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GS ARTICLES

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EDEN IAS - Educational Development & Enrichment Network

1. What is Economic Planning?

The fundamental purpose of economic life is the satisfaction of human wants which are basically unlimited. All the economic activities of any modern society are directed towards satisfying human needs with limited (scarce) resources.

The limitation of resources forces society to make choice and allocation. Economic resources are scarce in relation to the demands for their alternative uses. The primary economic problem is the allocation of scarce resources to satisfy human wants in a manner that brings maximum satisfaction.

Economic planning, writes B.C. Tandon, "means arrangement of resources which are scarce in relation to the needs for their alternative uses in such a way that the satisfaction yielded by them is maintained at an optimum level. It thus involves the element of choice between scarce means of achieving a predetermined end. It is a carefully thought-out rational arrangement of economic resources". L. Robbins says: "To plan is to act with a purpose, to choose, and choice is the essence of economic activity".

Features of Economic Planning

Economic planning has some essential features:

- There must be a centralised planning authority for preparing the plans and suggesting the means for their implementation.
- Before framing the plan, the planning authority should undertake an accurate survey of the available resources (both existing and potential) and the essential needs of the country.
- An economic plan must have some definite aims and objectives.
- The plan should lay down a series of targets on the different lines of production such as agricultural, industrial, etc.
- It should make a proper allocation of the proposed outlay into the different heads of development.

Necessity for Economic Planning

The factors, which emphasis the need for economic planning in India, are as follows:

- To attain steady economic development in a free market economy.
- To remove unemployment, poverty and inequalities among people.
- To provide infrastructural facilities such as banking, power, water, transport and communications.
- To allocate resources properly between present and future needs.
- To attain balanced regional development.

Objective of Economic Planning in India

- **Economic Development:**

The main objective of Indian planning is to achieve the goal of economic development economic development is necessary for under developed countries because they can solve the problems of general poverty, unemployment and backwardness through it.

Economic development is concerned with the increase in per capita income and causes behind this increase.

- **Increase Employment:**

Another objective of the plans is better utilization of man power resource and increasing employment opportunities. Measures have been taken to provide employment to millions of people during plans.

- **Self-Sufficient:**

It has been the objective of the plans that the country becomes self-sufficient regarding food grains and industrial raw material like iron and steel etc. Also, growth is to be self-sustained for which rates of saving and investment are to be raised. With the completion of Third Plan, Indian economy has reached the take off stage of development. The main objective of the Tenth Plan is to get rid of dependence on foreign aid by increasing export trade and developing internal resources.

- **Economic Stability:**

Stability is as important as growth. It implies absence of frequent end excessive occurrence of inflation and deflation. If the price level rises very high or falls very low, many types of structural imbalances are created in the economy.

Economic stability has been one of the objectives of every Five year plan in India. Some rise in prices is inevitable as a result of economic development, but it should not be out of proportions. However, since the beginning of second plan, the prices have been rising rather considerably.

- **Comprehensive Development:**

All round development of the economy is another objective of the five year plans. Development of all economic activities viz. agriculture, industry, transport, power etc. is sought to be simultaneously achieved. First Plan laid emphasis on the development of agriculture. Second plan gave priority to the development of heavy industries. In the Eighth Plan maximum stress was on the development of human resources.

- **To Reduce Economic Inequalities:**

Every Plan has aimed at reducing economic inequalities. Economic inequalities are indicative of exploitation and injustice in the country. It results in making the rich richer and the poor poorer. Several measures have been taken in the plans to achieve the objectives of economic equality specially by way of progressive taxation and reservation of jobs for the economically backward classes. The goal of socialistic pattern of society was set in the second plan mainly to achieve this objective.

- **Increase in Standard of Living:**

The other objective of the plan is to increase the standard of living of the people. Standard of living depends on many factors such as per capita increase in income, price stability, equal distribution of income etc.

2. PLANNING COMMISSION

The Planning Commission was an institution in the Government of India, which formulated India's Five-Year Plans, among other functions. In his first Independence Day speech in 2014, Prime Minister Narendra Modi announced his intention to dissolve the Planning Commission. It has since been replaced by a new institution named NITI Aayog.

Functions

The Indian Planning Commission's functions as outlined by the Government's 1950 resolution are following:

- To make an assessment in the material, capital and human resources of India, including technical personnel, and investigate the possibilities of augmenting those are related resources which are found to be deficient in relation to the nation's requirement.
- To formulate a plan for the most effective and balanced utilisation of country's resources.
- To define the stages, on the basis of priority, in which the plan should be carried out and propose the allocation of resources for the due completion of each stage.
- To indicate the factors that tend to retard economic development.
- To determine the conditions which need to be established for the successful execution of the plan within the incumbent socio-political situation of the country.
- To determine the nature of the machinery required for securing the successful implementation of each stage of the plan in all its aspects.
- To appraise from time to time the progress achieved in the execution of each stage of the plan and also recommend the adjustments of policy and measures which are deemed important vis-a-vis a successful implementation of the plan.
- To make necessary recommendations from time to time regarding those things which are deemed necessary for facilitating the execution of these functions. Such recommendations can be related to the prevailing economic conditions, current policies, measures or development programmes.
- They can even be given out in response to some specific problems referred to the commission by the central or the state governments.

Achievements of 5 years plan:

- Increase in National Income: Five year plans are able to increase the nation income level form a stagnant position at the time of independence. The average annual increase in national income was registered to be 1.2 per cent from 1901 to 1947.
- Increase in Per Capita Income: Increase in national income resulted in increase of per capita income.
- Increase in Rate of Capital Formation: Capital formation is a key factor of economic growth. It depends on saving and investment. During Five Year Plans, there has been a considerable increase in the rate of saving and investment. It was around 35% by 2010-11.

- Growth of Agricultural Sector: Both crop productivity and crop production have shown a substantial rise in India. From the net importer of food grains, India became net exporter.
- Development of Industries: There has been a substantial improvement of the capital goods industry including iron and steel, machinery, chemical fertilizers, etc.
- Development of Economic Infrastructure: Five-year plans laid the foundation for development of economic infrastructure which include transportation, power generation, communication etc.
- Development of Social Infrastructure: Social infrastructure includes such services as education, health facilities, etc. In this area also, five year plans able to achieve desired success.
- Development of Science and Technology: In the era of planning, India has made much progress in the field of science and technology. In reality, the development is so fast that India stands third in the world in the sphere of science and technology. Indian engineers and scientists are in a position that they can independently establish any industrial venture.
- Other areas of achievements are in increased employment, modernisation of the society and achieving self-sufficiency.

Shortcomings of five years plan:

- No Substantial Increase in the Standard of Living: All the five-year plans of India aimed at raising the standard of living of the people. In fact what to say of improving the living standard, even the basic necessaries have not yet been provided to the people. On an average, a normal healthy person needs 2508 calories of food per day but in India per capita availability of food is 2400 calories.
- Rise in Prices: Price stability has been one of the objectives of every five-year plan in India. But almost all the plans witnessed considerable rise in price-level. In first plan, price level came down. In all other plans, the prices recorded a steep rise.
- Increase in Unemployment: During the period of five-year plans, unemployment went on rising. At the end of first five-year plan 53 lakh persons were unemployed.
- Inadequate Increase in Production: In the five year plan, growth rate of production was slow in many sectors. Priority should have been given to the development of agriculture in all the plans, but it was not done. Capital intensive industries in urban areas were given precedence over small scale industries in the rural areas. In agriculture green revolution continues to be confined largely to wheat and rice crop.
- Inefficient Administration: Plans are formulated after good deal of discussion and deliberation but their targets are not achieved due to inefficient administration, dishonesty, vested interest and red tapism etc.

3. Economic growth

Economic growth measures an increase in Real GDP (real output). GDP is a measure of the national income / national output and national expenditure. It basically measures the total volume of goods and services produced in an economy.

Determinants of economic growth

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Capital Formation
Capital is the foremost requirement for enhancing the productive capacity of the economy. The greater is the capital formation, greater will be the productivity of all other factors of production, and hence greater will be the total output of goods and services in the economy.

Empirical evidence suggests that there is a strong positive correlation between the rate of capital formation and the rate of economic growth. Most of the developed countries of the world have high rates of capital formation.

Capital-Output Ratio
It is very important factor which determine Economic Growth. It refers to the number of units of capital that are required in order to produce one unit of output. There is a tendency that as an economy grows the capital output ratio becomes more and more favourable. Besides, capital output ratio also varies sector to sector and industry to industry.

Capital output ratio depends upon:
- Efficiency in the use of capital;
- Quality of managerial and organizational skill;
- Marginal efficiency of capital.

Occupational Structure
Occupational Structure refers to the distribution of work force over different sectors of an economy. There is an empirical evidence that as an economy grows there is a shift of labour force form primary to secondary and then to territory sector.

With the shifting of labour from agriculture to service sector, efficiency of labour increases which in turn increases the efficiency of the economy.

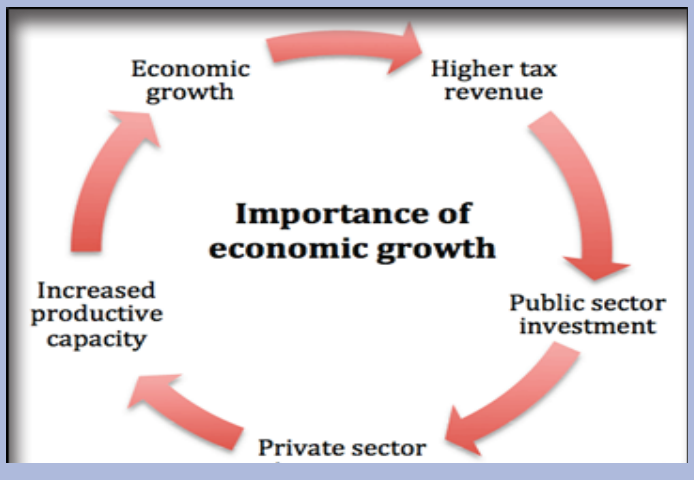
Technological Progress
With improvement tin technology, same resources become more productive. For example, Computer technology has increased the output of all kinds of offices many times. For technological advancement, we need to have quality of education and well equipped research and development. Govt Initiatives in this regard play much important role.

Economic growth without development
It is possible to have economic growth without development. i.e. an increase in GDP, but most people don't see any actual improvements in living standards. This could occur due to:

- Economic growth may only benefit a small % of the population. For example, if a country produces more oil, it will see an increase in GDP. However, it is possible, that this oil is only owned by one firm, and therefore, the average worker doesn't really benefit.
- **Corruption:** A country may see higher GDP, but the benefits of growth may be syphoned into the bank accounts of politicians
- **Environmental problems:** Producing toxic chemicals will lead to an increase in real GDP. However, without proper regulation, it can also lead to environmental and health problems. This is an example of where growth leads to a decline in living standards for many.
- **Congestion:** Economic growth can cause an increase in congestion. This means people will spend longer in traffic jams. GDP may increase but they have lower living standards because they spend more time in traffic jams.
- **Production not consumed.** If a state-owned industry increases output, this is reflected in an increase in GDP. However, if the output is not used by anyone then it causes no actual increase in living standards.
- **Military spending.** A country may increase GDP by spending more on military goods. However, if this is at the expense of health care and education it can lead to lower living standards.

Benefits of Economic Growth
- **Higher average incomes:** Economic growth enables consumers to consume more goods and services and enjoy better standards of living. Economic growth during the Twentieth Century was a major factor in reducing absolute levels of poverty and enabling a rise in life expectancy.
- **Lower unemployment:** With higher output and positive economic growth, firms tend to employ more workers creating more employment.
- **Lower government borrowing:** Economic growth creates higher tax revenues, and there is less need to spend money on benefits such as unemployment benefit. Therefore economic growth helps to reduce government borrowing. Economic growth also plays a role in reducing debt to GDP ratios.

- **Improved public services:** Higher economic growth leads to higher tax revenues and this enables the government can spend more on public services, such as health care and education etc. This can enable higher living standards, such as increased life expectancy, higher rates of literacy and a greater understanding of civic and political issues.
- **Money can be spent on protecting the environment:** With higher economic growth a society can devote more resources to promoting recycling and the use of renewable resources
- **Investment:** Economic growth encourages firms to invest, in order to meet future demand. Higher investment increases the scope for future economic growth – creating a virtuous cycle of economic growth/investment.
- **Increased research and development:** High economic growth leads to increased profitability for firms, enabling more spending on research and development. Also, sustained economic growth increases confidence and encourages firms to take risks and innovate.
- **Economic development:** The biggest factor for promoting economic development is sustained economic growth. Economic growth in south-east Asia over the past few decades has played a major role in reducing absolute levels of poverty – increasing life expectancy.
- **More choice:** In less developed economies, a large proportion of the population work in agriculture/subsistence farming, economic growth enables a more diverse economy with people able to work in service sector, manufacturing and having a greater choice of lifestyles.



Limitations of economic growth

- **Inequality and distribution:** Economic growth doesn't necessarily reduce relative poverty, it depends on the distribution of incomes. Economic growth could bypass the poorest in society. For example in the 1980s, the Gini coefficient rose sharply - the richest 1% gained dis proportionality more.
- **Negative externalities:** Economic growth can cause negative externalities such as pollution, higher crime rates and congestion which actually reduce living standards. For example, China has experienced very rapid economic growth but is now experience very serious levels of air pollution in major cities.
- **Economic growth may conflict with the environment:** e.g. increased carbon production is leading to global warming. Economic growth may bring benefits in the short-term, but costs in the long-term.
- **It depends on what is produced.** The Soviet Union has fantastic rates of economic growth, but, often through producing a lot of steel and pig iron that was not actually very useful.
- **Economic growth can be unsustainable:** If growth is too rapid, it will cause inflation, current account deficit and can lead to boom and bust.

4. Role of private capital in growth and development

The private sector's role in encouraging a country's growth and economic development cannot be overstated. Private enterprises are the chief agents in creating employment, providing funds, building competitiveness and driving innovation - all essential instruments for growth.

The private sector, in particular, takes entrepreneurial risks, which is central to how it translates investments into wealth creation and income generation. This role takes on further significance in the current context, as rising uncertainties in a rapidly changing global landscape cause economic growth concerns, particularly for emerging nations.

In the past, India has shown strong resilience in the face of global volatility and has continued to grow steadily, placing it among the world's fastest-growing economies. The Indian economy grew at a rate of 6.8% during 2018 and is projected to grow at a rate of 7% and 7.2% during 2019 and 2020, respectively. The private sector has played a huge role in India's development and is largely responsible for the phenomenal growth registered by the country since the economy was opened up in 1991.

The Confederation of Indian Industry (CII) is positioned as a partner in national development and is committed to catalyzing, nurturing and driving enterprise competencies for fostering growth. We do this by strengthening the competitiveness of the economic ecosystem, as well as aligning individual enterprises with the needs of society.

- **Creating livelihoods:** The private sector has strong links to higher investments in education and vocational training to bridge skill gaps in the economy, facilitating skills and training programmes, creating partnerships with educational institutes and experts and, most importantly, creating a future-ready and talented workforce. India has more than 900 universities and 39,000 colleges of which 78% are privately managed. In addition, most large, private enterprises have created in-house training and skills programmes to help build the capacities of young workers in line with industry needs.
- **Driving investments is vital:** Private investments by the corporate sector are critical to higher growth rates and economic development. More investment creates a multiplier effect in the economy by generating both direct and indirect employment, boosting consumption and fostering further development. Public-private partnerships need to channel private sector funds into crucial areas of development. The Indian government has introduced various formats in order to attract private investments, especially in roads and highways, airports, industrial parks and higher education and skill development sectors.
- **Making use of technology:** With the advent of the Fourth Industrial Revolution, India is at the cusp of a technology revolution that could transform manufacturing and industrial production in the country. An important objective for the private sector must be to facilitate the transfer or spread of new technology through industry-led initiatives or by building new business models that employ technology in new ways, which in turn will increase productivity and lead to sustainable economic growth.
- **Fostering entrepreneurship and innovation :**Corporates are integral to fostering innovation and entrepreneurship and ensuring the future progress of an economy. Private sector investments provide necessary infrastructure that is sustainable, reliable, and can use modern technology to create new products and services. In most countries, the private sector plays the lead role in research and development spending, working with universities and institutions to translate new research into markets and crafting innovative business models and strategies.

5. Economic growth and inflation

A sustained rise in prices is known as inflation. A large rise in prices / higher inflation rate is often caused by economic growth. However, there are also occasions, when we can get inflation despite weak or negative economic growth.

- If economic growth is caused by aggregate demand (AD) increasing faster than productive capacity (LRAS) – if economic growth is above the 'long-run trend rate' then economic growth is likely to cause inflation.
- If economic growth is caused by increased productivity (LRAS), then the growth can be sustainable and not cause inflation.
- With cost-push inflation, it is possible to get both negative economic growth and inflation at the same time (Stagflation).

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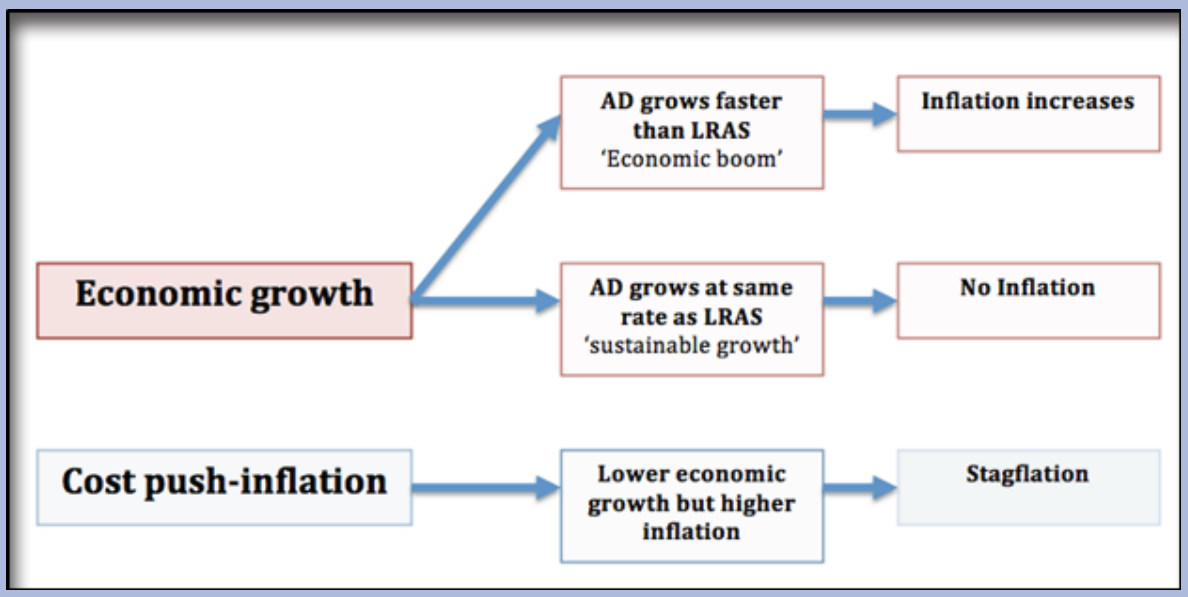


Why can economic growth lead to inflation?

- If demand rises faster than firms can increase supply, firms will respond to the excess demand and supply constraints by putting up prices.
- In a period of rapid growth, firms will employ more workers and unemployment will fall. As unemployment falls, firms may find it harder to fill job vacancies; this shortage of labour will cause wages to rise.
- If wages rise, firms costs increase and therefore firms pass these cost increases on to consumers.
- Also, with rising wages, workers have more disposable income to spend – causing a further rise in aggregate demand (AD)
- With higher economic growth, people may start to expect inflation – and this expectation of rising prices can become self-fulfilling.
- Therefore, rapid economic growth tends to cause upward pressure on prices and wages – leading to a higher inflation rate.

Economic growth and low inflation

It is possible that we can have economic growth without causing inflation. If growth is caused by increased productivity and investment, then the productive capacity of the economy can increase at the same rate as aggregate demand (AD). This enables economic growth without inflation.

Low inflation causes long-term economic growth

It is also argued that low inflation can contribute to a higher rate of economic growth in the long term. This is because low inflation helps promote stability, confidence, security and therefore encourages investment. This investment helps promote long-term economic growth. If an economy has periods of high and volatile inflation rates, then rates of economic growth tend to be lower.

High Inf lation and Low Growth

It is possible that an economy can experience low growth and high inflation This can occur if there is cost-push inflation. Cost-push inflation could be caused by rising oil prices. It increases costs for firms and reduces disposable income. Therefore, there is lower growth, whilst high inflation. This is sometimes known as stagflation.

The inflation was caused by

- Rising food prices/oil prices
- Devaluation of the pound – causing rising import prices.
- Rising taxes

Therefore, despite low growth, inflation was high.

6. Causes of unemployment in India:

The following are the main causes of unemployment:

Caste System:

In India caste system is prevalent. The work is prohibited for specific castes in some areas.

In many cases, the work is not given to the deserving candidates but given to the person belonging to a particular community. So this gives rise to unemployment.

Slow Economic Growth:

Indian economy is underdeveloped and role of economic growth is very slow. This slow growth fails to provide enough unemployment opportunities to the increasing population.

Increase in Population:
Constant increase in population has been a big problem in India. It is one of the main causes of unemployment. The rate of unemployment is 11.1% in 10th Plan.

Agriculture is a Seasonal Occupation:
Agriculture is underdeveloped in India. It provides seasonal employment. Large part of population is dependent on agriculture. But agriculture being seasonal provides work for a few months. So this gives rise to unemployment.

Joint Family System:
In big families having big business, many such persons will be available who do not do any work and depend on the joint income of the family.

Fall of Cottage and Small industries:
The industrial development had adverse effect on cottage and small industries. The production of cottage industries began to fall and many artisans became unemployed.

Slow Growth of Industrialisation:
The rate of industrial growth is slow. Though emphasis is laid on industrialisation yet the avenues of employment created by industrialisation are very few.

Less Savings and Investment:
There is inadequate capital in India. Above all, this capital has been judiciously invested. Investment depends on savings. Savings are inadequate. Due to shortage of savings and investment, opportunities of employment have not been created.

Causes of Under Employment:
Inadequate availability of means of production is the main cause of under employment. People do not get employment for the whole year due to shortage of electricity, coal and raw materials.

Defective Planning:
Defective planning is the one of the causes of unemployment. There is wide gap between supply and demand for labour. No Plan had formulated any long-term scheme for removal of unemployment.

Expansion of Universities:
The number of universities has increased manifold. There are 385 universities. As a result of this educated unemployment or white-collar unemployment has increased.

Inadequate Irrigation Facilities:
Even after the completion of 9th five plans, 39% of total cultivable area could get irrigation facilities.

Due to lack of irrigation, large area of land can grow only one crop in a year. Farmers remain unemployed for most time of the year.

Immobility of labour:
Mobility of labour in India is low. Due to attachment to the family, people do not go to far off areas for jobs. Factors like language, religion, and climate are also responsible for low mobility. Immobility of labour adds to unemployment.

Labour law reforms

- Complete the codification of labour laws at the earliest.
- Simplify and modify labour laws applicable to the formal sector to introduce an optimum combination of flexibility and security.
- Make the compliance of working conditions regulations more effective and transparent.
- The National Policy for Domestic Workers needs to be brought in at the earliest to recognize their rights and promote better working conditions.

One of the government's key initiatives is to rationalize 38 central labour laws into four codes, namely wages, safety and working conditions, industrial relations, and social security and welfare. Of the four codes, the one on wages has been introduced in the Lok Sabha and is under examination. The other three codes are at the pre-legislative consultation stage and should be completed urgently.

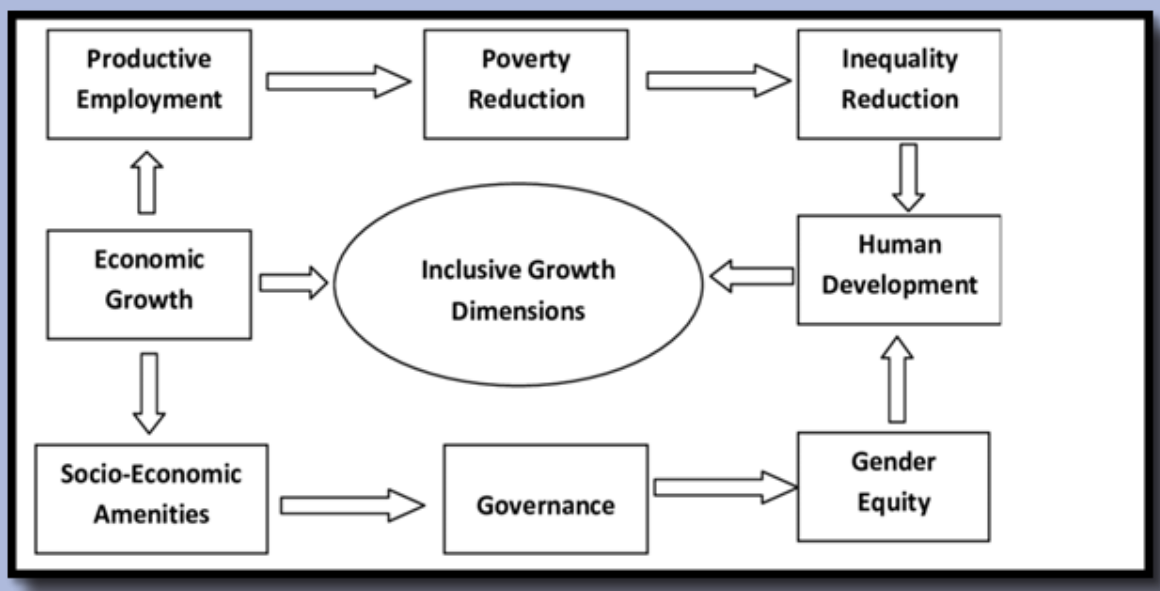
7. Need for Inclusive Growth in India

Many intellectuals and government executives accentuated that inclusive growth is required for sustainable development and impartial distribution of wealth.

- For India, it is a tough task to accomplish inclusive growth. In a democratic country India, majority of population living in rural India and to bringing them into the mainstream is main concern.
- The challenge for Indian government is to take the levels of growth to all section of the society and to all parts of the country.
- Inclusive growth perfectly facilitates the stability and development of the global economy.
- It will add new impetus and vitality, providing new room for economic growth.
- Rapid development of technologies that facilitate inclusivity has led to the proliferation of e-commerce, mobile Internet, and intelligent manufacturing.

- Moreover, energy saving measures and reduction of carbon emissions are expected to become the steam engine of the 4th Industrial Revolution. The challenge of skills shortage can be addressed through public private partnership.
- Instead of only focusing on the economic outcomes as in traditional models, inclusive growth focuses more on equity.
- Only inclusive growth can address the root of global challenges and maintain the international order.
- Inclusive growth will continuously reduce the remaining barriers to the free flow of capital, goods, services, and technology among countries and regional blocs, which in the end will provide an environment conducive to economic recovery.
- It will boost development and global governance by turning the world into a community of interests and responsibilities.
- It promotes modernization and industrialization.
- In addition, it is deeply involved in cooperating with other emerging economies. Evidently, the emerging market economies and developing countries are playing a much more important role in contemporary economic growth, leading the way in inclusive growth.
- Inclusive growth will be focused more on the relationship between man and man, or man and nature, instead of capital growth and accumulation.

8. Key drivers and dimensions of Inclusive growth



The following factors enable the India to focus on inclusive growth:

- India is the 7th major country by area and 2nd by population. It is the 5th largest economy in the world. Yet, development is not visible in India and it's the neighborhood nation, i.e., China is progressing at speedy rate.
- The exclusion in terms of low agriculture growth, low quality employment growth, low human development, rural-urban divides, gender and socialine qualities, and regional disparities etc. are the problems for the nation.
- Decreasing of poverty and other disparities and rising of economic growth are major objectives of the nation through inclusive growth.
- Political leadership in the country plays a vital role in the overall development of the country. But, the study has found that politicians in India have a very low level of scientific literacy.
- Studies assessed that the cost of corruption in India amounts to over 10% of GDP. Corruption is one of the ills that prevent inclusive growth.
- Though child labour has been banned by the law in India and there are stringent provisions to deter this inhuman practice. Still, many children in India are unaware of education as their lives are spoiled to labour work.
- Literacy levels have to rise to provide the skilled workforce required for higher growth.

- Economic improvements in the country are overwhelmed by out dated philosophies and allegations by the politicians and opposition parties in India.
- Achievement of 9% of GDP growth for country as a whole is one of the boosting factor which gives the importance to the Inclusive growth in India.
- At global scale, there is a concern about dissimilarities and exclusion and now they are also taking about inclusive approach for development.
- Inclusiveness benchmarked against achievement of monitor-able targets related to
  1. Income & Poverty
  2. Education
  3. Health
  4. Women & children,
  5. Infrastructure
  6. Environment

What is financial inclusion?

"Financial inclusion may be defined as the process of ensuring access to financial services and timely and adequate credit where needed by vulnerable groups such as weaker sections and low income groups at an affordable cost."

9. Problems before Inclusive Growth Strategies in India

For a developing country like India, the need of inclusive growth is vital to achieve the overall progress of the country. Though it is positive for macro-economic stability, 2008-09 has resulted a relative growth slowdown, mostly from the spillover effects of the weakening of the global economic momentum and volatile financial markets. The following problems are the major concerns for developing countries like India to achieve the inclusive growth. They are:

1. Poverty
2. Employment
3. 3) Agriculture
4. Problems in Social Development
5. Regional Disparities

Poverty

- A proportionally large share of poor is lower castes. Many see the caste system as a system of exploitation of poor low-ranking groups by more prosperous high-ranking groups. In many parts of India, land is largely held by high-ranking property owners of the dominant castes that economically exploit low-ranking landless labourers and poor artisans, all the while degrading them with ritual emphases on their so-called god-given inferior status.
- However, casteism is widespread in rural areas, and continues to segregate Dalits. Others, however, have noted the steady rise and empowerment of the Dalits through social reforms and the implementation observations in employment and benefits.

Employment

- Employment considered as one of the big problems for inclusive growth in India. Raising population at a great speed after independence showed its impact on employment.
- The unemployment became the big worry to the development of the country. Since poverty is much higher than unemployment, employment is the only source to eradicate poverty.
- The quality and quantity of employment in India is very low due to illiteracy and due to over dependency on agricultural employment. The quality of employment is also a problem.

Agriculture

- Traditionally, India is considered as the agricultural based country. As the majority of Indians are engaged in agriculture for employment, the recent developments in the other sectors decreased this major sector's growth.
- Some of the problems in Indian agriculture are:
- Long term factors like steeper decline in per capita land availability, shrinking of farm size slow reduction in share of employment.
- Low labour productivity in agriculture and the gap between agriculture and nonagriculture is widening.

- Decline in yield growth due to land and water problems, vulnerability to world commodity prices, farmer's suicides.
- Disparities in growth across regions and crops, i.e., growth rate declined more in rain fed areas.

Problems in Social Development

- Social development is also one of the key concerns in inclusive growth. The social development became the hot criteria in the recent past in India. Social development also facing some problems which is making the path critical to inclusive growth in the country.
- Some of the problems in social sector are:
  1. Significant regional, social and gender disparities.
  2. Low level and slow growth in public expenditures particularly on health.
  3. Poor quality delivery systems.
  4. Social indicators are much lower for scheduled castes and scheduled tribes.
  5. Malnutrition among children is one major problem.
  6. Since BPO brought the multi culture environment in India, this sector is facing under severe pressure due to global recession.
  7. Social advancements in India is still at lower growth due to the strong influence of culture and regional disparities.

Regional Disparities

- Regional disparities are also a major concern for India due to different culture and traditions. Traditional cultures, caste system and the rich & poor feelings favoured some specific groups as a result, the regional disparities raised in India before and after independence. And also, due to the development in agriculture and industrial sector some regions in India developed fast and some other places still are facing the scarcity Some of
- The regional disparities problems are:
  1. Per capita income is highest at Rs.16, 679 in Punjab and lowest per capita income is at Bihar.
  2. Female infant mortality varies from 12 in Kerala to 88 in Madhya Pradesh.
  3. Female literacy varies from 33.6% in Bihar to 88% in Kerala.

10. Challenges before Inclusive Growth Strategies in India

The key components of the inclusive growth strategy included a sharp increase in investment in rural areas, rural infrastructure and agriculture spurt in credit for farmers; increase in rural employment through a unique social safety net and sharp increase in public spending on education and health care. The government also should go for a variety of legislative interventions to empower the disadvantaged.

Some of the challenges and opportunities before inclusive growth strategies in India are:

- Poverty alleviation is one of the big challenges for India. Eradication of poverty in India is generally only considered to be a long-term goal. Poverty alleviation is expected to make better progress in the next 50 years than in the past, as a trickledown effect of the growing middle class. Increasing stress on education, reservation of seats in government jobs and the increasing empowerment of women and the economically weaker sections of society, are also expected to contribute to the alleviation of poverty.
- For agricultural growth, the private players can participate in to bridge the gap including providing micro finance. Contract farming, setting up storage facilities for agro-produce, and producing them from farmers. The private sector could also develop heritage sites and tourist spots and encourage the promotion of traditional arts and carafats in joint ventures with rural enterprises. The government of India should also increase its present moratorium on interest payments, lowering of farm credit rates for increase in agricultural growth.
- **Skill development and unemployment:** Government schemes should target eradication of both poverty and unemployment (which in recent decades has sent millions of poor and unskilled people into urban areas in search of livelihoods) attempt to solve the problem, by providing financial assistance for setting up businesses, skill honing, setting up public sector enterprises, reservations in governments, etc. The decreased role of the public sector after liberalization has further underlined the need for focusing on better education and has also put political pressure on further reforms.

- **Child labour:** Child labor is a complex problem that is basically rooted in poverty. The Indian government is implementing the world's largest child labor elimination program,, with primary education targeted for around 250 million. Numerous nongovernmental and voluntary organizations are also involved.Failure to implement the law and poor rehabilitation policies need urgent attention which is a big challenge for India to achieve inclusive growth.
- **Women Empowerment & Regional disparities:** Social development is possible through achieving Women Empowerment and eradicating the regional disparities. Though the Government is giving the women empowerment by giving special reservations, the women's advancement in India is still not matched the expectations for inclusive growth. To bring in inclusive growth, it is necessary to enhance the capabilities of women by providing education, so that they get the opportunity of getting employed and be self sustainable.

11.What is Hazard?

- A hazard is a process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption or environmental degradation.
- Hazards may be natural, anthropogenic or socionatural in origin.

The classification schemes for hazards vary across different research institutions and governments, but these can be divided into (UNSIDR, 2017):

Biological hazards

- They are of organic origin or conveyed by biological vectors, including pathogenic microorganisms, toxins and bioactive substances.
- Examples are bacteria, viruses or parasites, as well as venomous wildlife and insects, poisonous plants and mosquitoes carrying disease-causing agents.

Environmental hazards

- It includes chemical, natural and biological hazards.
- They can be created by environmental degradation or physical or chemical pollution in the air, water and soil.
- However, many of the processes and phenomena that fall into this category may be termed drivers of hazard and risk rather than hazards in themselves, such as soil degradation, deforestation, loss of biodiversity, salinization and sea-level rise.

Geological or geophysical hazards

- It originates from internal earth processes.
- Examples are earthquakes, volcanic activity and emissions, and related geophysical processes such as mass movements, landslides, rockslides, surface collapses and debris or mud flows.
- Hydrometeorological factors are important contributors to some of these processes.
- Tsunamis are difficult to categorize: although they are triggered by undersea earthquakes and other geological events, they essentially become an oceanic process that is manifested as a coastal water-related hazard.

Hydrometeorological hazards

- They are of atmospheric, hydrological or oceanographic origin.
- Examples are tropical cyclones (also known as typhoons and hurricanes); floods, including flash floods; drought; heatwaves and cold spells; and coastal storm surges. Hydrometeorological conditions may also be a factor in other hazards such as landslides, wildland fires, locust plagues, epidemics and in the transport and dispersal of toxic substances and volcanic eruption material.

Technological hazards

- It originates from technological or industrial conditions, dangerous procedures, infrastructure failures or specific human activities.
- Examples include industrial pollution, nuclear radiation, toxic wastes, dam failures, transport accidents, factory explosions, fires and chemical spills. Technological hazards also may arise directly as a result of the impacts of a natural hazard event

12.Earthquake

Earthquake can be defined as the shaking of earth caused by waves moving on and below the earth's surface and causing: surface faulting, tremors vibration, liquefaction, landslides, aftershocks and/or tsunamis.

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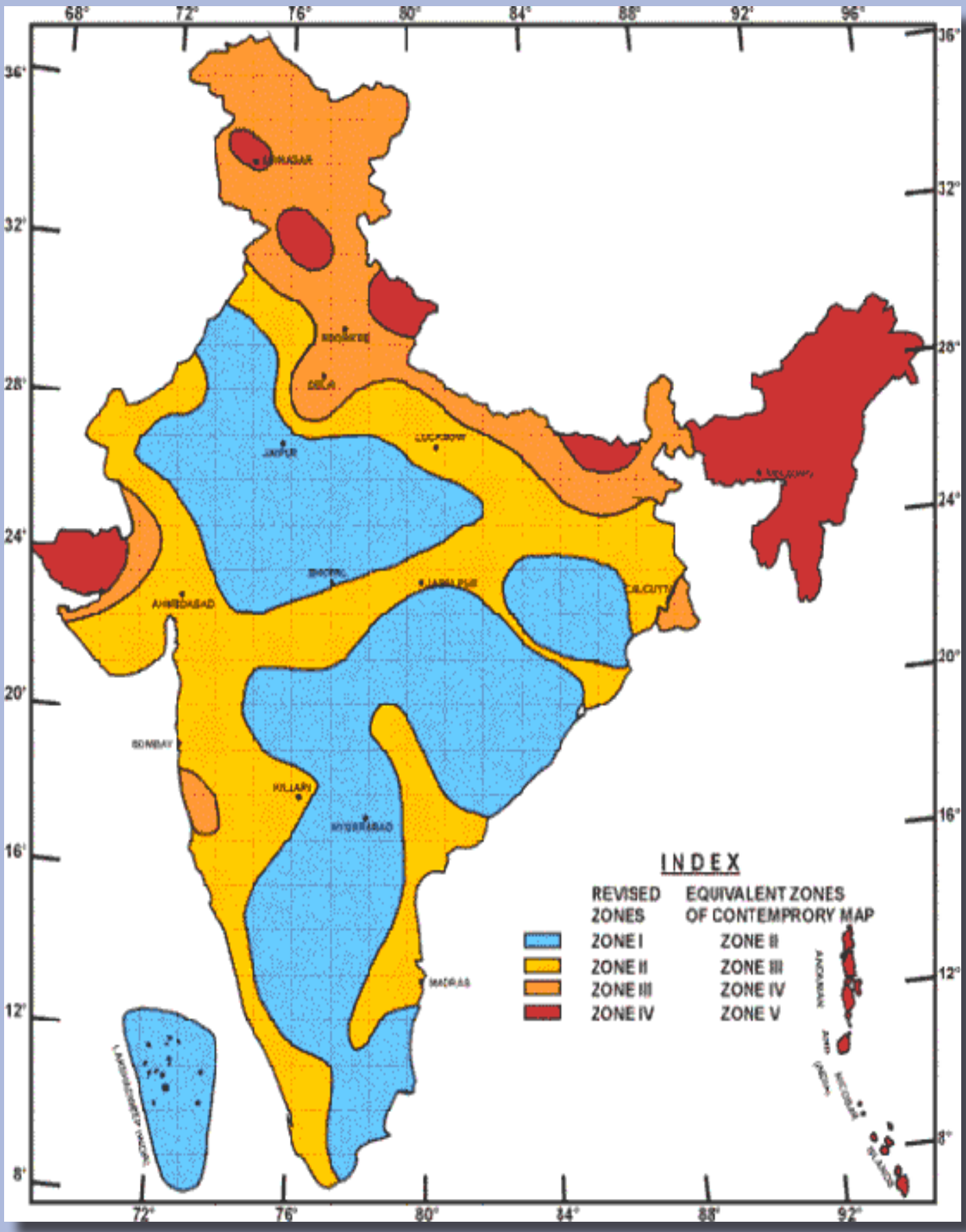
Seismic zones of India:
The earthquake zoning map of India divides India into 4 seismic zones (Zone 2, 3, 4 and 5) unlike its previous version, which consisted of five or six zones for the country. According to the present zoning map, Zone 5 expects the highest level of seismicity whereas Zone 2 is associated with the lowest level of seismicity.



Zone 1	Since the current division of India into earthquake hazard zones does not use Zone 1, no area of India is classed as Zone 1.
Zone 2	This region is liable to MSK VI or lower and is classified as the Low Damage Risk Zone. The IS code assigns a zone factor of 0.10 for Zone 2.
Zone 3	This zone is classified as a Moderate Damage Risk Zone which is liable to MSK VII. Several megacities like Chennai, Mumbai, Kolkata and Bhubaneshwar lie in this zone.
Zone 4	This zone is called the High Damage Risk Zone and covers areas liable to MSK VIII. Jammu and Kashmir, Ladakh, Himachal Pradesh, Uttarakhand, Sikkim, parts of the Indo-Gangetic plains (North Punjab, Chandigarh, Western Uttar Pradesh, Terai, North Bengal, the Sundarbans) and the capital of the country Delhi fall in Zone 4. In Maharashtra, the Patan area (Koynanagar) is also in Zone 4. In Bihar the northern part of the state in areas such as Raxaul, near the border of India and Nepal, is also in Zone 4.`
Zone 5	It is referred to as the Very High Damage Risk Zone. The regions of Kashmir, the Western and Central Himalayas, North and Middle Bihar, the North-East Indian region, the Rann of Kutch and the Andaman and Nicobar group of islands fall in this zone.

Preparedness for earthquakes

- Strengthen health emergency risk management systems.
- Limit the risk of exposure to earthquakes by improving the quality of the built environment, with better land-use control, including regulating building.
- Ensure that health facilities are resilient to hazards, and that they are able to remain functional and able to respond to increased and changed health needs after earthquakes, with staff trained appropriately.
- Be prepared to mobilize medical response teams, including establishing temporary health structures and field hospitals.
- Invest in community preparedness – communities are often the first responders

Earthquake Hazard Mitigation

Unlike other disasters, the damages caused by earthquakes are more devastating. Since it also destroys most of the transport and communication links, providing timely relief to the victims becomes difficult. It is not possible to prevent the occurrence of an earthquake; hence, the next best option is to emphasis on disaster preparedness and mitigation rather than curative measures such as:

(i) Establishing earthquake monitoring centers (seismological centers) for regular monitoring and fast dissemination of information among the people in the vulnerable areas. Use of Geographical Positioning System (GPS) can be of great help in monitoring the movement of tectonic plates.

(ii) (ii) Preparing a vulnerability map of the country and dissemination of vulnerability risk information among the people and educating them about the ways and means minimizing the adverse impacts of disasters.

(iii) (iii) Modifying the house types and building designs in the vulnerable areas and discouraging construction of high-rise buildings, large industrial establishments and big urban Centres in such areas.

(iv) (iv) Finally, making it mandatory to adopt earthquake-resistant designs and use light materials in major construction activities in the vulnerable areas.

Post-Disaster Preventive Measures:

- Maintenance of law and order, prevention of trespassing, looting etc.
- Evacuation of people.
- Recovery of dead bodies and their disposal.
- Medical care for the injured.
- Supply of food and drinking water.
- Temporary shelters like tents, metal sheds etc.
- Repairing lines of communication and information.
- Restoring transport routes.
- Quick assessment of destruction and demarcation of destroyed areas, according to the grade of damage.
- Cordoning off severely damaged structures that are liable to collapse during aftershocks.

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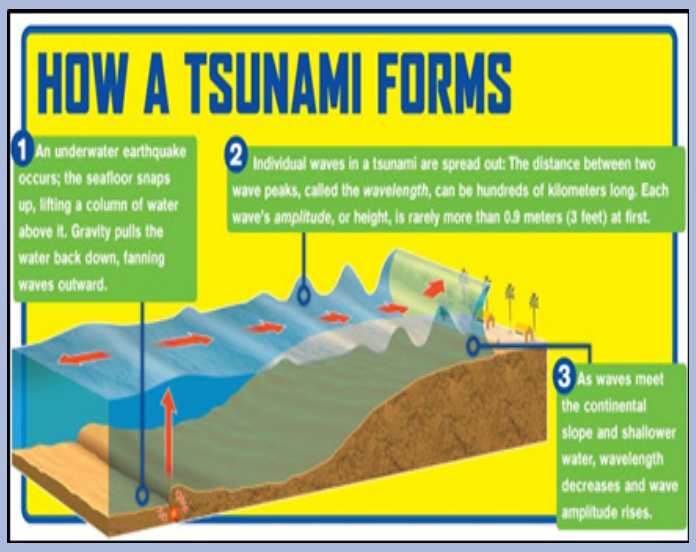
13.Tsunami

A tsunami (in Japanese Tsu means harbor and Nami means wave) is a series of water waves caused by the displacement of a large volume of a body of water, usually an ocean. Seismicity generated tsunamis are result of abrupt deformation of sea floor resulting vertical displacement of the overlying water. Earthquakes occurring beneath the sea level, the water above the reformed area are displaced from its equilibrium position. The release of energy produces tsunami waves which have small amplitude but a very long wavelength (often hundreds of kilometers long). It may be caused by nonseismic event also such as a landslide or impact of a meteor.



Tsunami Sources for India

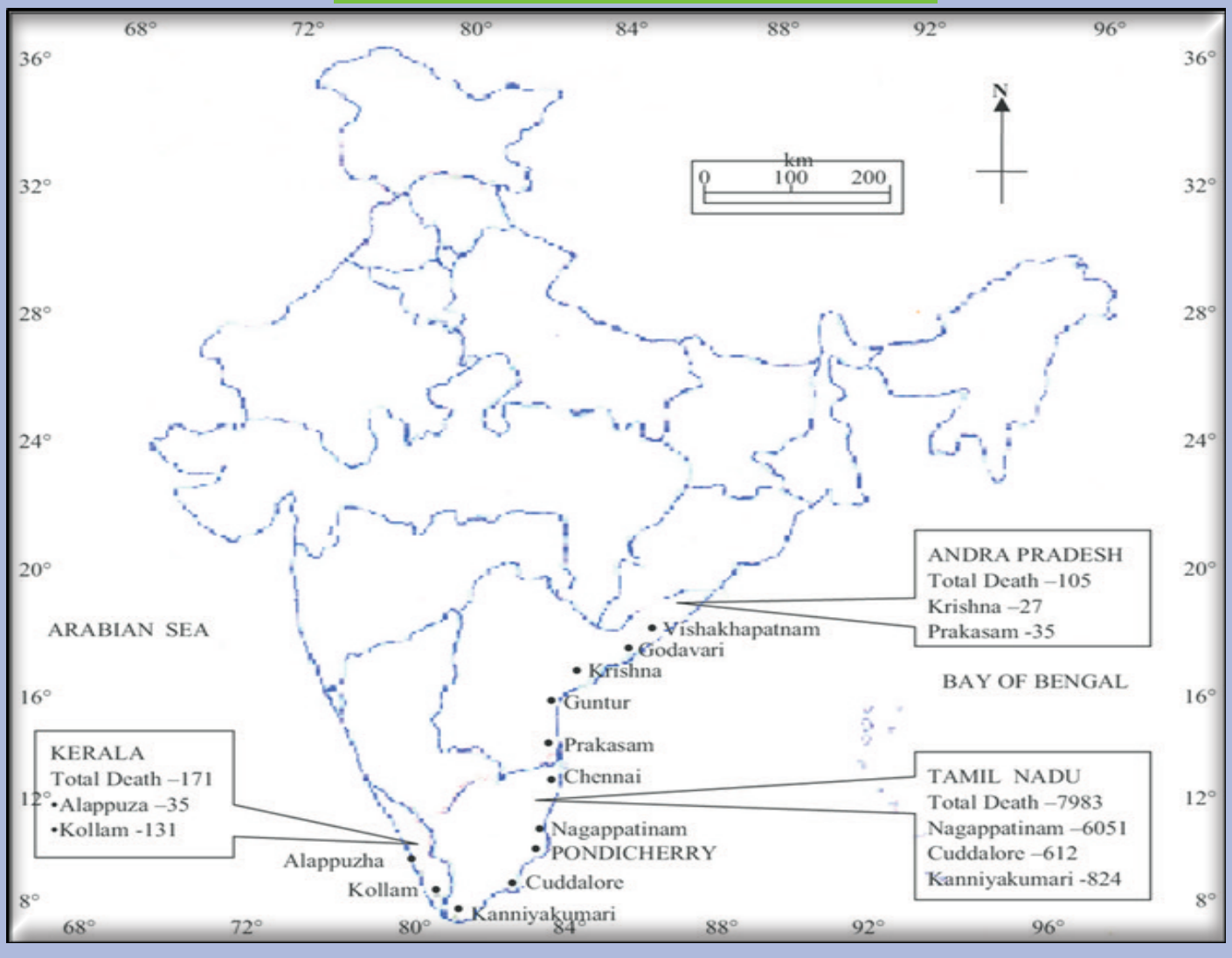
For a tsunami to hit Indian coast, it is necessary that earthquake of magnitude > 7

should occur.

Two such possible zones are

- Andaman-Sumatra
- Makran

Tsunami Prone areas in India



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Historical Tsunamis in India

- 12 Apr, 1762 (Earthquake in Bay of Bengal)
- 31 Dec, 1881 (Car Nicobar Earthquake)
- 27 Aug, 1883 (Eruption of Krakatoa volcano (Sunda Strait) Indonesia)
- 26 Jun, 1941 (Andaman Earthquake)
- 27 Nov, 1945 (Makran Earthquake)
- 26 Dec, 2004 (Sumatra Earthquake)

NDMA Guidelines on management of Tsunamis

- Implementation of Integrated Coastal Zone Management (ICZM) Plan.
- Tsunami Vulnerability Assessment
- The vulnerability assessment of both built and natural environment due to tsunami impact will be developed for shores and harbours by MoES as per these Guidelines.
- Tsunami warning system:
- India Meteorological Department (IMD) will complete implementation of Real Time Seismic Monitoring (RTSM) Network. RTSM will monitor and, report the occurrence of earthquakes capable of generating Tsunamis to INCOIS.
- The National Emergency Communication Plan (NECP) connectivity network will form the backbone architecture for the dissemination of Tsunami Advisory, Watch, Alert and Cancellation Bulletins. The network based on satellite communication links and ISDN public network will link the National Tsunami Early Warning Centre with the NEOCs, the SEOCs, DEOCs, MEOCs and NQRTs.
- Media people to ensure that the correct level of warning is made available at the right time.
- MoES will prepare and distribute manuals and zonation maps to the public through SDMAs and concerned Ministries & Departments of the Government of India, to create awareness on tsunami risk and vulnerability among the coastal communities, State administrative authorities and other stakeholders in coastal districts.

Box 1. 3: Historical Tsunamis in India

Tsunami Sources for India

- For a tsunami to hit Indian coast, it is necessary that earthquake of magnitude > 7 should occur. Two such possible zones are
- **Andaman-Sumatra**
- **Makran**
- Not all major earthquakes are tsunamigenic
- To generate tsunami
- **Earthquakes must occur under or near ocean**
- **Depth < 100km**
- **Vertical movement of the sea-floor**
- Slow Rupture Velocities are most efficient Tsunami Generators
- **Historical Tsunamis in India**
- 12 Apr, 1762 (BoB EQ) – 1.8 M
- 31 Dec, 1881 (Car Nicobar EQ)
- 27 Aug, 1883 (Krakatoa) – 2 M
- 26 Jun, 1941 (Andaman EQ)
- 27 Nov, 1945 (Makran EQ) – 12 M
- 26 Dec, 2004 (Sumatra EQ) – 10 M

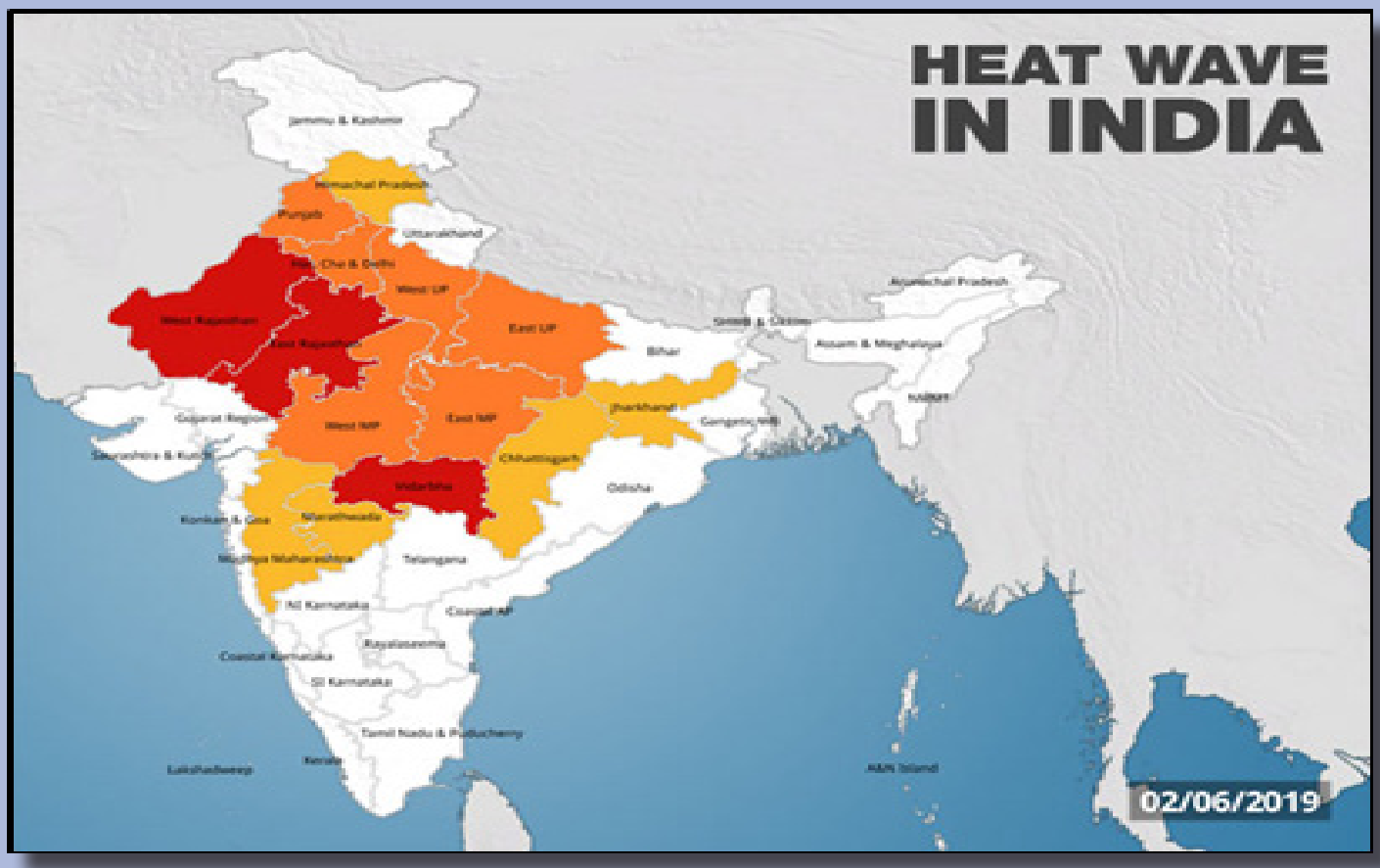
- **Role of media**
  - Documentaries will be prepared and the media will be encouraged to telecast the same to accomplish the goal of risk reduction.
  - Workshops to discuss the preparedness and response strategies will be organized in each coastal district and the deficiencies in response, if any will be assessed through mock drills.
  - Comprehensive public awareness campaigns will be developed and initiated at the national, state and district levels, especially in high risk areas for familiarization with the tsunami warning dissemination mechanism, process, practices and procedures and actions by each entity.
- **Structural Mitigation Measures**
- Effective steps should be undertaken to provide shelters taking into consideration the population of each coastal village and town.
- Shore watchers should be employed in places where people congregate in large numbers and people should not be allowed to be in the sea immediately after the alert or warning notification is issued.

- In tsunami-prone areas, the DDMAs will ensure that a bank of designs of temporary shelters, intermediate shelters and disaster-resilient houses shall be prepared, with the flexibility to use traditional and local knowledge, coping capacities and locally available shelter materials.
- Coastal villages can be safeguarded from the impact of tsunami by adopting soft solutions and by educating the villagers to follow simple precautionary measures.
- The vulnerability assessment of the seafront and coastal natural resources can be carried out only on the basis of reliable large-scale maps.
- Insurance companies will be encouraged to introduce innovative insurance schemes in moderate and high tsunami-risk coastal zones in consultation with the ULBs and respective Disaster Management Authorities (DMAs).

- **Tsunami education**
- Tsunami education will address the multifaceted aspects of tsunami management, especially preparedness, mitigation and response efforts.
- Tsunami Preparedness for Far-field and Local Tsunamis
- The island states must have their own coping capacities and adequate capabilities to respond to any emergency, without waiting for assistance from the Central Government.
- Initiate intensive mangrove plantation programmes at identified potential sites so as to develop bio-shields.

14.Heat wave

A Heat Wave is a period of abnormally high temperatures, more than the normal maximum temperature that occurs during the summer season in the North-Western parts of India. Heat Waves typically occur between March and June, and in some rare cases even extend till July. The extreme temperatures and resultant atmospheric conditions adversely affect people living in these regions as they cause physiological stress, sometimes resulting in death.



The Indian Meteorological Department (IMD) has given the following criteria for Heat Waves:

- Heat Wave need not be considered till maximum temperature of a station reaches atleast 40°C for Plains and atleast 30°C for Hilly regions
- When normal maximum temperature of a station is less than or equal to 40°C Heat Wave Departure from normal is 5°C to 6°C Severe Heat Wave Departure from normal is 7°C or more
- When normal maximum temperature of a station is more than 40°C Heat Wave Departure from normal is 4°C to 5°C Severe Heat Wave Departure from normal is 6°C or more
- When actual maximum temperature remains 45°C or more irrespective of normal maximum temperature, heat waves should be declared.
- Higher daily peak temperatures and longer, more intense heat waves are becomingly increasingly frequent globally due to climate change. India too is feeling the impact of climate change in terms of increased instances of heat waves which are more intense in nature with each passing year, and have a devastating impact on human health thereby increasing the number of heat wave casualties.
- Higher daily peak temperatures and longer, more intense heat waves are becomingly increasingly frequent globally due to climate change. India too is feeling the impact of climate change in terms of increased instances of heat waves which are more intense in nature with each passing year, and have a devastating impact on human health thereby increasing the number of heat wave casualties.

Health Impacts of Heat Waves

The health impacts of Heat Waves typically involve dehydration, heat cramps, heat exhaustion and/or heat stroke. The signs and symptoms are as follows:

- Heat Cramps: Ederna (swelling) and Syncope (Fainting) generally accompanied by fever below 39°C i.e.,102°F.
- Heat Exhaustion: Fatigue, weakness, dizziness, headache, nausea, vomiting, muscle cramps and sweating.
- Heat Stoke: Body temperatures of 40°C i.e., 104°F or more along with delirium, seizures or coma. This is a potential fatal condition.

Heat-Wave Action plan

The Heat-Wave Action plan aims to provide a framework for implementation, coordination and evaluation of extreme heat response activities in cities/town in India that reduces the negative impact of extreme heat. The Plan's primary objective is to alert those populations at risk of heat-related illness in places where extreme heat conditions either exist or are imminent, and to take appropriate precautions, which are at high risk.

All cities can learn from their experience and develop a plan to deal with Heat wave in their specific cities/town and thus reduce the negative health impacts of extreme Heat. In addition, the State Governments should also prepare a comprehensive plan to combat Heat wave.

Key strategies

The heat-wave action plan is intended to mobilize individuals and communities to help protect their neighbors, friends, relatives, and themselves against avoidable health problems during spells of very hot weather. Broadcast media and alerting agencies may also find this plan useful. Severe and extended heat-waves can also cause disruption to general, social and economic services. For this reason, Government agencies will have a critical role to play in preparing and responding to heat- waves at a local level, working closely with health and other related departments on long term strategic plan.

Establish Early Warning System and Inter-Agency Coordination to alert residents on predicted high and extreme temperatures. Who will do what, when, and how is made clear to individuals and units of key departments, especially for health.

Capacity building / training programme for health care professionals at local level to recognize and respond to heat-related illnesses, particularly during extreme heat events. These training programmes should focus on medical officers, paramedical staff and community health staff so that they can effectively prevent and manage heat - related medical issues to reduce mortality and morbidity.

Public Awareness and community outreach - Disseminating public awareness messages on how to protect against the extreme heat - wave through print, electronic and social media and Information, Education and Communication (IEC) materials such as pamphlets, posters and advertisements and Television Commercials (TVCs) on Do's and Don'ts and treatment measures for heat related illnesses.

Collaboration with non-government and civil society - Collaboration with non-governmental organizations and civil society organizations to improve bus stands, building temporary shelters, wherever necessary, improved water delivery systems in public areas and other innovative measures to tackle Heat wave conditions.

15. Forest fire

- The most common hazard in forests is forests fire. Forests fires are as old as the forests themselves.
- They pose a threat not only to the forest wealth but also to the entire regime to fauna and flora seriously disturbing the bio-diversity and the ecology and environment of a region. During summer, when there is no rain for months, the forests become littered with dry senescent leaves and twinges, which could burst into flames ignited by the slightest spark.
- The Himalayan forests, particularly, Garhwal Himalayas have been burning regularly during the last few summers, with colossal loss of vegetation cover of that region.
- Forest fire causes imbalances in nature and endangers biodiversity by reducing faunal and floral wealth. Traditional methods of fire prevention are not proving effective and it is now essential to raise public awareness on the matter, particularly among those people who live close to or in forested areas.

Causes of Forest Fire

Forest fires are caused by Natural causes as well as Manmade causes

Natural causes- Many forest fires start from natural causes such as lightning which set trees on fire. However, rain extinguishes such fires without causing much damage. High atmospheric temperatures and dryness (low humidity) offer favorable circumstance for a fire to start.

Manmade causes- Fire is caused when a source of fire like naked flame, cigarette or bidi, electric spark or any source of ignition comes into contact with inflammable material.

Types of Forest Fire

There are two types of forest fire:

- **Surface Fire-** A forest fire may burn primarily as a surface fire, spreading along the ground as the surface litter (senescent leaves and twigs and dry grasses etc.) on the forest floor and is engulfed by the spreading flames.
- **Crown Fire-** The other type of forest fire is a crown fire in which the crown of trees and shrubs burn, often sustained by a surface fire. A crown fire is particularly very dangerous in a coniferous forest because resinous material given off burning logs burn furiously. On hill slopes, if the fire starts downhill, it spreads up fast as heated air adjacent to a slope tends to flow up the slope spreading flames along with it. If the fire starts uphill, there is less likelihood of it spreading downwards.

Effect of Forest Fire

Fires are a major cause of forest degradation and have wide ranging adverse ecological, economic and social impacts, including:

- loss of valuable timber resources
- degradation of catchment areas
- loss of biodiversity and extinction of plants and animals
- loss of wildlife habitat and depletion of wildlife
- loss of natural regeneration and reduction in forest cover
- global warming
- loss of carbon sink resource and increase in percentage of CO2 in atmosphere
- change in the microclimate of the area with unhealthy living conditions
- soil erosion affecting productivity of soils and production
- ozone layer depletion
- health problems leading to diseases
- loss of livelihood for tribal people and the rural poor, as approximately 300 million people are directly dependent upon collection of non-timber forest products from forest areas for their livelihood.

Mitigation of Forest fires

To help prevent fires in or near forest land during the forest fire season, the following steps should be followed:

- Check local regulations regarding permit requirements and "burn ban" restrictions. These are available from your municipality, fire department or department of natural resources. They may include:
- Obtaining a burning permit for burning grass, brush, slash or other debris in or within a prescribed distance of forest land;
- A campfire permit and the landowner's permission for an open campfire, cooking fire or bonfire in or near forest land;
- A work permit for any work in forest land involving two or more people.
- Burn only natural vegetation or untreated wood products.
- Burn piles are at least 50 feet from structures and 500 feet from any forest slash.
- Clear the area around the burn pile of any flammable debris.
- Keep firefighting equipment handy - a connected water hose or at least five gallons of water and a shovel should be nearby.
- Don't burn if it's too windy to burn - if trees are swaying, flags are extended, or waves appear on open water.
- Be prepared to extinguish the fire if it becomes a nuisance.
- Attend the fire until it is completely out.
- Smoking should not be done while moving from one place to another in forest land. Make sure your butt is out - "dead out!"
- Power saws must have a proper muffler and be accompanied by a round point shovel or fire extinguisher.
- Cars, trucks and machinery must have proper exhaust systems when operated in or near forest land.