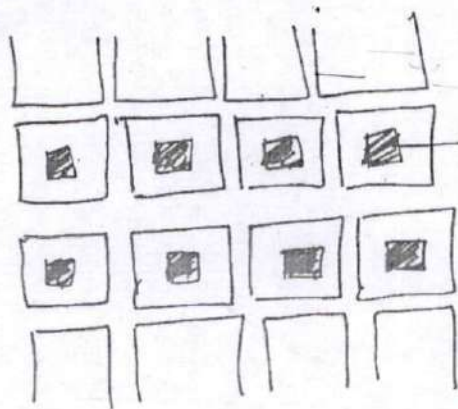
New CBD

eg: established during British Sultanpuri

House of rich people  
eg: Mehrauli area

③ Planned city

model based on multiple nuclei model of Harris and Davis



super built up area  
(commercial place acting as nuclei)

fig: Sector model of Chandigarh

Remarks

Therefore, as evident from above illustration it is clear that Indian cities show dual structure. It is either blending of indigenous features and western style or hybridised European

⑥ Distribution of Rainfed Agricultural Land is as follows.

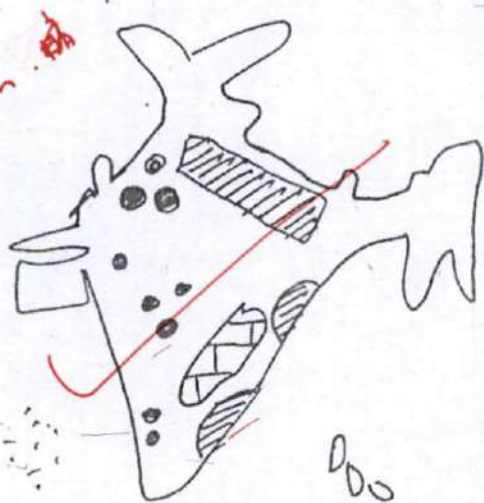


fig: Map of India showing irrigation pattern

— canal irrigated area

— Tank irrigated area

— Tube well irrigated area

— Rainfed agricultural land (over 60%)

The fortune and fate of rainfed agriculture depend on global factors like El-Nino (drought years) and La Niña (flooding year).

Remarks



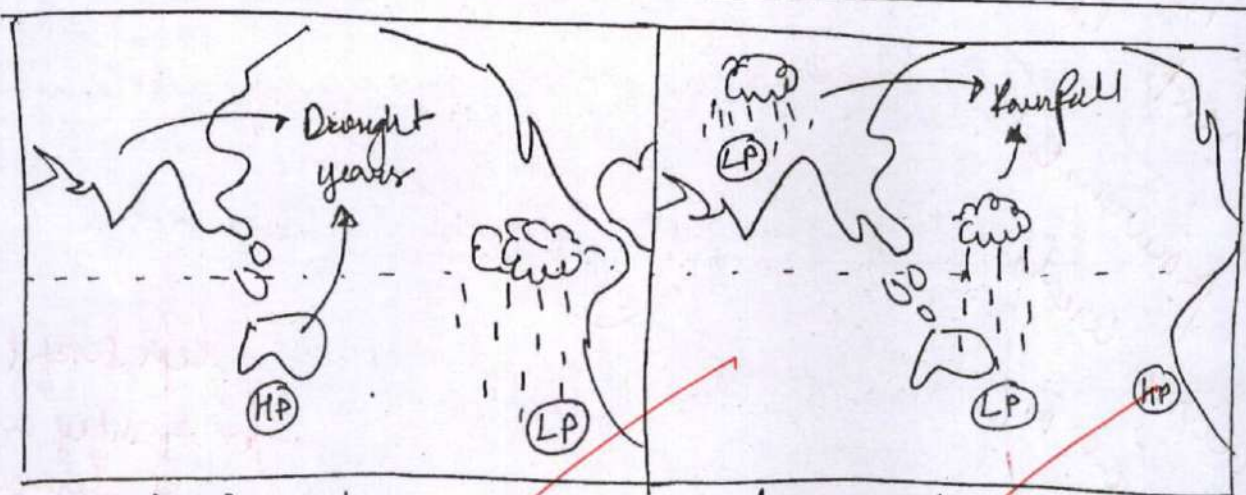


Fig: EL Niño

Fig La Niña

However, EL Niño doesn't always cause low rainfall in Indian subcontinent.

But whenever drought occurs, food security is affected. Increase in farmer suicide is seen specially in rainfed areas eg Vidharba, Telangana etc.

Policy Bias against rainfed agriculture :-

- Efforts towards expansion of irrigation infrastructure is stagnant.

Remarks

Water shed management program, A watershed Irrigation Benefit program (AIBP) has not shown any significant results left useful for rainfed area farmer.

present government scheme of PM Kisan yojana & "more crop per drop" is limited

Efforts towards microirrigation, dry farming should be encouraged

MSP (Minimum support price) should be set according to agro climatic regions of the country.

Above interventions along

with projects like River linkage programme

should be encouraged.

Remarks

Add more arguments - like:-  
 → less procurement of coarse cereals  
 → hybrid seeds need plenty of water → not suitable  
 For a more holistic answer, write the steps taken by govt. to provide rainfed farmer



- ③ Slums are the form of Urban sprawls located nearby a major urban city. It provides homes (shanty/depleted) to daily wage workers employed by city. (6)

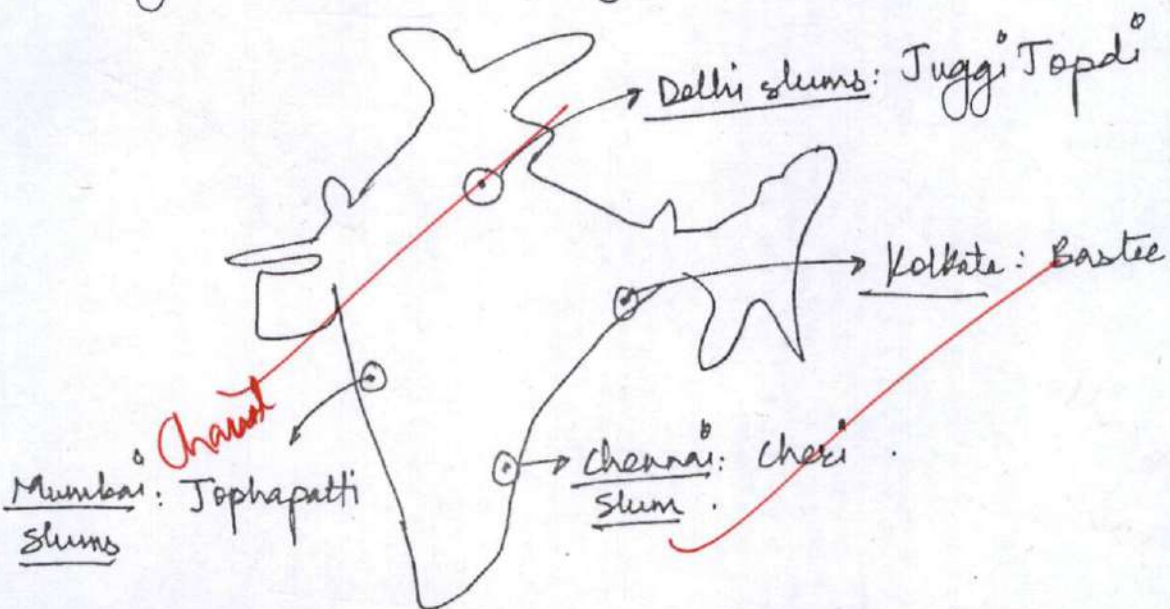


Fig: slums (major) in India

Strategy of Rehabilitation by providing affordable housing has not work because:-

- ~~1~~ Slums usually are very near to the central Business district.

Remarks

Land rates are very high. Therefore density of people per unit area increase tremendously.

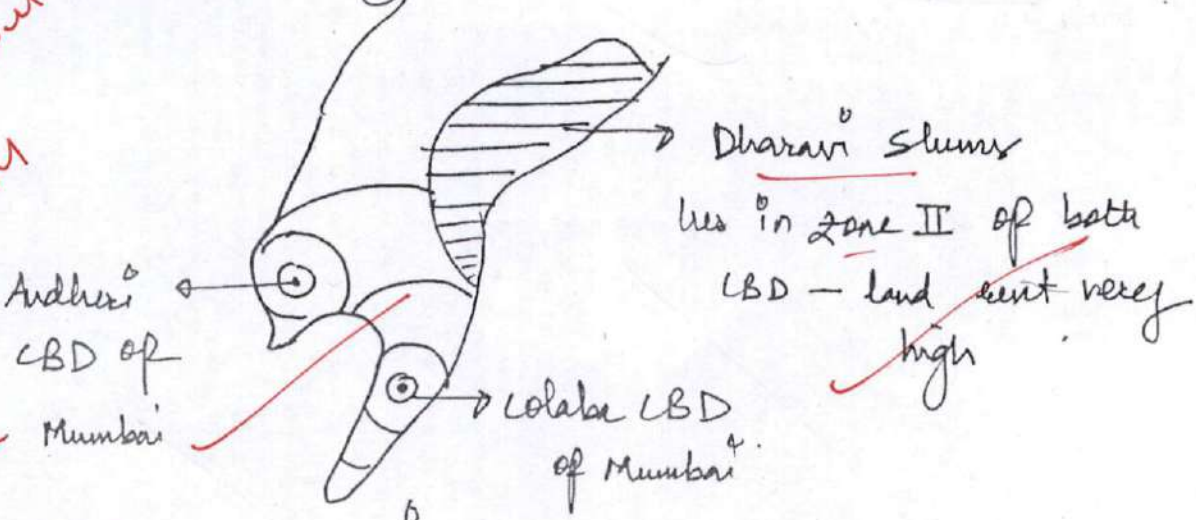


Fig. Island of Mumbai

- slums develop on government land, therefore evacuating people cause a lot of litigation. Some Rehabilitation is possible

Remarks



strategy to solve slum issue

→ write in terms of

- Law to check migration of people in cities eg: As done in New York and London. *social, economic and environmental*
- More generation of jobs in rural areas to check migration.
- slum rehabilitation scheme dependent on ground realities of particular areas
- Urgent need for National population control policy

wherever strategy for rehabilitation fails, above steps can be adopted to remedy slum problem.

Remarks

### SECTION-B

Attempt all questions:

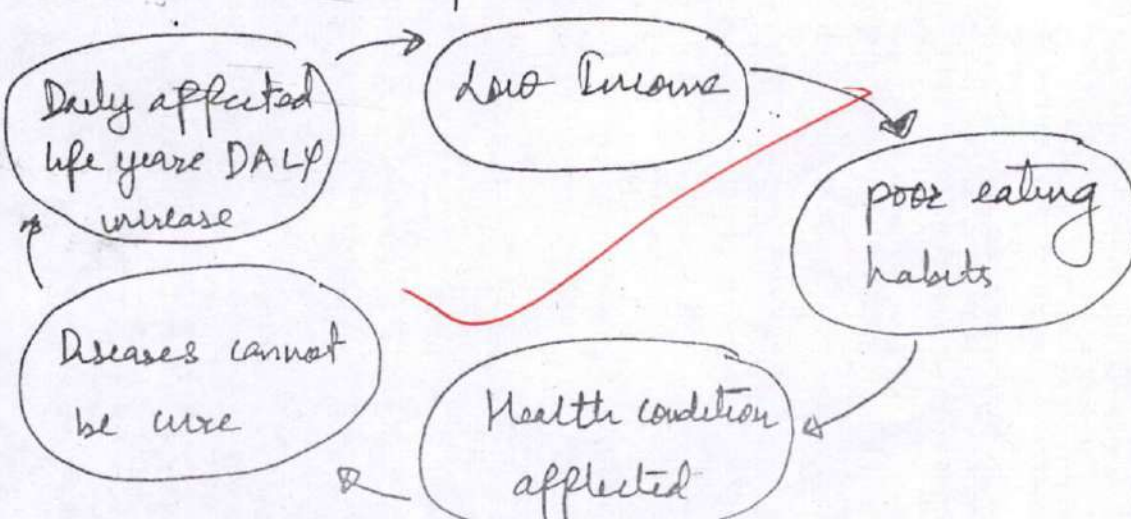
5. Comment on the following into 150 words:

(10 × 5 = 50)

- Inequality in health indicators on the rise in India. Discuss.
- Discuss the interrelationship between poverty and migration in India.
- What is the role of beekeeping in rural development? Discuss the challenges this industry is facing.
- What are the key features of civil aviation policy of India?
- Write a short note on sustainable development of cities.

3 (a) Income Inequality has been on the rise in India post 1991 liberalisation era.

According to Oxfam global eq. inequality report, Top 10% population own 60% of Nation wealth of country



Remarks



According to NFHS-4, 38.4% of children below 5 are malnourished. Majority belong to low and marginally poor income group.

On the other hand, India is home to one of the highest number of obese people in the world, after USA. Punjab is diabetic capital of India, Kerala bet lung cancer capital.

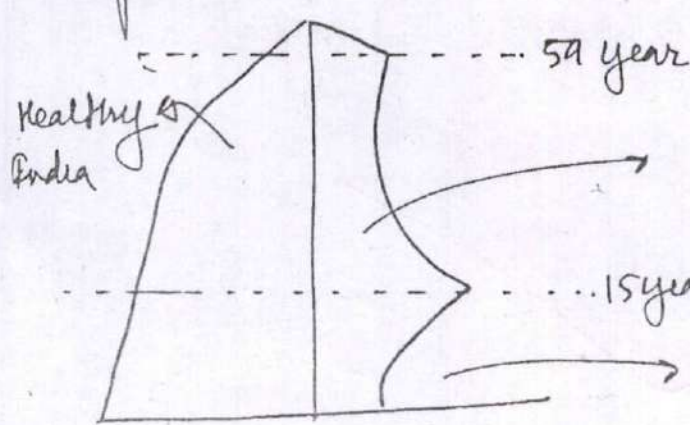


Fig: Age pyramid

working population decreased due to increased DALY

Result of stunting, mal-nourishment among children

You need to compare the health indicators across the regions and states. Mention the "Healthy states programme India" report of NITI.

Remarks

(b) According to Lawson's Law of migration hypothesis and Lee's migration theory, poverty becomes one of the important push factors for migration.

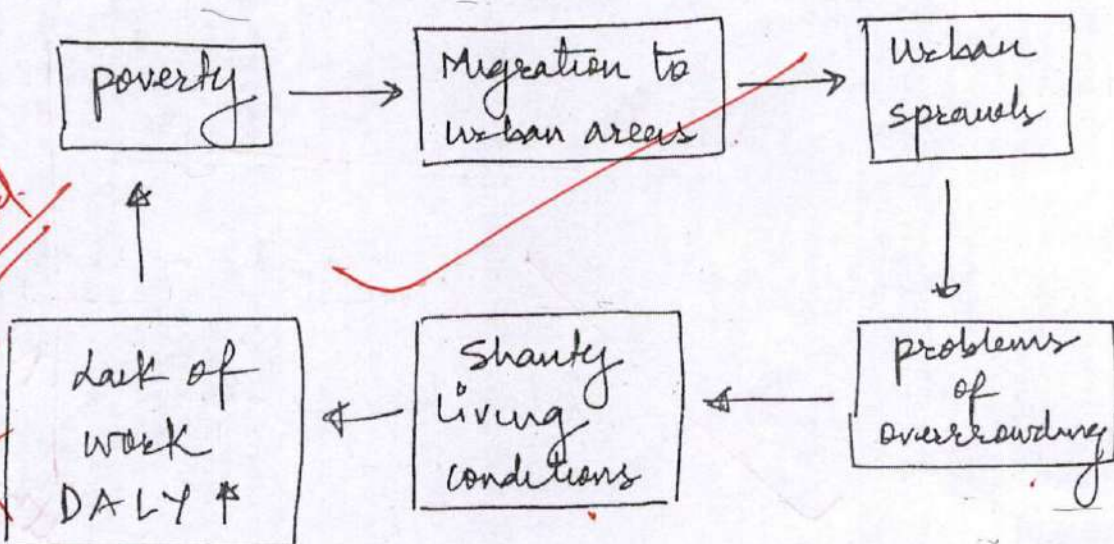


Fig: Vicious cycle of poverty and migration

Relationship :-

- More, among total population

govern  
depressive  
migration  
poverty

Remarks



migrate to cities. Leaving rural household with lack of bread winner

Impact on

② More is the poverty, farther the distance is of migration.

Children,

③ Rural poor of North India are migrating to western and south India [Bio survey]

feminization of

rural household

old, agriculture etc.

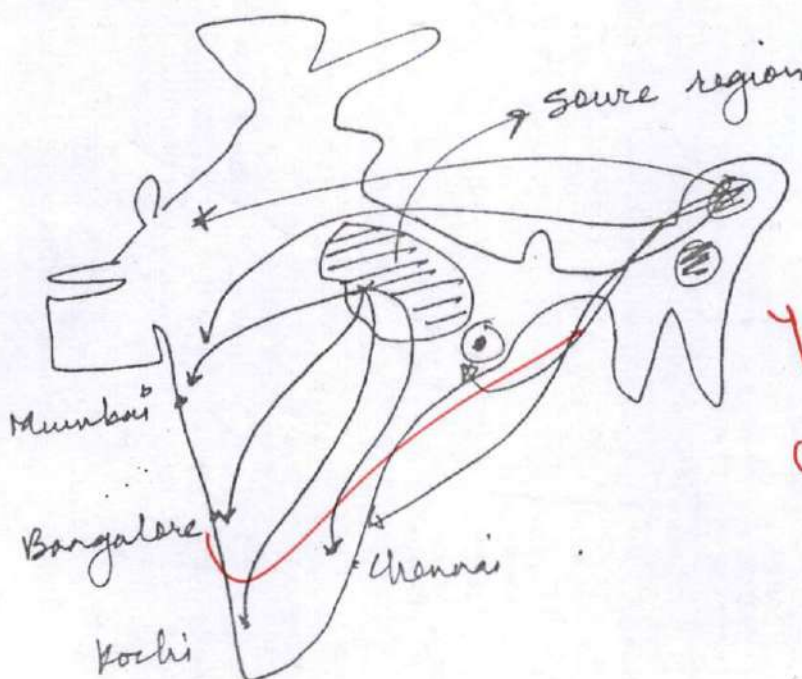


fig. Migration maps of India

You can also add the govt. efforts

→ NPLM

→ MGNREGS

→ Atmanirbhar Bharat etc.

Remarks

④ Beekeeping also known as apiculture is an important source of income in rural areas of the country, specially the North East region.

- provides additional source of income

to farmers in case of honey or bee wax.

- bees acts as pollen carriers therefore supplement the horticulture produce.

- Demand for honey is rising in global economy. people are becoming more

conscious moving away from refined sugar.

→ encourages biodiversity and ecological awareness.

→ Promotes sustainable and ecofriendly agriculture.

Remarks



- provides employment to rural youth, stops their urban migration.

### Challenges:

- Traditional method of beekeeping has caused decline in productivity of honey with per hive. Bee was found in honey due to improper refining.
- Deforestation in tribal areas have affect honey producing capacity.
- Pesticides used by farmers in agri land has caused rapid killing of bees.
- Improper government support has created additional challenges.

- Lacking scientific data on choosing honey bee for commercial beekeeping.

Remarks

(4)

Due to high percentage of working population (65%) and huge physiographic extent of country, civil aviation has become a key factor in growth.

The rising middle class of India prefers travelling by air to save time and boost productivity.

### Civil Aviation policy:

- To boost industry \$ 300 billion by 2025 - 2022.
- construction and renovation over 100 + air ports.

greenfield and brownfield projects

Remarks



- Introduction of helicopters in difficult and hilly terrain of North east and Western Himalayas

- Subsidizing regional unconnected airports and air travel routes

eg: VDAN (Vadodra Dosh Ka Aam Nagrik scheme)

- ~~started~~ creating NO frills airport in NER eg Shillong, Guwahati to boost connectivity and tourism.

Therefore aviation policy holds tremendous potential to develop the airline industry in India.

Remarks

③ Sustainable development of cities

India has 30% of population

living in cities. According to UNPF urban

population is expected to reach 300 million by 2030 and over 600 million by 2050.

Expanding the capacity of

cities in line with sustainable development was the agenda of UN Habitat 3 summit in Quarador.

Measures:

- A proper slum rehabilitation policy to control the urban sprawl.

Remarks



- ~~not~~ Setting up growth poles according to Perraux outside the cities can lead to sustainable expansion

eg: Navi Mumbai Air port outside Mumbai

- separation of central Business district by creating alternative administration and communal unit. eg: Nagpur in Maharashtra second capital as opposed to Pune.

- Utilizing the potential of conurbation of Patrick Geddes for sustainable expansion  
eg: Agra, Delhi, Patna, Mathura, Ranipat, Sonapat, Talashah, Patna conurbation have to 5 crore people.

Add case studies from other countries  
→ using concept of  
Denmark  
Canada

Remarks

8. Answer the following questions:

- (a) Discuss the zonal trends and patterns of the internal and external migration in India. (250 Words) (20)
- (b) What are the major industrial regions in India? Discuss some of the factors in localization of such regions. (200 Words) (15)
- (c) "Policies for the seed industry lack visionary approach and it mostly rest on fragmented approach". In the light of the above statement discuss the issues involved in the development of seed industry in India. Also suggest measures. (200 Words) (15)

⑨ India experiences both internal (domestic) and external migration (international)

on a large scale.

Domestic migrants are about 40% of population i.e. about 55 million

- International migrants form the Indian diaspora of about 29 million all over globe. specially concentrated in USA, Western Europe, Arab countries, Japan, Singapore etc.

9  
Substantiate by mentioning source

Remarks



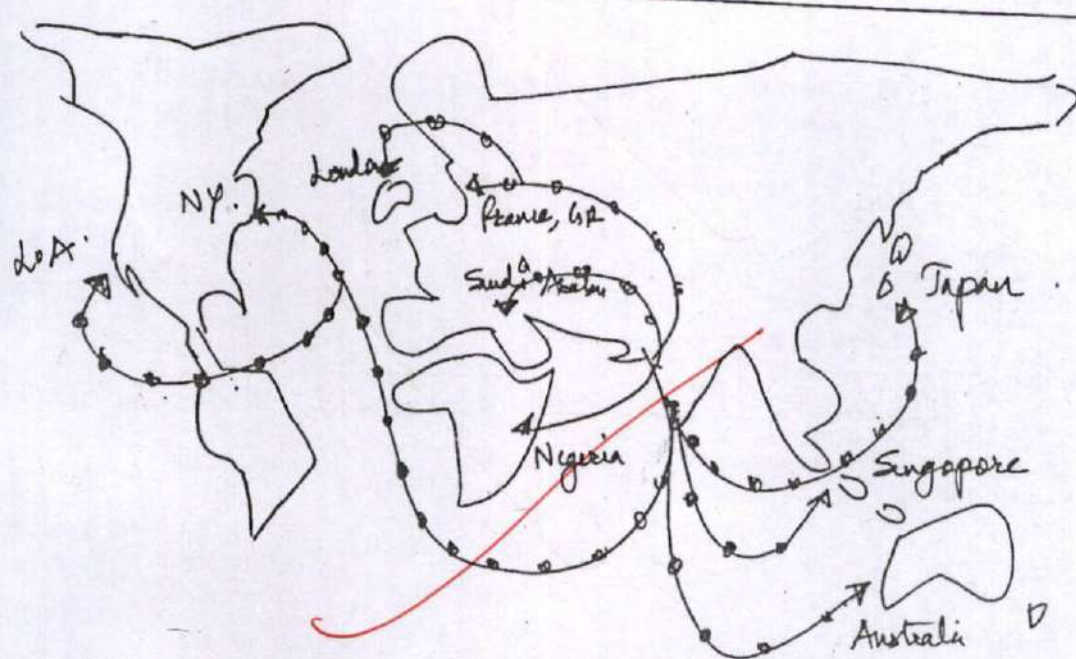
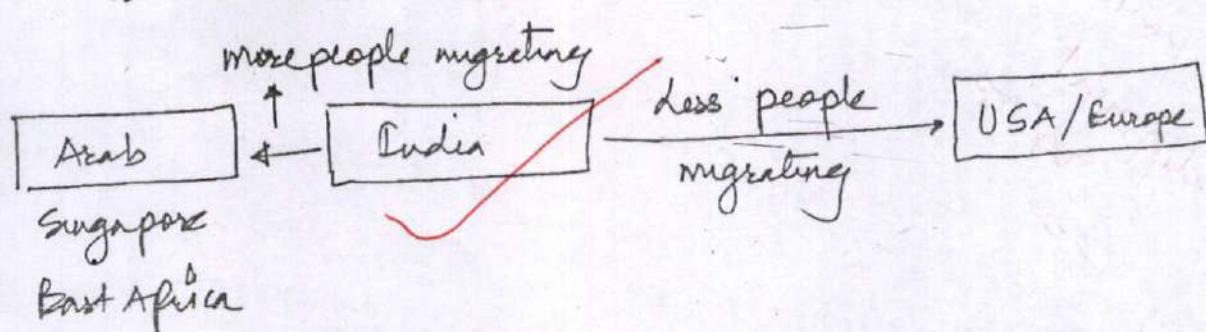


Fig: International migration by Indians

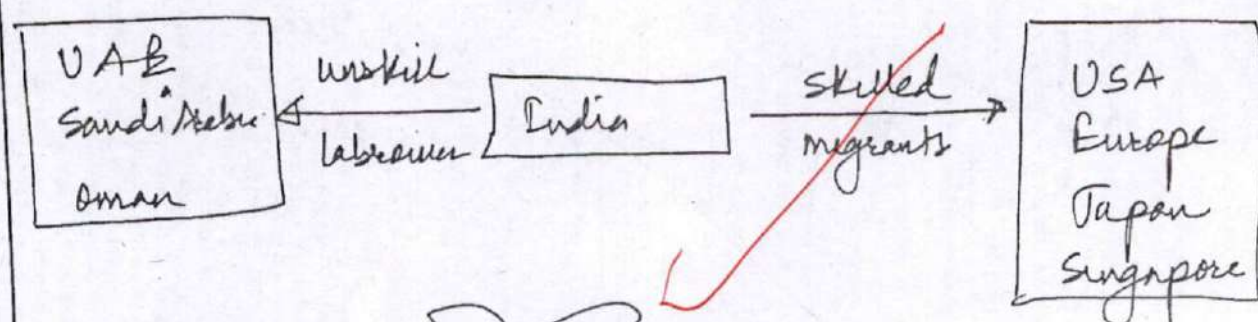
According to Witt inverse distance law: number of people migrating is inversely proportional to distance



According to theory of intervening opportunities (skilled)  
- More people migrate to USA and Europe

Remarks

and Japan and unskilled people migrate to Saudi Arabia, Oman, Dubai etc



people of Ganga plain migrate towards Punjab, Gujarat, Mumbai, Bangalore.

NE & people migrate to WB, A & N, Andhra Pradesh, Kerala as labourer.

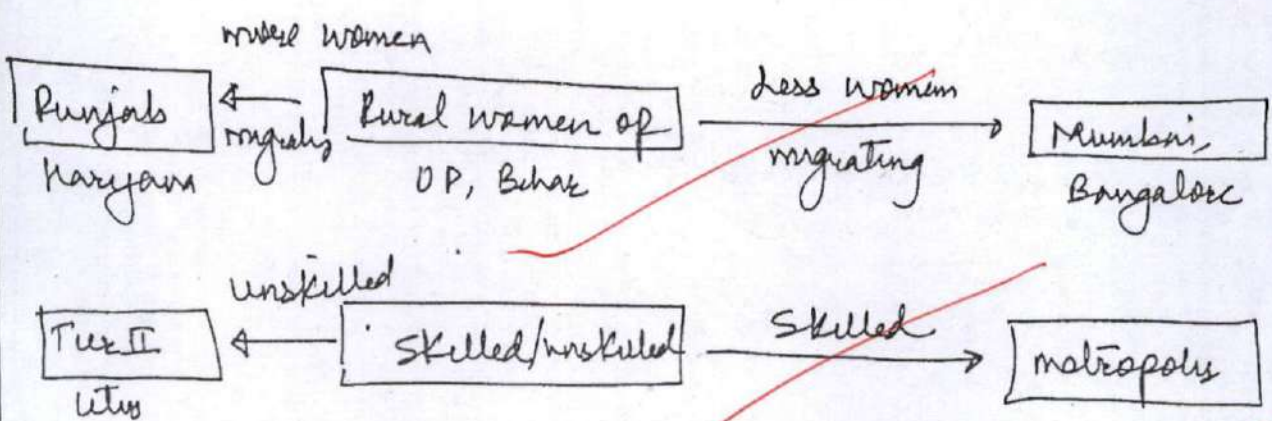
Fig: Internal migration of India

According to Ravenstein's Law of migration

- sex rural women migrate to short distance than men

Remarks





According to Lee's push pull factors:

- unemployed rural youth migrate to cities in search of jobs. This is most intra state migration.
- Similar intra state migration happens in case of education and health opportunities.
- rural-rural migration happens mostly interstate.

Therefore these are the trends and patterns of internal and external migration.

good use of laws and theories

Remarks

⑤ There is no definite criteria for industrial regionalisation: However following variables are considered

- No of industries / factories located
- % of industrial workers
- energy consumption / electricity consumption
- value of production
- quantity of production

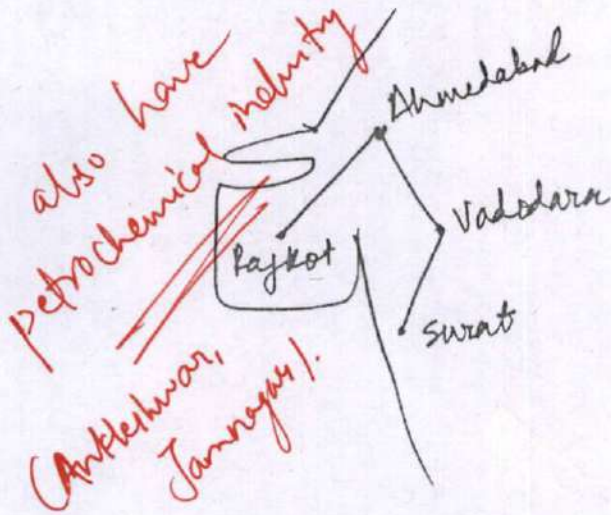
Based on the above, several geographers have created industrial regions of India. ~~Indians~~ prof P.P. Karan, prof Das Gupta, prof S. Meethu have done work in this field.

Remarks



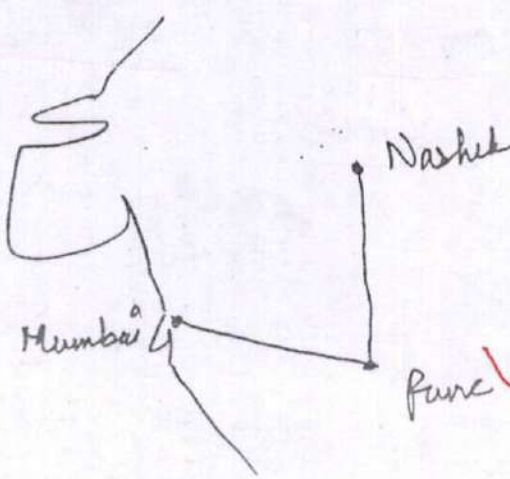
Classification done by prof M R Chaudhary is the most appropriate. It is as follows:-

### ① Ahmedabad - Vadodra Region



- Industries
- Diamond processing
  - cotton textile
  - Automobile
  - Advantage of port

### ② Mumbai - Pune Region



- Industries
- cotton
  - Textile
  - Automobile
  - Fertilizers

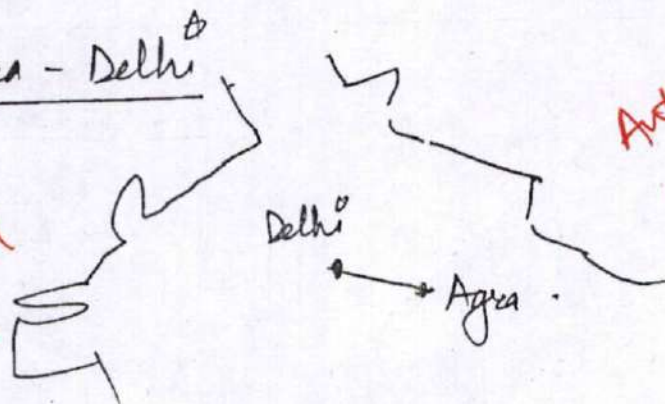
also called as cotton heart of India

Diversified into software and banking

Remarks

### ③ Agra - Delhi

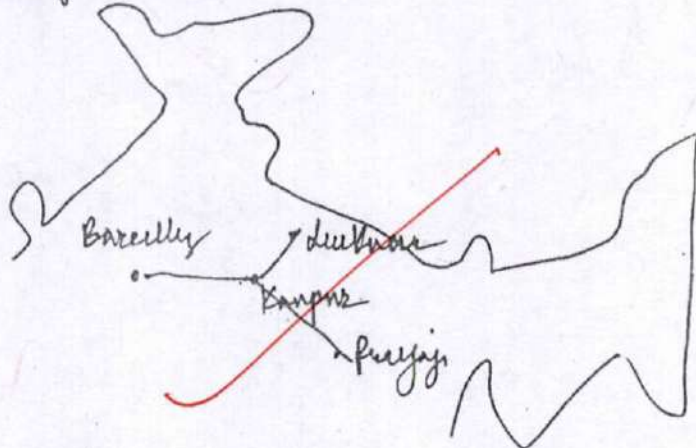
Light and market oriented industries



Automobile, Software  
In Gurgaon, Faridabad

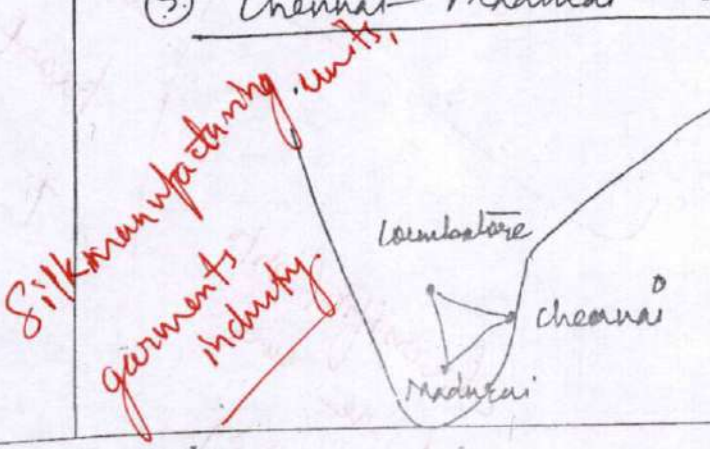
Belt of Delhi, Agra, Chandigarh conurbation

### ④ Kanpur - Lucknow



Industries: Leather, pharmaceuticals, automobile etc.

### ⑤ Chennai - Madurai - Coimbatore

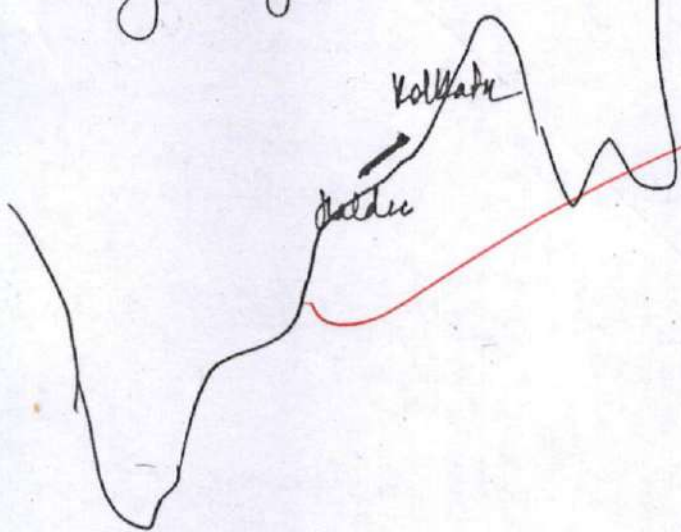


- Industries:
- rubber - cement, automobile, aeronautics etc.

Remarks



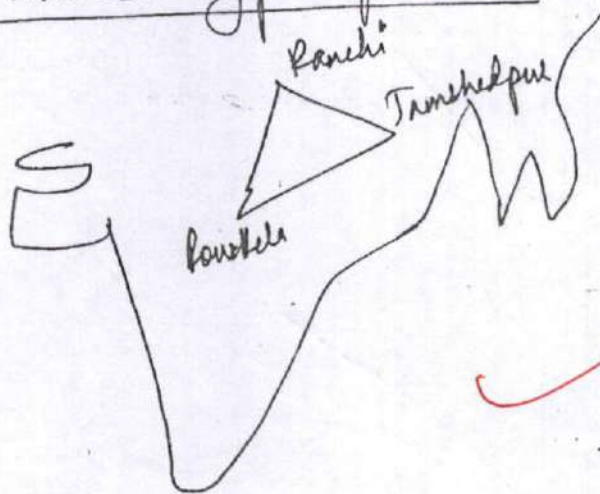
⑥ Hooghly Region



Industries  
- Textile, silk,  
cotton, engineering  
goods, paper.

You have missed  
to mention the  
factors behind  
the location  
of these  
industries.

⑦ Chhota Nagpur plateau



Industries  
- Iron and steel  
- locomotives  
- automobiles  
- fertilizers

These industrial regions are not  
perfect as there are various interconnectedness  
among diff regions.

Remarks

⑥ Seed industry refers to the  
industry involved in the manufacturing  
production and breeding of both genetic  
seeds and new hybrid variety of seeds.

currently, seed production and  
distribution is majorly under central and  
state government. Private sector participation  
is limited to less.

Seed replacement ratio:  $\frac{\text{New seeds}}{\text{re-germinated seeds}}$   
(SRR)

SRR ratios varies across regions in  
the country:

Remarks



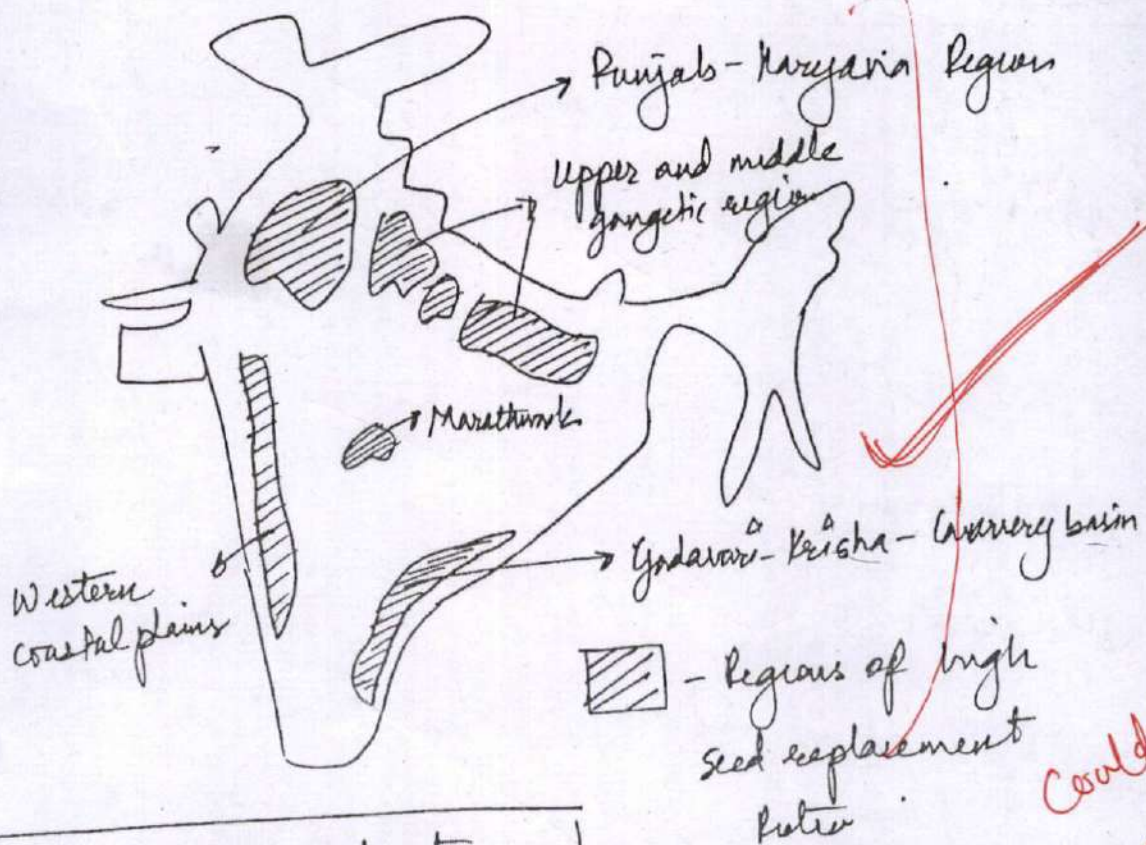


Fig: Seed replacement rate mapping

High SRR → more productivity  
high yield per land

Low SRR → less productivity (low yield per land)

- This signifies the fragment approach in seed development industry in India

Could have explained it briefly to address all the subparts of question.

Remarks

## Issues involved in development of seed industry

Research and Development largely dependent on government institute eg ICAR in Rajasthan

- Lack of strong IPR regime and subsequent arbitration clause prevents investment in seed development
- Distribution mechanism of seeds is flawed, it benefits only few large farmers and landlords

FDI in seed industry is restricted due to fear of monopolising eg: Monsanto case.

A proactive government push and boosting private participation along with A new seed policy is need of the hour.

Remarks