

# \*\*\*\*\*Facts and figures - (arranged it as per syllabus)

- **Dont write year** (just write **WB report**) + Report by (**in bracket**) e.g. As per HSBC report - India most vulnerable
  - **Year of general things** like agri census 2015 - Economic survey or latest 2020 wale ... when u need to **show off**.
    - **Even all coaching walas and all people are going to do this.. SMART WORK !!**
- Short form like **R & D** works
- Understand in depth. Go **deeper**.
- Do **committee** recommendations - Shantakumar, Bivek, etc
- Be **organic in introduction** - no always definition - use different when have enough content.
  - Sometimes question wala into and conclu ... but dont give a lot of time on it...

**Use recent examples from your knowledge - Reservoir of it**

**28 states**

**8 UTS**

**640 districts.**

## Ram bann Conclusion

- India dreams of becoming **3rd largest economy in 25yrs.** (we have **nuclear+missile+space LEADER**)

**During Independence**

- **DEMOGRAPHIC CONDITION**
  - 1st stage of demographic transition – before 1921
  - 2nd stage – after 1921
  - **social development indicator**
    - low **literacy** rate - **12%**
    - low **life** expectancy – **44** yrs
    - high **infant** mortality rate – **218/1000**
- **OCCUPATIONAL STRUCTURE**
  - **agriculture** – **75%**
  - **manufacturing** – **10%**
  - **service** sector – **15 %**
- **NOW**
  - Our **Ministers in Britain** which ruled us for **250+** years —> told us we are **not fit to administer and govern ourselves.**

- 5th largest GDP

## Index

1. Global Hunger index- 102/119 by International food policy research institute in 2019
2. Ease of doing business
  - India = 63 in 2020
  - India = 77 in 2019
    - 130 out of 190 countries (2016)
  - Contract Enforcement - EoDB 2018 - 163/190
  - India takes 4+ years to resolve insolvency related cases
    - Insolvency and Bankruptcy Code (Amendment) Act 2019 → **270 to 330 days**

## 3. Non Inclusive

- As per World Inequality Report 2018,
  - National income -10% garner 55% wealth and bottom 50% only 15%.
- As per OXFAM report
  - India's 1% garnered 75% of total wealth generated in 2017.
- For world
  - 70% popu own 3% of wealth
  - Top 10 billionaire =500bn\$ ...> many countries GDP

## 4. Growth

1. Lancet 2020 report - India will become 4th largest economy by 2030 ; 3rd largest by 2050 ; will remain 3rd in 2100.
2. (IMF) -World Economic Outlook report-- rate for India in 2019 - at 7.0% (from 7.3%) (Need 8% growth)
  1. China became 10 trillion from 1 → in 15 years - bcoz of private sector-largest manufacturer.

## 5. Slowdown

1. Centre's gross tax revenues grew by 1.5% in 1st quarter (Budget pegged at 18%) (last year by 8%)
2. Investment → 35% in 2008 ; 30% in 2017
3. Largest savers → household savings -from 23 % in 2010 to 17 %in 2018

## RANKING

### Children

- Health
  - Global Hunger Index-2019

- India was ranked at **102/ 117 countries**
- wasting - ....etc

## • Education

### ◦ WORLD - COVID

#### ■ Global education monitoring Report 2020 by UNESCO

- Highlighted that **Covid-19** had **worsened** the inequalities in education systems worldwide.
- During the height of school closures in **April** 2020, almost **90% of students around the world were out of school.**
- For poor students who depend on school for **free meals** or even free **sanitary napkins**, closures has been a major **blow.**

### ◦ INDIA

#### ■ Annual Status of Education Report(ASER) 2019

- .....

#### ■ All-India Survey on Higher Education (AISHE) 2019

- Overall - 77
- **Male** Literacy Rate: 85%.
- **Female** Literacy Rate: 70%.
- **Urban** Areas: 85%.
- **Rural** areas: 70%.
- **Digital** Literacy:

■ 25% of urban households and 5% of rural households possess **computers.**

## Women

### • WORLD

#### ◦ Human Development Report 2019

- It forecasts that it may take **200 years** to close the gender gap in **economic** opportunity.
- The world is **not** on track to achieve gender equality by 2030 as per the UN's Sustainable Development Goals.

#### ◦ Global Inequality Crisis Report 2020 by Oxfam International

- Women spend **billions** of hours **cooking, cleaning and caring for children** and the **elderly**. Unpaid care work is the '**hidden engine**' that keeps the wheels of our economies, businesses and societies moving.
- Contribution to the **Indian economy** of at least **Rs 20 lakh crore a year**

### • INDIA

#### ◦ Global Gender Gap Index 2020: WEF

#### ■ **115/150**

- o **Economic** Participation and Opportunity,
- o **Educational** Attainment,
- o **Health** and Survival and

- o **Political** Empowerment
- baki stats... apna daal dena

## Healthcare

- **WORLD - COVID**

- **World Health Statistics 2020 by WHO**

- **15% of world** will be spending at least **10% of their household budgets on health care.**
  - The majority of these people live in lower middle-income countries.
- Recommends that countries spend **5 percent of their GDP** on health to achieve universal healthcare.

## Justice

- **WORLD**

- **INDIA**

- **India Justice Report 2019**

- **25% - Judges** vacancy
- **25% - Police** vacancy

## Economy - COVID

- **WORLD**

- **World Economic Outlook Report 2020: IMF**

- **COVID**

- Expected to cause a-**3% change** in global output in 2020, which is much worse than the 2008-09 **financial crises**.
- Cumulative loss to global (GDP) over 2020- 2021= **10 trillion \$**

- **INDIA.**

- **Financial Stability Report 2020 : RBI**

- At least **5% of the moratorium loans** could turn into **NPA** if **Covid-19 impact persists** in the economy.

## Poverty

- **WORLD - COVID**

- **Poverty and Shared Prosperity Report 2020: by World Bank**

- Covid-19 can add around **5 crore in South Asia region**

- **INDIA**

- **Global Multidimensional Poverty Index 2020**

- 27 crore ... 55% ..facts...

## Energy

- **WORLD**

- **INDIA**

- **IEA report**
  - India ships 65% of its oil from the Middle East through the Strait of Hormuz.
  - Demand for **energy** is **set to double by 2040**, and its **electricity** demand may **triple**
- **Global Energy Transition index 2020**
  - Show that **75%** of countries have improved their **environmental** sustainability.
  - **China, India** are among the major countries with consistent annual improvements.
    - Appreciated LED bulbs, smart meters, solar...

## Technology

- **INDIA**

- **Global Innovation Index 2020**
  - India is at the **48th** position from **81** in 2015

## Policies

- **Education**

- National **Education** policy (key points)
  - **$5+3+3+4=15$  - instead of  $10+2$** 
    - **5** - (pre school) “**play-based, activity-based, and discovery-based**” + multilingual skills
    - **3** - **preparatory phase**
    - **3+4** (from 5th std) developing **more abstract thinking and subject teaching leading**
    - **3-language formula**
    - **Training of teachers (30:1)**
    - **nutritious breakfast**
    - Board exam - **twice in any given school year.**
      - Examination in Grades 3, 5, and 8.

- **Manuf**

- **National Manufacturing policy ( 2011 ) —> 13 NIMZ in process**
  - Increase to **25%** GDP contri by 2025 (from current 17%)
  - **10cr jobs** by 2025
    - Best is 6.7 lakh job/year
  - Improve technical coefficient
  - Skilling the workforce
  - Estb **NIMZ**

- **Agri**

- **Agriculture Export Policy, 2018**—> USD 30 Billion to 60 Billion by 2022 —> USD 100 Billion in the next few

- **Exports**
  - Free Trade policy (**FTP**)
    - Target- 900bn\$ by 2019-**20** (3.5% of world exports)
    - **Commerce Ministry** - Ongoing trade war—>opportunity to boosting exports in **350 products**.
- **E-vehicles**
  - **National Electric Mobility Mission Plan (NEMMP)**
    - 70k - hybrid and electric vehicles **by 2020?**
    - 3lakh + direct and indirect jobs
- **Banking**
  - The Narasimham Committee (**1998**) : **3-tier banking network** -
    - **2-3** large banks with **global** presence,
    - **8-10 national** banks, and
    - **multiple** regional banks.
- **AIR**
  - **CIVIL AVIATION POLICY 2016**
    - Make india **3rd** largest **civil aviation market** by 2022
    - Increase **cargo volume 4 times**
- **Housing**
  - **Draft Model TENANCY Law 2019**
    - **Compulsory rent agreement**
    - **security deposit**
    - **3 month notice**
    - **district Rent Authority**; Rent authority in every state
    - **constitute rent courts and rent tribunal**
- **Pharma**
  - **National biopharma mission**
    - Biopharmaceutical **industry** – **10-15 years behind** their counterpart in developed nation
    - increase india's share from **2.7% to 5%** of global biopharmaceutical **share**

## Culture

- **Heritage**
  - Dam construction - **12000 year old town-historical** in **turkey** will be submerged by dam
- **Language**
  - Art 343 : Official lang as Hindi in devnagri script. "Unless parliament decide - English use cease to exist in **15yr** after constitution “ —> Protest by non Hindi
  - Hence **Official language act 1963** —> **Hindi as official** and **English** - “subsidiary official language”
    - India has **no national** language

- English and Hindi are **official** languages
- **22** scheduled languages- no English
- Total **180 languages and 500 dialects**
- **UNESCO Criteria to Declare Languages as Endangered**
  - Any language spoken by less than **10,000** persons is considered “**potentially endangered**” e.g. Andamanese, Jarawa, Sentilese, **Nihali**
  - **Extinct- Aka-Bo -bcuz its last speaker died in 2010.**

## Ethics

1. Lynching of a man in **Hapur over ‘cow slaughter’ rumours.**, a picture of the victim being dragged by a crowd in the presence of Police. **UP police** apologised for **inhumane dragging** to quickly take him to hospital as ambulance wasn't available.



## Geography

- **7th largest country**
  - **2.4%** of world's **land** surface area
- **Distance**
  - NS – 3200 km
  - EW – 2900 km
- **Lakshadweep**
  - **36** island – only 11 inhabited

- 8-12 degree N, 71-74 degree E (India till 36 degree)

- **Monsoon**

- The southwest **monsoon** brings over **70%** of India's **annual** rainfall.

- **Indian ocean**

- **Fisheries** – food security (**15% of world fishing**)

- **Trade and commerce**

- **95%** of India's trade by **volume**

- **Energy security**

- **85%** of **oil** and **gas** through Indian ocean into India

- '**Earthquake swarm**' in **Palghar (Zone 3)**

- **30+ quakes - 1-3 on moment magnitude scale within few months**

- Koyna 1977 - 200 people died

- **Dam failure**

- **20 people** were feared dead after the **Tiware** dam in **Ratnagiri** ; **Total failures in MH - 4/40 failures**

- WB agrees for **11k cr** for **DRIP (Repair 225 dam projects) (total 5k)**

- **160 dams** are more than **100 years old.**

## SOCIAL

- **Tribals**

- ST are communities as deemed under article **342** ( Given - **334A** ; **article 46 - economic** and **educational interest** of ST, SC)

- **8.6%** of total population (Census 2011)

- **Atrocity**

- **10 ppl of Gond tribe** - of **Sonbhadra** district of **UP** ;

- **Dongriya kondh** tribe of Odisha ;

- **Dr Payal Tadvi**, a 26-year-old **Muslim** ;

- **Madhu** of the **Silent Valley National Park**, Kerela

- **Dediapada taluka, Gujarat. (2016)**

- **Anskushita Boro**, **17yr** old tribal girl from **Assam** (**gold medal** in **world youth women boxing championship**)

- **FOREST RIGHTS ACT 2006** - before **13 dec 2005** - since **75 yrs**

- **DNT - DENOTIFIED, NOMADIC AND SEMI NOMADIC TRIBE**

- **12 crore** people in DNS tribe

- **criminal tribes act 1871 (amendment 1924)**

- **Ayyangar committee 1949 --> Habitual offenders act 1951**

- **Urbanisation**

- **Now, Urban Population - 30%** ;

- **GDP contribution - 60%**

- by 2050, 60% of population in urban areas
- The 2016 Economic Survey states that there is a shortage of nearly 2 crore homes
- Jaipur and Bengaluru collect only 5-20% of their potential property tax
- Mumbai - actual parking % → always <10%
- China - 200 mayors compete for investment
- **SLUMS**
  - 7 crore people lives in slum = census 2011
- **Population**
  - UN Population report - India will overtake China by 2027 → (with 1.5 billion) ; **Population Regulation Bill, 2019**
  - India has entered a 37 year period of demographic dividend since 2018 till 2055 → Such a situation is rare in history (just like tryst with destiny)
  - **Indicators**
    - TFR = 2.2 now (2017) (TN and Delhi 1.6 and Bihar 3.4)
    - MMR, IMR, NEO,...
    - Migration (Rural vs Urban)
      - 1951 - 80 - 20
      - 2011 - 70 - 30
    - Education (Literacy)
      - Kerala - 95%
      - Bihar - 65%
  - **World**
    - Total population - Today's 7.7 billion → by 2050 → 10 billion.
    - Old age - for the first time, persons aged 65 years or over > children under age five
    - Life expectancy - from 64 years in 1990 to 77 years in 2050
      - In LDC- life 7 yrs shorter than global average
    - Sex ratio - male dominate now, but gap will close by 2100.
- **Communalism**
  - Annual no of cases - 1000 in 2015 and rising
  - Bills against lynching, honour killing introduced in Rajasthan ( life imprisonment and fine up to ₹5 lakh)
- **Globalisation**
  - G1 : 1492 - 1800 (maritime exploration, trade imperialism, mercantilism, ideals of Am, Fr, Rev.)
  - G2 : 1800 - 2000 (IR, Steam Engine, Colonialism)
  - G3 : 2000 - present (Info. Tech, Smartphone, Pop culture, MNCS, Service sector)
  - 5G cost 60bn\$ more in Europe - bcoz ban on **Huawei** manufactured goods.
- **Women empowerment**
  - Babita Punia Case - PC Army

- **Son meta preference**- 2.1 cr “unwanted girls”.
  - 6.3 cr missing women because **die before reaching adulthood**.
- Global gender **gap** report 2018– India's ranking = **108** (by **WEF**) - no improvement ;
  - **Bangladesh** ranked **47**
  - **Women participation rate** = 25% (**Bangladesh** - 35%)
  - **Legislature - India** - 14% ; (**Bangladesh** - 20%)
  - 25% of urban indian women **quit** their job after their **1st child** – **ASSOCHAM in 2015**
  - Mean gender **pay gap** = 35% (**Global wage report 2018**) —> **Iceland**
  - **Farm landholding** - 13% to 14%
- 40% of **rape** victims are **minor**
- Dowry- **14% conviction rate and 90% pendency rate** – NCRB data
  - **25000 dowry deaths between 2012-14**
- **Child marriage**
  - 33% women marriage < 18 years of age (census 2011)
  - NHFS- 11% is average now (betn 15-19) - But some states higher- WB- 25%
- **Teenage mothers** - % of girls in **15-19 yrs** -**16% in 2005 to 8% in 2015** (means halved) as per NFHS
  - But it varies within states where **WB max 16%** ; whereas **Kerela 3%**.
- **Health Vs NATIONAL HEALTH POLICY 2017** —> **Continuously decreasing**
  - **MMR- 130**/per lakh (167 in 2011) ( **100** by 2020 )
  - **Neonatal-** /1k (**25** - within 28 days)
  - **Infant-** 32 per 1k ( **28** by 2019)
  - **Anaemia** - 50%
  - **Reproduction**
    - **12 years or more of schooling** have a fertility rate of **1.7**
    - **Employment** - 40% of women who are **unemployed** use **modern contraceptives** while **60%** of women who are employed do so.
- **International** -
  - **SDG goal 5** ;
  - **CEDAW**;
  - **Japan**
- **Orgs** -
  - **WABBAL** and
  - **WASPS**
- **Govt**
  - Budget increased from **30k crore** in **2006** to **90k cr** in **16-17**.
    - GENDER **BUDGETING** (2005-06)- > **10 states** have introduced
  - Women given **preference** in **allocation** -under PM **Awas Y, Ujjwala Yojana**
  - **MGNREGS** (**53%** of total workforce is **women**)

- Examples

- Entrepreneur
  - Pray Bavishi - from Gujarat-Rs 5 per day-co-operative -IIM-A- employs 400 members, -cleaning services to 50 institutions and societies- turnover of 1 crore per annum.
  - Sudha Murthy - philanthropist - founded several orphanages, participated in rural development efforts, Help Estb comp in schools, libraries
- Sports
  - Hima Das - first international gold in track events
- Admin
  - First IPS officer - Kiran Bedi - In 1972- single woman in a batch of 80 men ; 1975 Republic Day
- Health
  - Anandibai Joshee - first Indian women doctor to learn and practice western medicine at the age of 21.
- Education
  - Savitribai Phule: She was India's first female teacher
- Political
  -
- SC- ST
  - Kalpana Saroj -turnover of more than 10cr - Akola and invest in farming
  - Kalavathy Sridharan -Chennai - 100 people- Apparael design and manuf industry
- International -
  - New Zealand PM Ardern ; New Zealand Speaker feeding baby

- Discrimination

- Women runner up in Asia hockey tournament 2018
- NHRC - Devdasi system in AP and TN - offering girl to god ; 5 boys tore ; Mathamma temple

- Dalits

- Dalits were excluded from the four-fold Varna system - fifth varna;—> Panchama.
- Education
  - 40% of the dalit girls are uneducated
  - Dalits constitute nearly half of primary school dropouts.
- Economic
  - SECC: 50 percent SC households are landless and earn by manual casual labour for their living.
- 50000 – number of crimes : 2016
  - Rose by by 25% in one decade

- Manual scavengers

- Min of SJ study- 20,000 (in 18 states)
  - 90 ppl have died in last 3 yrs
- Haryana government has reported zero manual scavengers whereas the survey counted 1,000.

- **Child**

- Praggnandhaa

- **Youth**

- Youth - 25% of total population, census 2011 (15-29 yrs)
- Expected to be youngest by 2020, with median age = 29 years

- **Differently abled**

- Stephen Hawking - ..
- 2.2% of total population (Census 2011)
- **RIGHTS OF PERSON WITH DISABILITIES ACT 2016**
  - Disabilities 7 → 21 (psychological and intellectual disabilities)
    - • mental illness
    - • autism
    - • acid attack victim
  - Reservation in education 3 → 5%
  - Reservation in jobs 3 → 4%

- **Senior Citizens**

- 10 crore elderly (census 2011)
  - By 2050 - 20%
- UN, around 1 in 6 older people experience some form of abuse.
- Sex ratio among elderly = 1033 women per 1000 men (Census 2011)
- 75% of elderly lives in rural areas (Census 2011)
- Steps - BIHAR ; ASSAM ;
- Japan considering for 70

- **Anti social activities- like alcohol violence, drug**

- Drug
  - 40 lakh drug addicts in India (Home ministry report)
  - Compulsory 'Dope test' for all govt officials in Punjab

- **Modern Slavery**

- 4 crore people = victims in 2016 (ILO report 2017)

## **Health**

- Std intro - The World Bank estimates that India is one of the highest ranking countries in the world for the number of children suffering from malnutrition.....India saw men one of the highest hai... general statement.

- **Doctors**

- Lack of **qualified** doctors in public sector
  - **Total - 0.76 per 1000 (WHO) (need 1/1000)**
    - **only 10% of indian doctors are in public sector (rural+urban)**
    - **only 20% doctors in rural india are qualified to practice medicine (WHO report)**
    - **There are over 10 lakh 'quacks' practising in India, according (IMA).**
    - data from the Health Ministry, the **gap** between required and available **specialists - 80%**
      - UTs and smaller states have a surplus. However, states like Bihar, Maharashtra etc have shortages
  - **Doctor(apathy) <---->patient(intolerant) relationship**

#### • Hospitals

- The no of **Primary healthcare** centre now are **25k**. Only 2.5k increase from 2005 to 2017.
- lack of **equipments**
  - 25% shortage of **clinical** equipment (**CAG** report)
- **Expensive**
- Deliberate **faulty** impact - hip implant

#### • Companies and medicene

- **Costly - Ever-greening** of patent

#### • People

- **70%** - out of pocket expenditure (**70%** in medicines)
  1. **5 crore people** were pushed into **poverty** due to **high out of pocket expenditure in India**
- **Low insured in India**
  1. **Delhi High Court's : striking down a discriminatory exclusion clause** in a health insurance policy-company rejected claiming **genetic disorder**.
  2. Insurance **density** is measured as the ratio of **premium (in US dollars) to the total population**
    - **Life = 55 \$**
    - **Non life = 20 \$**
  3. Insurance **penetration** is measured as the ratio of **premium (in US\$) to GDP (in US\$)**.
    - **Life = 3**
    - **Non life = 1**

#### • Govt

- Low public health spending
  - **only 1.4% of GDP (need 3% of GDP)**
- Excessive focus on **tertiary**
- **Not 100% immunisation** yet
- problem of **distrust** - Nearly **70% of healthcare delivery** is in the hands of **private players**, from **small clinics to large hospital chains**
  - distrust of public in govt hospitals.
  - general perception that dr. in private sector are much better than those in public hospitals.

- SDG goal 3 – universal health coverage by 2030

- Public healthcare -

- The Unnao, UP HIV horror - approx 3 dozen
- Gorakhpur tragedy 2017

- Other

- Complexity increasing- MDR XDR TB

- NATIONAL HEALTH POLICY 2017 : OBJECTIVES → Continuously decreasing

- Public spending on health – 2.5% of GDP by 2025

- current = 1.4% of GDP (implies highly privatised sector)

- Targets -

- MMR- 130/per lakh (167 in 2011) ( 100 by 2020 ) per lakh

- Neonatal- 25/1k (within 28 days) per k

- Infant- 32 per 1k ( 28 by 2019)

- Increase life expectancy from current 67.5 to 70 years

- As per Health Min, 50% have anaemia.

- Reproduction

- 12 years or more of schooling have a fertility rate of 1.7

- Employment - 40% of women who are unemployed use modern contraceptives while 60% of women who are employed do so.

- Still births - 3.5 lakh in 2019 (UN Inter-agency group report)

- Defn - baby born with no signs of life at 28 weeks +

- STATE LEVEL DISEASE BURDEN Report - DALY(disability adjusted life years) dropped by 33%

from 1990 to 2016.

1. Infectious and childhood diseases

1. (Empowered group of north India contribute 40 %)

2. Sedentary lifestyle led diseases

1. (from 10% in 1990 to 25% in 2016 disease burden)

3. Child and maternal under nutrition

1. -15% of total disease burden

4. Unsafe water and sanitation -

1. 5% of total disease burden

- 40 times higher than China.

5. Air pollution led diseases- 10% burden

- 'Healthy States, Progressive India' : NITI

- Malnutrition

- Global hunger index 2018 (india's rank 103/119) - dropped by 3

- (NFHS 4) 2015–2016 and 2005–06

- Stunting has declined from 50% to 35%

- Regional variation - Bihar -50%; Kerala- 20%

- **Wasting** rates have increased from 15% to 20%.
  - **Anaemic**
    - 50% women anaemic
- **NFHS 5**
  - **Wasting** increased or constant
    - e.g. Bihar - 20 --> 22%
  - **Underweight**
    - Kerela - 16 --> 20 %
- In 2005, child **malnutrition** claimed as many as 700 lives in Maharashtra's Palghar district alone.
- But, Food production is higher than ever before (33% up in 20yrs)
- **Govt**
  - **Poshan abhiyaan (National Nutrition Mission)** - -WCD+ Health and Family+ Water Resources+NITI.
    - specified **three year targets** to reduce
      - **low birth wt, stunting , wasting** --> by 2% each year,
      - **anaemia** by 3% each yr.
    - **10 crore**- will benefit
    - (**PDS**) that reaches over **80 crore people** under the **National Food Security Act**.
- **FCI and PDS**
  1. Food **subsidy allocation** - **1.8 lakh crore** this year
  2. **FCI** already has due of **1.8 lakh crore**
  3. **FCI reform**
    - **Shantakumar** committee recommendation
      - Improve **procurement**
      - Improve **storage and transport facility**
      - Focus more on **2nd GR states** (like Bihar, Assam etc)
  4. Remove **Leakages** (by below -->(**chattisgarh 40%** --> **5%**)
    - (End to end **tracking**) and **door step delivery**... etc
  5. **NFSA Act 2013**
    - Covers = Priority HH (**25kg** per family and 5kg/person) + **Antyodaya** HH (**35kg**/family)
      - =**67%** of population (poor only 30%)
- **ANTIMICROBIAL RESISTANCE (AMR)**
  - **India = highest consumer of antibiotics**
  - Person in the **US** carrying bacteria resistant to antibiotics of **last resort (name MCR-1)**.
  - **65% of fixed-dose combinations antibiotics** in Indian markets **didnt** have **approval**
  - **Reason**
    - **Culture - NDM - 1 gene** was found to be over **20 times greater in Ganga during pilgrimage season**

- Pharmaceutical industry pollution - 80% of worldwide antibiotics are manufactured in India and China
- Colistin animals
- Steps
  - National action plan on AMR 2017 ...
  - **Schedule X** - higher regulation - have red border
  - Recently, **the govt banned 300 FDCs (SC upheld)** -blend of two or more drugs to maximise drug efficacy and can promote antibiotic resistance if they are **not designed rationally**
  - Ministry of HFW - prohibiting - **colistin** - for food-producing animals, poultry, aqua farming.

## • Pharmaceuticals Production

1. Crocin is a generic drug, whose active ingredient is paracetamol
2. Anti-cancer drug - This enabled a 32-fold reduction in the cost of the drug.
3. Industry
  1. India = largest supplier of generic medicines (**20% of global export**)
  2. **100% FDI** under automatic route for greenfield pharma

## • National Health Protection Scheme

1. ₹5 lakh health cover to 10 crore households (as per (SECC) )(40% of population).
2. **100% portability** within the country
3. Issue
  1. Will require Annual premium of at least ₹10,000 cr: Niti Aayog (2000 in last budget)
  2. Dengue- a Rs 17 lakh for the treatment of his eight-year-old daughter

## • Ethics

- A private hospital, Fortis charged 17 lakh from a 7yr old family for dengue. They also charged for bedsheet to cover the body of child after she passed away.
- 1 live premature baby 'declared dead' and handed over in plastic to parents.

## • Communicable Disease-

- Union budget 17-18 : to eliminate Kala Azar, Filariasis by 2017, leprosy by 2018, **measles** by 2020, TB by 2025
- 1. Muzzafarpur tragedy - more than 150 children died of AES (Acute encephalitis syndrome)
- 2. **Malaria**
  - Surveillance mechanism of Malaria is Lowest in world.
  - India has highest malaria burden after sub-Shaharan Africa.
- 3. **TB**
  1. WHO -India carries the world's biggest TB burden- **25%** of world occurrence.
  2. Recently **BCG vaccine** trial
  3. **NATIONAL STRATEGIC PLAN FOR TB ELIMINATION (2017-25)**
    - aim -

- achieve active case finding of TB to 100% by 2020 and
- complete elimination by 2025

4. Govt will pay 500Rs/month to 35 lakh TB patient for nutritional diet.

#### 4. HIV

- Asia pacific region – max cases in India
- Every 2nd patients which dies of AIDS is due to TB
  - India is now able to treat over 90% of notified TB patients for HIV
- no vaccine or cure – have to rely on ART for lifelong
- India, in particular, brought down the number of deaths by 50% between 2010 and 2017

#### • NCDs

##### ◦ Air pollution

- As per Lancet Commission, around 20 lakh ppl die prematurely every year from diseases bcoz of pollution.
- As per one report, lungs of children who grow in polluted env of Delhi has 10% smaller lungs than US children.
- Air pollution led diseases- 10% burden -

##### ◦ Sedentary lifestyle led diseases (from 10% in 1990 to 25% in 2016 disease burden)

- NFHS --> Women in urban are 30% are overweight.

#### • Sanitation and Swatch Bharat

1. Children - 1 lakh preventable deaths annually due to diarrhoeal infection

2. Scale — 55 cr people needed to change their behaviour

##### 3. Changes

1. 27 States and Union Territories have declared themselves ODF so far
2. Villages and cities fighting for ODF + and ODF++
3. 9 crore toilets built

#### 4. Economic survey 2018-19

1. 95% of the households have access to toilets.
2. 95% of those with access to toilets are using them in rural India.
3. Financial savings from a household toilet exceed the financial costs to the household by 1.7 times (Due to health benefits etc)
  1. cleanliness → save Rs 50,000 annually per family (UNICEF study)

2. Next big goal is 100% safe and scientific disposal of solid and liquid waste and proper water mgmt

#### 5. Issue

1. Village Pradhan given task of const of 100 more
2. Ranchi municipal commissioner

#### 6. Global

1. Bangladesh - 40% in 2000 to just <5% in 2016.

2. Japan
3. SDG goal 6

- Depression / Mental illness

1. 15 crore people in India suffering 'mental illness' : National mental health survey

- Self care interventions

1. Estimated that there will be a shortage of 1.3cr healthcare workers by 2035.

- Medical device Regulation

1. Orthopedic device market expected to grow by 30% till 2025

2. J and J - 3500 faulty hip implants in India ; paid hefty compensations to US patients

## Polity, Governance and politics

1. Election

1. 90cr registered voters in India

2. Judiciary - Case Pending

1. Around 50% litigation are government litigation in SC → LIMBS

3. Digital India

1. Bharat Net has reached >50% / of 2.5 lakh gram panchayats.

2. Digital payments - 80cr (pre digital india program) to 330 cr.

3. Conclu - India of 2019 is recognised as a country with the second largest internet user base + offers internet access, data and mobile at the cheapest tariffs in the world.

4. 11 of the 31 CMs ie. 33% have criminal charges against them.

1. 25% CMs have declared serious criminal cases, including related to murder, attempt to murder, cheating

2. Sikkim CM - corruption case

5. Water

- Images of thousands of Chennai residents running after water tankers

- India - 4 % of fresh water resource -

- 18% of population.

- Presently, India captures only 8% of its annual rainfall, among the lowest in the world.

- In 2010 - 75% of fresh water is used for irrigation ; 6 % for drinking (CWC report)

- Irrigation - 50% of gross cropped area is irrigated (of total 200million hectare) and

- 65% by groundwater

- 25% by canals

- Crops

- Paddy and sugarcane take 60% of irrigation water

- Easement act 1882

- Ground water

- 85% of rural drinking water requirements and 50% of urban water needs.

- Punjab GWT going down by 1m every year - (occurring since 2 decade)

- Niti Aayog report, **Composite Water Management Index, 2019**
  - 75 per cent **households** do not have **drinking** water ; 80% in **Rural** areas
  - 70% of the water resources in the country is **polluted**
  - More than 50% high to **extreme water distress.**
- **Reuse**
  - Treatment and **reuse** of greywater is almost non-existent.
- **Losses**
  - 40 % of piped water in **urban areas**
- **Future**
  - Water **demand** will exceed supply by **2 by 2030**
  - In **Medium** term - major metropolitan - completely ruining out of **GW- Delhi, Hyd, Bangalore.**
  - Economic loss of **6% of GDP** by **2050**
- **Schemes**
  - "Jal Mantralaya"
  - **Jal Shakti Abhiyan** in 255(total 725) **water-stressed districts**
  - 'Nal se Jal' - 2024
  - Traditional - Naula, Tanka, Surangas, Bhandara, Ahar penes + ICE STUPAS
  - **Namami Gange Mission** - SDG 6- INR. 20,000 crore for the period 2015-2020.
  - 50 wagon **water train** from Vellore to Chennai (**250km**)
    - Similarly - MH (from **Delhi**)
- **State**
  - "Paani bachao paise kaman"- **Punjab**
  - **MH - Jalyukta** shiver Yojana —>made **11,000** villages drought-free.
  - **Uttarakhand HC**
- **International**
  - **Israel**- severe water shortages- **recycles 95** per cent of it —>meets >**50%** of its irrigation **needs** through this reused water.
  - **Bangladesh's High Court**
- **Mihir Shah** Committee recommendation
  1. **National Water Commission (NWC)** —> CWC + CGWB

## 6. **Electricity**

1. **Suabhyaga - 4cr HH**

1. **30** crore people have no access to electricity, according to Census 2011

## 7. **Corruption**

1. Corruption refers to the act of **misuse of power** for **personal gains** either in **cash** or in **kind**
  1. Literally -means "**To break or destroy**" (Latin)
2. **Transparency international** – India has **highest bribery rate** among **16 asia pacific nation** (2017 Report)

## 8. Schemes

1. Union government runs **500+ Central sector schemes**
2. **6-7 schemes** accounting for about **50%** of total welfare **spending**.
3. **Chaturvedi committee report (2011)**

## 9. Lateral Entry

1. **400 domain experts to fill DS/Director posts. (June 2019)**
2. **Joint sec level - 10 posts**
3. **PV sindhu** appointed as the **deputy collector in AP gov**
4. **Nandan Nilekani for Aadhaar project**

## 10. Division of state

1. **Better Living Standards: Per capita income**
  - NSDP - of UK is more than **3 times** of UP (parent)

## 11. MPLAD

1. **Rs 5 crore per MP per year - 15% funds for SC and 7.5% for ST**
2. **fiscal burden - Rs 4000 crore per annum**
3. **underutilisation of funds - only 5% of total fund allocated were utilised in 2014-15**

## International Relations -Political - Security - TCII (TRADE - Connectivity - Investment - Infra) -

### International - Culture - Ppl

- China's **\$4 trillion OBOR** initiative will span **65 countries** with **70%** of the world's population.
- **BIMSTEC** has **20%** of global population. Revived using **Disaster Mgmt** exercise.
- Max **diaspora** is in US, then Saudi. Total popu out is **3 crore ( POIS+NRI)**
  1. **1.5 cr Indian diaspora** (United Nations Department of Economic and Social Affairs)
- Kulbhushan Jadhav
  1. **Article 36 of Vienna Convention of Consular Relations, 1963 violated**
- **Pakistan**
  1. **Economic**
    - India's trade with pakistan = **\$2.6 billion (2012-13)**
    - At the time, when **tomatoes** were selling for Rs **300** a kilo in **Lahore**, they were available at Indian **Rs30** a kilo in **Amritsar** a mere **30 miles away**.
  2. **Pak PM admitted about 30-40k armed ppl**
  3. **Kartarpur** - Gurudaspur to kartarpur- **4km** long
- **China**
  1. **India was first to recognize Communist china (1949)**
  2. **1993** agreement on "Maintenance of peace and tranquility along the LAC
    1. **1988, Prime Minister RG ended a 25-year India-China stalemate - Deng Xiaoping**
  3. **Wuhan**
  4. **BCIM** economic corridor = Mega cities + manufacturing hub = 2800 km long (2019- lets boost)
  5. **CPEC** - **\$ 50 billion** Economic corridor connecting china's xinxiang to pakistan's gwadar port

1. **china handed down 2 ships** to pakistan for security of gwadar port
  6. **OBOR** - part of china's foreign policy of “go west” and “leap east”
    1. **Pass through 60 countries, 2/3rd of the world population**
    2. **75% global energy reserves**
    3. **\$ 4 trillion +**
    4. US - 40\$ billion joint fund for silk route to finance BRI
  7. **SCS**
- The **strait of Malacca** is the shortest trade routes between African, Persian gulf and Asian consumers. This make it as the most important trade routes in the region
    - **Almost a 1/3 of global crude oil and over 1/2 of LNG passes through it.**
  - **Afghanistan**
    1. Our **2nd largest aid** to **Afghan** next to Bhutan as well as largest donar
    2. India- Now **drew 3 ‘Red lines’**
    3. Future - host a Jirga (Grand council meet)/ Heart of Asia.
    4. **Afghanistan-India strategic partnership agreement (SPA). 2011**
  - **Nepal**
    1. **1950 INDIA NEPAL TREATY OF PEACE AND FRIENDSHIP**
    2. Export – we supply **60%** of their **oil** needs
  - **Bhutan**
    1. **2007(revised) India Bhutan friendship Treaty**
    2. Increase in the allocation (**Budget 2019**) to - **3k cr**
    3. Power – **Hydropower exports constitute 25% of its GDP**
  - **Myanmar**
    1. **Shares unfenced border of length 1600 km**
    2. **Oil pipeline deal**
      - • between Myanmar's **Kyauk pyu port** to south china city
      - • China pushing for **85% stakes** in the **port** (part of string of pearls theory)
    3. **Rohingya**
      1. **1982 Burma Citizenship law** - denies rohingyan citizenship
      2. Not signatory of **UN refugee convention 1951 and 1967** protocol
      3. **already host Rohingyas – Malaysia (40,000) ; 40,000** Rohingyas already in Assam, J&K, WB
  - **Bangladesh**
    1. **BCIM** - China's eastern city of **Kunming** with India's **Kolkata** through **Dhaka** in Bangladesh and **Mandalay** in Myanmar
      - China **2 lakh cr offer** - 2nd highest after CPEC
    2. **BBIN** (signed Motor vehicle agreement in 2016)
    3. Reduce distance between **kolkata** and **agartala (1500 -> 650 Km)**
  - **Srilanka**

1. **Hambantota** - SL signed- sell 70% stake to china
2. **East Container Terminal (ECT)** at the Colombo Port - Japan+ India + sri lanka
3. India bought the **emptiest** airport in **Sri Lanka** for \$300 million - **Mattala Rajapaksa International Airport**

- **Middle East**

- **UAE**

- Crown prince of Abu Dhabi 'Sheikh Mohammed bin Zayed' = chief guest @ republic day (2017)
    - Upgraded to comprehensive strategic partnership agreement in 2017
    - **People** - 30% population = Indians = largest expatriate community
      - remittances
      - 50% from gulf
      - UAE Domestic Workers Rights Bill - passed recently
    - **Trade**
      - • \$100 billion bilateral trade by 2020
      - • 3rd largest trading partner after US, China
    - **investment** - \$75 billion UAE sovereign wealth fund investment in Indian infrastructure (still not came into existence)

- **QATAR**

- **KAFALA LABOUR SYSTEM (2016)** - ended
    - largest supplier of **LNG** to India. (66% of total import)
    - **Export** - Indian export = \$1 billion

- **SAUDI**

- 1. **Family tax**

- **US**

1. **150bn** trade ; Growth of **12%** in trade
2. **(National Security Strategy 2017 by US)**
3. **Major Non NATO Ally (MNNA)**
4. Strategic Trade Authorisation-1 (**STA-1**) status - 3rd asian country after Japan and SK
5. **301 probe**
6. **China**
  1. **US approved \$ 1.4 billion weapon sale to Taiwan (2017)** -> infuriated China
  2. **US imposed 25% tariff on imported steel and 10% on imported aluminium**

- **Diaspora**

1. **40% increase in India population in US in 7 yrs.**

2. **US**

- 1. **VP Of US - Kamala**

3. **UK**

- 1. **Ministers in UK - Rishi Sunak,**

#### 4. Seychelles-

1. President - Wavel Ramkalawan

5. Japan lawmakers practising Yoga in their Parliament building on Yoga day (21st June)

6. remittances (\$ 80 billion in 2018)

7. UK based NRI pledge 500cr for Ganga. (Diapora use)

8. Diaspora investment company by Kerela - 74% owned by NRI —> fund infrastructure projects and NRI townships under 'Rebuild Kerala'

#### • RCEP

1. RCEP = ASEAN + 6 FTA members

1. 40% of global trade

2. 50% of world's population

2. Opens 2 trillion\$ market for Indian commodities

3. Trade deficit with RCEP = \$ 100 billion —> rectify this

#### • ASEAN - 1967 (Bangkok dec)

1. 2012: Strategic Partners

2. ASEAN is our fourth largest trading partner (10% of total trade) and India is their seventh largest trading partner.

3. India's export to ASEAN has increased to US\$ 30 billion in 2016-17 from US\$ 25 billion in 2015

4. Singapore - India's largest foreign investor

#### • Institutions

1. WTO

1. India has won a major trade dispute against the US at the (WTO) - (June 2019) in the renewable energy sector

2. BIMSTEC

1. Established in 1997 through Bangkok declaration

2. 7 members - BIMST (bangladesh, india, myanmar, SL, Thailand) + nepal, bhutan

3. SAARC

1. 1985 : 8 members ; Secretariate - Katmandu, nepal

2. ASEAN - 30% intra ; We - 5%

3. 2004- SAFTA

4. BRICS

1. "BRIC" was coined in 2001 by then-chairman of Goldman Sachs - Jim O'Neill

1. 2009 - BRIC —> 2010 —> SA added

2. Represent 40% of world population, 20% of world GDP

5. SCO (same for BRICS)

1. 40% world population

2. 20% world GDP

6. Banks

■ WB

- Largest recipients of World bank loans were India and China through loans from IBRD.
  - Anshula Kant as Managing Director and Chief Financial Officer of the World Bank Group.
- NEW DEVELOPMENT BANK (BRICS BANK)
  - all members have equal voting right
  - • \$ 100 billion
- ASIAN DEVELOPMENT BANK (ADB) —> Poverty
  - regional development bank established in 1966 ; HQ @ Philippines
  - membership – 67 nations
  - voting share : Japan > US > China > India
  - Since inception 200+ sovereign loans totaling \$40 billion
- AIIB (asian infrastructure investment bank) 2015 —> infrastructure
  - Initiative of China ; HQ @ Beijing ;
  - members - Now 100
  - USA, Japan – not member
  - capital – \$ 100 billion -
  - largest shareholder – China > India > Russia > Germany
  - AIIB approved \$ 1.5 billion/ total 4 billion(total approved) —> making India largest recipient
- UNSC Reform
  - India = founding member of UN
  - world's 2nd largest population
  - non permanent member of UNSC 8 times
  - major contributor of troops to UN peace keeping mission
    - second largest troop contributor [TCC] with 7500 personnel
      - Sudan (Since April 2005): India has contributed two Infantry Battalion groups, sector HQ, Engineer company..
  - 3rd largest economy by PPP
  - 2nd largest army
- UNHRC
  - Inter-governmental body headquartered at Geneva, Switzerland.
  - It is made up of 47 members states.
  - UNHRC meets 3 times a year to examine human rights violations worldwide.
- QUADRILATERAL COORDINATION GROUP
  - • aims to facilitate process of talks between Taliban and Afghanistan
  - • initiative of US, China, Pak, Afghanistan
- IORA ; founded in 1997 ; HQ@ Mauritius
  - 21 members – bordering Indian Ocean

- India, Aus, Indonesia, Thailand , iran, Oman , Somalia , Madagascar
- bringing together representatives of Government, Business and Academia, for **promoting socio-economic co-operation**
- **MEKONG GANGA COOPERATION**
  - Comprises of India and 5 SE asian nation ; established in 2000
  - Cooperation in **education, tourism, culture , transportation**
- **ARCTIC COUNCIL**
  - formed after Ottawa declaration 1996 (capital of canada)
  - 8 member nations ; india, china = observer status
- **Indian Ocean countries**
  - **Seychelles**
    - Assumption Island agreement being put on hold ( 30-year access to the base as well as permission to station Indian military personnel on the ground)
    - Charm offensive strategy - a credit line of \$100 million for Seychelles to purchase defence equipment from India to build its maritime capacity
    - Blue bond
  - **Mozambique** -
    - Tropical cyclone 'IDAI' - causing loss of lives etc
      - Divert three Indian Naval Ships- to provide immediate Humanitarian Assistance and Disaster Relief (HADR)- in the form of food, clothes and medicine
      - Similarly - provided 10 million\$ for food grains in 2017, after it suffered food shortage as a result of natural calamities.
- **Shipping lanes**
  1. **Hormuz**
    1. 20% of oil
    2. 500bn\$ worth trade
    3. Narrowest point- with the shipping lane just three km wide in either direction.
  2. **Malacca**
    1. 3 trillion \$ worth trade ;
    2. Kra canal
- **Africa**
  1. In 5 yrs- 25+ visits
  2. 2018 : Sideline of BRICS last year
    - Prime Minister —> Uganda (chair of East African Community) and
      - Rwanda (President Kagame is chair of the African Union)
      - Rwanda
        - \$ 100 million each for investments in agriculture and the development of SEZs
  3. INDIA-AFRICA FORUM SUMMIT 2015- done away with Banjul formula ( >15)
  4. Trade = \$ 70 billion in 2014-15 ; China 170\$

5. **50000 scholarships**

6. **ACFTA**

- **Nuclear**

1. **2013, PM called for "International no first use doctrine"!**

2. In World- countries reducing n-warheads but **modernising arsenals 14.5k to 13k**

1. **Nuclear weapons - 6000 (US and Russia) ; India 140 and Pak- 160**

2. **1975, Dr. A. Q. Khan (of pakistan) stole Uranium technology from Netherland.**

- **Japan**

1. Diplomatic relations - **1952; 2000 - 'Global partnership in 21st century'.**

2. **1 lakh cr crore** for Bullet train at 0.1% interest rate.

3. Also **Delhi- Mumbai industrial corridor - 4 billion \$** at 0.1% interest rate with 50 yrs payback period.

4. **3rd largest investor in india**

5. Setting up **12 industrial parks**

- **Russia**

1. India is the second largest market for the Russian defence industry.

- **UK**

1. Since **2000**, the UK has been the **largest G20 investor** in India.

2. More than **400 British companies** operate here, creating over **450,000 jobs.**

3. **India is 2nd largest international job creator in UK - 1 lakh +**

4. **Since 2 yrs** - our **bilateral trade** has grown, usually at **double digit rates.**

5. **defence and international security partnership (2015)**

- **EU**

1. **political, trade and economic union** (formed in 1957) - more join under **Maastricht Treaty 1992**

2. **Euro Area (EA) = 19 members out of 28- Uses same currency Euro. Britain not part**

3. **EU is India's largest trading partner (12.5%)**—> Overall trade = \$ 90 billion in 2016  
1. **China (11%)** and the **United States (9%)**

4. **strategic partnership since 2004**

5. **3rd largest FDI in INDIA**

- **France**

1. **engagement with india after 1974 Pokharan test**

2. **strategic partnership (1998) -**

- **Israel- Palestine**

1. **Bilateral trade = \$ 5 billion**

2. **De-hyphenation**

## **Education - Innovation - Skill :**

- **Education**

- National average literacy rate is **75%**.
- **2 in 3** schools have **electricity** : Unified District information system for education.
- **Pratham's ASER Report-**
  - **60 %** couldnt point out their state on map.
  - **>50%** struggle with division (**3 digit by 1 digit**) problems.
  - **Massive digital divide, with 60% of respondents- never used the Internet and computer**
- At age **14**, only **5%** are **not enrolled**, but by age **17** this percentage **quadruples** to **20%**.
- **Teachers**
  - The **World Bank** : **25 % absent** in Government **primary** schools
  - Only **50%** of teachers present in schools were **actually engaged** in teaching.
- **Cost**
  - **The cost of high school education is 5 times the college.** It should be **opposite**.
  - **Invest 6% of GDP - said since Kothari comm 1968 ; currently 3%**
  - **Sweden,Norway** he enrollment in state-funded schools is as high as **80%**
- **Positives**
  - Between 2000 and 2015-16, the drop out **rate** fell sharply from **40% to 4% in primary** and **50% to 4% in upper primary**.
  - **Adarsh** / Ideal school in **rajasthan**
  - **Bhutan**
  - **Delhi** - 26% budget - **Happiness** cirriculum
  - **MP** - 50 IAS and SAS in MP

#### • Higher Education

- **According to AIHES 2016-17**
  - **20 universities and 500 colleges** at the time of Independence.
  - Now- **800+ recognised universities and 40,000+ colleges** in the country in 2016-17
  - Gross Enrolment Ratio (**GER**): **25%** (**USA (85%)**) (**SC- GER is 20%** and **ST** it is **15%**)
- **Only 3 universities** feature in to 200 of the (**QS**) World University Rankings 2018

#### • Innovation

- **Global innovation Index : WIPO**
  - India had ranked **81** in **2015**—>**52** in **2019**
- **33% of US GDP** come from IP-intensive industries
- **Economic Survey**
  - **R&D** expenditure - **0.6-0.7%** of GDP spend (China 2 ; Israel - 4)
  - **Phds** - 150/million (4200 - US)
  - **Patents filing** - **45000** (China 11 lakh)

#### • Skill

- BASIC FACTS**

  - Only 2% have formal vocational training and 8% have acquired non-formal vocational training among the age group 15-29. **Vs . SK - 96%**
  - There are 13, 353 ITIs across the country, of which 11,000 are private ITIs.
  - New entrants to the workforce every year: 12.8 million
  - Existing skill development capacity in India 3.1 million
  - In a span of 60 years, until 2007, around 1,896 public and 2,000 private ITIs were set up. However, in a 10-year period from 2007, more than 9,000 additional private ITIs were accredited.

- Demographic Dividend: India has **65% of its youth in the working age group**.
- The **study : 'Global Talent Crunch'** - India = talent **surplus** of around **25cr** workers by **2030** - when the **Asia-Pacific** = talent **deficit** of **5cr** workers.
- Only **33%** of India's **organised** sector firms conduct **in-firm training** (mostly large ones)
- The Ministry of Skill Development has **mandated all training/educational programmes/courses be NSQF-compliant** —> Only **20% compliant**

### Rural:

- Ujjwala** Scheme-free LPG connections will be given to **8 crore** (prev - **5cr**)

### Agriculture and Food processing

- Agriculture **census** 2015-2016 —> change in **nature of agricultural landholding**.
  - It indicates a **1.5 per cent** decline in total **operated area** :
  - Decline in the average **size** of operational agricultural holdings: It has declined to **1.08 hectares** (ha) in 2015-16 from **1.15 ha** in 2010-11.
    - Increase in the **number** of operational holdings
  - Rise in the percentage of **female** landholding farmers: From **13%** in 2010-11 to **14%** in 2015-2016. (women do **80 per cent** of farm work)
- Other agri** (put **range** when in **doubt** ; range **gap** depending upon **confidence**)
  - 50%** employed in Agriculture and allied activities - **17% of GDP**
  - To double the farmer income by 2022 - increase agri **growth from 1.5% to 14%**.
    - If agri low —> **Rural demand low** --> **manuf sector low** (As per Ashok Gulati.....)
      - Tractor sale — down** by **15%**
      - 2 wheeler - by 15%**
  - 30-35% crop yield wasted** by **pest (nematode)** attack (2017)
  - 85% -small and marginal farmers**,
  - Loan and income**
    - NABARD study 2018** : >**50% of agri HH** - have outstanding debt.
    - 45% of the loans -commercial banks; 10% - SHG; **40% - non-institutional sources**
    - Suicide**- 5k+ farmer - 2014 ; Recent **Ranchi** (3.5 lakh)
    - 6000 per annum** under **PM-KISAN**; **Outlay of Rs. 75,000cr**
    - Agricultural **income** is not **taxed** ->3k cases agri income of **₹1 crore +**

1. 5-6% of large farmer hold 35-40% of the agriculture land -> above Rs 2.5 lakh threshold
  6. NPA in agriculture = **Rs 60000 crore (2017)**
- **Punjab**
    - → wheat and paddy cover 85%
    - “Paani bachao paise kamao” - **Punjab** initiative - farmer earned **12k rs** last **kharif** by saving **3000 units**
  - **GUJ (2000)**
    - → Allowed **BT-Cotton** - now **90%** of **cotton** land. Export - **10\$ million(2000) to \$ 4000 million(2012)**
  - **Seeds (SRR- 25%)**
    - **PepsiCo** - exclusive rights over the **FC-5 variety**
  - **Fertz**
    - (**Mr. Patil- 45ton- 55 ton (saved 2k rs also)**)
      - Fertilizer **subsidy** - 80k crore this year (Pending dues- 40k cr)
      - **Urea** selling price in India- **80\$/ton (lowest in world)** (Import cost - 250\$/ton)
        - Only **35%** of **subsidy** reaches intended beneficiaries
  - **Pesti**
    - **40% area**
    - **Profex super**- 30 died
  - **Horti**
    - India **2nd largest producer of fruits and vegetable.**
  - **ZBNF** - BJSWA (BISWA)
  - **Millets**
    - **2019 as International Year of Millets**
  - Market - **22,000 rural haats** into (GrAMs) + e-NAM now
  - **Export**
    - **Agriculture Export Policy, 2018**—> **USD 30 Billion to 60 Billion by 2022** —> **USD 100 Billion** in the next few
    - **SPS - Case EU**
      - **2014** : authorities found **consignments** infested with **fruit flies** that they feared could damage their salad crops —> **BAN on ALPHONSO MANGO IMPORT**
  - Budget 18-19
    - **Kisan Credit Cards** to fisheries and animal husbandry
    - **“Operation Greens” (TOP)**
    - Upgrade existing **22,000 rural haats** into **Gramin Agricultural Markets (GrAMs)** + e-NAM
  - Conclusion -
    - **Agri GDP of China** in **1980s** grew at **7%** - bcoz of **liberated price control** -

- farmers income grew by 15%
- Single Jackfruit tree of Karanataka -10lakh

## • **PULSES**

1. India = **largest producer, consumer, importer** of pulses
2. **230 lakh tonne( 2018-19) - from 250 lakh tonne** (last year)
3. **20% of area** under foodgrains
4. **10% of total foodgrain production**

## • **Blue economy / Oceans**

1. absorb about **30%** of global **CO2** emissions.
2. At least **3-5% of global GDP** derived

## • **Fisheries**

1. Production increased from **7 lakh tonne (1950)** to **100 lakh tonne**(2018).
2. **1% of the GDP**
3. Growth - **4% annually**
4. **1.5cr** people directly
5. **Inland fisheries** and aquaculture - **85 percent**
6. India has become the **second** largest fish **producing** and aquaculture industry in the world.
  - **Shrimps, prawns** famous

## • **Meat**

1. **Meat production - 45 lakh tones (2017)** - standing **5th** in rank of world's **meat production**
2. **3%** of the total world **meat production**.

## • **Golden revolution - Honey ; Fruit ;Horti** (SWEET revolution / **apicultural**)

1. FAO : **India** ranked **8** in 2017 -honey production - **60 K tonnes**, **China** stood first -**500 k tonnes**.

## • **Bamboo**

1. India = **2nd largest producer** of Bamboo
2. **Bamboo as 'Green Gold'**—> **Re-structured National Bamboo Mission- Rs.1400 crore**  
(Budget 18-19)

## • **Oil seeds : YELLOW Revolution**

1. Consumption demand to rise - **19kg** per capita from **2017** to **22 in 2022.**
2. **Import - 70%**
3. **70 %**- cultivated in the **rainfed** areas.

## • **Livestock and Dairy**

1. **15 crore farmers**
2. **15% of income** of rural household
3. annual growth rate - **4+**
4. **Largest milk** producer
5. Issue-
  1. **fodder** – 65% deficit of green **fodder** by **2025**

2. **Formalised** system - Reach barely ~20% of farmers
3. ~35% - **processed**
4. **10% declining rate of indigenous cattles**
6. **Ethnic** milk products, **profit level is ~25**

- **Sugarcane**

1. 21-27 degree
2. 100-150cm rainfall
  1. Any change in rainfall
3. No frost

- **Sugar**

1. **India = 2nd largest producer- after Brazil**
2. **Maharashtra + UP - >60% production (of India) ;**
  1. <4% area but 70% of irrigated water
3. **FRP - 2800Rs/ton ; MH - 13k cr (5k cr arrear) - 20% due** in form of sugar
4. 2019-20 - mandating **mills - 5 million ton export**
5. **Sugar beet - 100 days** (20% of production of world)
6. **Ethanol - 10% by 2020 ; Policy - 20% by 2030.**

- **Climate impact** -income fall—> 15% (irrigated) ; 25% (unirrigated)

- **Food processing**

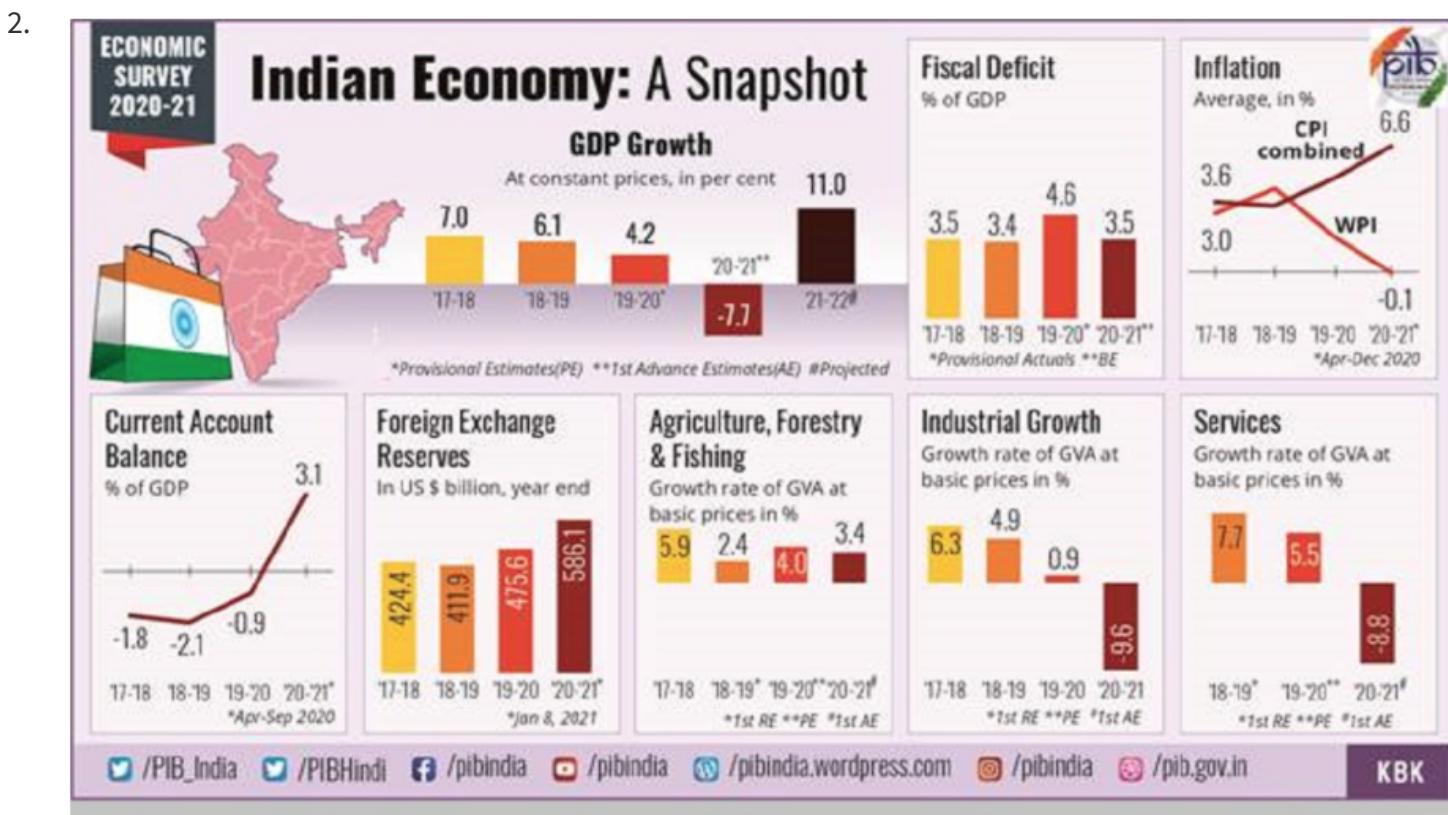
1. **Ranks 1** in employment and no of factories.
2. **11% growth rate**- 2X the global. (2018)
3. **Exports** share in global exports -**only 2%**
4. Only 2% of V&F get **processed** - **85% in Malaysia**
5. **Food wastage (40%)**
6. **Food borne disease = 0.5% of GDP**
7. Scope - **2nd** largest agri produce ; **100% FDI allowed**
8. Issue-
  1. **Logistic -13-14% of GDP ( developed countries -8%)**
9. **state-of-the-art testing facilities in all the 42 Mega Food Parks (Budget- 18-19)**
10. **ToAS —> Kondagoan (maize food processing)**

## Economy

- **COVID Impact**

- **IMF Report**(A long and difficult assent) 2020
  - 3.5% in medium term
  - Rebound in short term
  - **30 trillion \$ loss in 5 yrs to world**
  - **Widen inequality** (among country and within)

Sector	GVA 17-18	Work force
Agriculture, forestry & fishing	17	45 ↙
Industry	30	25 ↙
(Of which) Manufacturing	17	
Services	55	30 ↙



3.

#### 4. LPG - Globalisation Effect

1. 10 times **GDP** increase
2. 8.5 times **tax** increase
- o 400 times **Forex** increase
  - 1.5 times **population** increase

#### 5. Since 1991

1. **Telecom** services - 2 tele density to **714**
  1. **1G** in **1998** (22 yrs late) —> similarly **2G**- **12** yrs late —> Now **5G** almost **simultaneously** with world
  2. Financial services - market **valuation** in stock market —> **900%**

#### 6. Poverty

1. Lifted 27 cr(55% to 27%) (still 37 cr) in 10yrs in MDI, India fastest, JH no 1 (75% to 45%) : UNDP + OPHI
2. **Tendulkar methodology** - 816/1000 - 22% in 2011 —>It is now in single digit
3. **Rangarajan committee** - 970 / 1400 - 30% in 2011
4. **SECC- 0-12** : 2011-12 - **30 percent** in rural areas ; **26 percent** in urban areas.
5. **(HDI)**: UNDP - 2019: **0.64**

## 1. Rank - 129/189

6. **World Bank's Methodology:** Modified Mixed Reference Period (MMRP) -

- \$1.25 per day pre 2015—> hence **2011- 23%** of **Indian** population, or about **27** crore people
  - In 2015, the **threshold** was updated to **\$1.90** per pay.

## 7. **GHI - 103/119 in 2019**

## 7. Inequality and non-inclusive

○ **Oxfam** report findings:

- **1% of India's richest garnered 75% of India's wealth and**
- **50% saw only 1% increase in their wealth.**
- **Globally, just eight billionaires have the same wealth as the poorest 50% of the world.**

○ As per **World Inequality Report 2018**,

- National income -10% garner 55% wealth and bottom 50% only 15%.

○ **WEF's own 'Inclusiveness Development Index 2018' report (62/74 -below China, Pakistan)**

○ Examples

- **Dediapada taluka, Gujarat. (2016)** - Earned total 12 cr as wage labour —> by 2.5 k villages
- **MUDRA** —>**75% of loan accounts are of women and more than 50% belong to SCs, STs and OBCs.**

## 8. Jobless growth

1. Our **GDP** grew by **50%** from **2000-2012** but **jobs** growth **3%**

## 9. Employment

○ **NSSO** One report - Overall **unemployment** rate in India at **6.1%** (urban India **(7.8%)**)

- Among state - **20% in Nagaland**(highest) and **1.5% in Meghalaya.**

○ **PLFS 2017-18 - among religion**

- **URBAN —>Hindu =7 ; Muslim = 7.5 and christian- 9**

○ **NSSO** 2004 report : **48% rural female participation in work force**

- **Latest Periodic Labour Force Survey (PLFS) of NSSO - 24%** (halved) in 2019

○ **1.2 crore youth enters job market each year** – startups can provide

- **Future --> 40 lakh per year** during **2031-41 (demographics change)**

○ Startups

- **India = 3rd largest start up hub in the world**

- **1000 startups came up in 2018 —> total** number of startups - **7000**

- **VC funds invested \$20 billion in start-ups**

○ Net employment generation in the **formal** sector was higher at **8 lakh in March, 2019** as against **5 lakh in February, 2018** as per **EPFO.**

## 10. Black Money

1. **Parliamentary panel** : ranging from **7-120% of the GDP.**

## 11. World trade

1. Arvind Panagariya-book, India Unlimited: Reclaiming the Lost Glory
2. As per WTO, World trade growth slowed down to 3 per cent in 2018 from 4.6 per cent in 2017
3. Top export items continue to be Petroleum products, precious stones, drug formulations, gold and other precious metals.
4. Top import items continue to be Crude petroleum, pearl, precious, semi-precious stones and gold.
5. India's main trading partners continue to be the US, China, Hong Kong, the UAE and Saudi Arabia.

## 12. FDI

1. Global FDI flows will decrease by up to 40% in 2020 (WORLD INVESTMENT REPORT 2020 BY UNCTAD)
2. UNCTAD's World Investment Report 2019 - (FDI)-
  - Global FDI flows has fallen by 12% in 2018
  - India -increased by 6% to \$40 billion in 2018
3. Single-brand retail -100 per cent
4. 100 per cent FDI in construction development relating to building townships under the automatic route.

## 13. Reasons for BOP crisis

1. High deficit —> >12% of GDP (centre + state) resp. (Both internal + external)
2. Deficit financing by govt printing —> Inflation
3. High inflation - 14% in 1991
4. No (Forex) - 7 days to run country (oil)

## 14. NPA

1. Gross NPA declined - 10.1% from 11.5% last year :Economic survey 2018
2. 50k cr recovered by banks from NPA accounts
3. NBFC —> RBI: Risen to 6.6 per cent in FY19, from 5.8 per cent in FY18. (June 2019)
4. Issue
  1. wilful defaulter — 20% of total NPA in PSB
  2. Fraud - 40k cases in last 11yrs : Ministry

## 15. Exchange rate

- 65-68 per US\$ in 2017-18 —> depreciated to 70-74 in 2018-19.

### • Budget

- Current account deficit manageable at 2.1 percent of GDP.
  - Increased to 2.1% of GDP in FY19 from 1.8% last year - mostly due to trade deficit to \$180 billion from \$160.0.
- Fiscal Deficit at 3.4 per cent of GDP and debt to GDP ratio of 45 per cent (approx).
  - Fiscal deficit of 3 per cent of GDP by FY 2020-21 and debt to 40 per cent of GDP by 2024-25.
- N K SINGH COMMITTEE 2017
  - Debt management and fiscal responsibility(DMFR) act to replace FRBM act 2003

- **Debt to GDP ratio** by 2022-23
  - 40% for **centre**
  - 20% for **state**
  - fiscal **deficit target** of 2.5% of GDP by 2022-23
- **External Debt/GDP** - 5% Vs. Japan 80%
- **Corporate bond** turnover
  - 1.75 lakh crore in NSE
  - 0.75 lakh crore in BSE
- Agri - **1.4 lakh crore rupees** (75,000 crore rupees will be for the **PM KISAN**)
- **Tax**
  1. **3.7 cr** Indians who **filed tax returns** last year, **1cr were exempt**—> **2.7 cr actually pay**
    - low tax/GDP ratio (**11%**) (Norway **50%**)
  2. **Effective corporate** tax rate -
    1. corporate tax + surcharge + 15% DDT = **43%** ... **>400cr turnover**
    2. **25%** for all firms ..**<400cr turnover**
  3. **GST**
    - **Success**
      - **tax buoyancy**- is **1.2** (usually <1)
      - **Revenue growth** of **12 per cent**
      - **Formalization**- **50 lakh new formal enterprises**
        - **60 lakh** enterprises previously registered **for indirect taxes in 70 years**
      - **CGST** - shortfall ;But **State** GST doing well - shortfall reduced from 17% to 13%.
        - Very few states should required compensation (>14%)
    - **Shortcomings**
      - **CGST** - shortfall - expected 6 lakh crore and collection 4.5 lakh cr (last year)
      - **CAG** : The **Centre's revenue** from GST has registered a decline of **10%** in 2017-18 compared to revenue of subsumed taxes in 2016-17.
  - **Gender parity**
    - One of the worst levels of gender **wage** disparity i.e men earning more than women in similar jobs - gap exceeding **30%**.
    - **India Has 21 million 'Unwanted' Girls**
  - **Cities**
    1. Mumbai 12th **wealthiest** City in the world. According to a report by New World Wealth Report.
  - **Business**
    - **MSME**
      - **95%** of **establishment**,
      - **80%** of **jobs** in **manufacturing** sector in india
      - **employment** to **8 crore** people
      - **Inclusive growth** – 60% of SME unit set up by SC, ST, OBC

- 40%- depends on **informal** sources of credit
  - corporate tax from 30% to **25%** + 'e-wallet'
- **Dwarfs** (firms with **less** than **100 workers**) despite being more than **10** years old, account for more than
  - **50%** of all **organized** firms in **manufacturing** by **number**.
  - Contribution -
    - **employment** is only **15%**
- **Large firms** (more than 100 employees)
  - only **15%** by **number**.
  - account for **75%** **employment**
- **E-commerce**
  - expected to grow to **\$ 200 billion** by **2026**
  - occupies less than **5%** of the total **retail**
  - E-commerce to create **10 lakh jobs** by **2022**
- **CSR**
  - Report : **Spending** increased from **70 %** to **90%** in **5yr**
  - **2%** of profit - if 5cr profit for last 3 yrs + 500cr net worth asset + 1000cr annual turnover
  - 60% **compliance**
- **Unethical**
  - **FB** : Fined **\$5 billion** by the US Federal Trade Commission (**FTC**)
  - **Google**
    - **\$5 billion** fine that **Google** by **Europe**
    - **20 million** \$ last year - for biased search result by **CCI, India**
- Credit rating agencies - **CRA**
  - **MOODY** : Fined **\$800 million** for its role in **2008 crisis**.
  - **IL&FS**-given **AAA** rating when in dire financial condition
  - **Recently** - (of one company) downgraded rating by **9 notch** - AA+ to D
- **Auditors**
  - Min of CA to bar —> IL&FS auditors like **Deloitte Haskins & Sells** — for **five** years
  - **NFRA** - for regulation and maintain standard
  - Satyam episode 2009
- **Global Competitiveness Index 2019**
  - India has moved **down 10 places** to the rank of **68th** compared to the **58th** rank of **2018** primarily because of faster improvements of several countries previously ranked lower
- **Miscellaneous**
  - **Brazil** was thought in the **1800s** most likely to become "developed". Even in the mid-20th century, their per capita incomes were about **five times that of South Korea**. But Brazil is still caught in the "**middle-income trap**".  
 ■ During 1950s **India's per capita income** (PCI) was almost the same as that of **China**. But

now India's **PCI** is more than **four** times lower than **China's**.

- **Toys**

- **7 lakh crore industry**
- **Chemical dyes**
- **China - assembly line - half price**
- **12% GST**

- **Animation and gaming**

1. **2017 Google-** : Indian online gaming industry projected to hit \$1 billion by 2021.

- **Construction sector**

- **absorbed 75% of the new jobs created in non-farm sectors in rural areas between 2000-2012..**
  - esp useful for **85%** of all those who even hold agricultural land are **small and marginal farmers**,
  - **5 crore** rural households are in the **landless-labourer** category in SECC

- **Industry and Infra**

1. Overall Index of **Eight Core Industries** registered a **growth** rate of **4.3** percent in 2018-19.

2. **Make in India**

1. **Manufacturing growth = 1.6% in last 5 years**

3. **Oil and Gas**

1. **India = 0.5% of oil and gas resources + 17% of total population -> dependent on import**

2. 3rd largest oil consuming

4. **Automobile**

1. **7% of GDP**

2. **18% export growth**

3. **100% FDI**

4. **Electric**

1. Market share - **0.06%** in India while it is **2%** in China and **40%** in Norway.

2. NITI Aayog : only electric 3-wheelers be sold in the country post **2023**.

- all new **two**-wheelers below 150cc -post **2025** should be electric. (June 2019)

3. **Focus on 2 wheelers** - 80% of conventional vehicles sold in India

4. **Now only 250 charging stations (China - 15k+)**

5. **China**: mandated companies to produce **10 per cent electric vehicles of their total production**

5. Recent

1. Contraction -

5. **Mining**

1. **Steel**

1. **India annual production of steel = 130 ml ton (2018), China = 900 ml ton**

- Became **2nd** largest (defeated Japan)
- Indian government targeting **300 mt**(by 2030)
- **Per capita** finished steel **consumption** in India = **<60 kg, world avg. =160 kg**
- India is the **largest producer** of **sponge** iron in the world
- India - **2nd largest importer** of **scrap** based steel after Turkey

## 2. Cement

1. Avg. per capita **cement** consumption in India = **110 kg** (2003-04), world avg. (**240 kg**)
2. India-**2nd** largest **producer** of cement (**after China**)
3. **150** large and **350 mini** cement plants.

## 3. Polymetallic

1. India - signed **15** year contract with (**ISA**) in central indian ocean in 2002, **extended** till **2022**

## 6. Textile

1. Textile - **2nd** largest **workforce** – **4.5 crore** people
2. **100% FDI** under automatic route
3. **40%** world market captured by - **China**
  - **5% - India** (distant 2nd)
4. **Rate of growth** low
  - **8 % India**
  - **20% by Bangladesh and Vietnam.**

## 7. Coir industry

1. **7 lakh** people employed. **70% = women**
2. India = **66%** of coir **production** in world

## 8. Leather Industry

1. India = **2nd** largest producer of footwear and leather garments in the world
2. 100% **FDI** under automatic route
3. **employment** to **30 lakh** people,
  1. **30%** are **women**

## 9. Rail

1. **freight** and **passenger** traffic grew by **5%** per cent and **>0.5%** per cent respectively in 2018-19

## 10. Air

1. **85% of the country's air demand met by private sector**
2. **Air India** : loss making - debt of Rs 50,000 crore

## 11. IT Sector

1. **\$ 150 billion industry**
2. **Service** sector growth -> contribute ... to GDP
3. **E-waste** = **18.5 lakh tonnes** of e-waste every year

## 12. Telecom and Internet

- Total **telephone** connections in India touched **120 crore** in 2018-19
- India = 2nd largest number of **internet** users
- Growth in **Internet** domain in India is **7% (world-3%)**.
- Doubling of data use** increase GDP by **0.5%** - Then give Kerala example
- Cost of 1 min call > **5 rs** in 2005 + **all phones imported** vs NOW
- Issue**
  - Total **debt** of telecom companies = **Rs 5 lakh crore**
  - loss of **30,000 jobs** due to business consolidation and cost cutting
  - MTNL - BSNL** - government has proposed Rs **75,000** crore bailout package
    - Average revenue per user -Rs **35** compared Vs Rs 70 for private players.
    - And not even rolled out **4G**
- FinTech**
  - Smartphone** penetration is witnessing an upsurge - from **50%** in 2014 to **65% by 2018**.
  - 20% -no association with any bank** and
  - more than **80% of the transactions carried out through cash**.
  - Almost **90 percent of small businesses** are **not linked to formal financial institutions**.
  - Online bill payments- 4X in rural and semi-urban India - CSC becoming focal points
- The installed capacity of **electricity** has increased to **355GW** in 2019.
  - Primary energy consumption per capita** - 0.5 for India VS Malaysia - 3 (2015)
  - 2.5 times X** - increase per capita GDP by **\$5000** at 2010 prices, and enter the **upper-middle** income group.
    - Now **India - 2000\$**
    - China 9000\$**
  - Saubahagya Yojana- 4 crore poor households**
- Services sector** (excluding construction) - declined this year
  - Accelerated sub-sectors:** Financial services, real estate and professional services.
  - Decelerated sub-sectors:** Hotels, transport, communication and broadcasting services.
- Tourism:**
  - World Travel and Tourism Council** calculated that
    - tourism generated **₹17 lakh crore** in 2018 in GDP
  - 1.6 cr** foreign tourists **received** in 2018-19 compared to **1.4 cr** in 2017-18.
  - Gives
    - Supported **4cr jobs**,
    - 8% of its total employment**.
  - Potential
    - Increase this **growth rate to 30%** —> contribute around **25% of our GDP** : **WEF**
- Social sector**

1. **Government** expenditure (Centre plus States) as a percentage of GDP on

- **Health:** increased to **1.4 %**
- **Education:** -3 %
- **Housing :** Economic Survey : Last year - About 1.5 crore **houses** completed under Pradhan Mantri Awas Yojana (PMAY) as against a target of 1 crore pucca houses with basic amenities by 31st March, 2019.
- **Road :** Around **1, 90, 000 km** of **rural roads** constructed under Pradhan Mantri Gram Sadak Yojana (PMGSY) since 2014.
  - **Road** construction grew @ 30 km per day in 2018-19 compared to 12 km per day in 2014-15.
  - **Fuel :** *50 %- not access **clean cooking** in 2017 when compared to 5 % for Brazil*

- **SEZ**

- 1. Issue -

- 1. **FTA with many countries**—> many products have almost 0% import duty

- >**200** operational SEZ (>**500 approved**)—> no economies of scale

- **China has 9**

- **Energy**

- 1. **Conclusion** —> Govt aim - **reduce oil import by 10% by 2022**

- 2. Oil

- 1. **MH- Nilam oil field (Bombay High)** – 60% of India's production

- 3. **Distribution:**

- 1. **Thermal:** 65%

- 1. **Coal:** 60%

- 2. **Gas:** 5% (wise 7%)

- 2. **Nuclear:** 2%

- 3. **Renewable:** 35%

- 1. **Hydro:** **15%**

- 4. **Non- Renewable**

- 1. **Coal**

- **60% power**

- **India uses 800 million ton from which 150 million is imported.**

- **Reserve is 300 billion tonnes.** If 50% is extractable, with 1 billion tonnes annual consumption, we can have coal for 150yrs. (**India's target : coal production of 1.5 billion tonnes annually by 2022**)

- **80% commercial by CIL**

- **Rat hole mining**

- 20 died

- **Nuclear**

- **World's largest thorium reserve** --> generate power for **600 years** - kerala

## (largest)

- **Thorium based reactors** can be constructed **only after successful operation of FBR for 30-40 years**
- **Germany** to **end** nuclear power generation
  - **In 2016, for example, globally wind power output grew by 15%, solar by 30%, but nuclear energy only by 1.5%.**
- **Target** - (30GW by 2030)
  - **4th in wind** power,
  - **5th in solar** power and
  - **5th in renewable** power installed capacity.

## Infra:

- **PPP**
  - India will have **\$ 500 billion infrastructure investment gap by 2040** as per **Economic survey**
- **Logistics**
  - Target - to **reduce cost** to 9% of GDP by 2022 from the **current 14%. (devp- 8%)**
  - More than **20 government agencies, 200 shipping agencies.**
- **Road**
  - **Traffic / Congestion**
    - **2 cities** in top 5 in world in traffic congestion (Mumbai and Delhi) ; Mumbai top
    - **Mumbai -65%**
  - **Accidents**
    - **1.5 lakh die (NCRB data)**
    - **Reason**
      - rash driving - overspeeding (25%)
      - drunk driving (15%)
  - **Construction of road**
    - India has the **one of largest** road network - **55 lakh km.**
      - Transports **65 %** of all **goods**
      - **90 %** passenger traffic
    - **Urban** —7km (2012) → 27km (2018)
    - **Rural** —60 → 160
    - **Issue**
      - **PPP dispute - 7 lakh crore project** worth stalled
  - **Green highway** - NATIONAL GREEN HIGHWAY MISSION
    - aims to provide **green canopy along 1 lakh km of NH**
      - and create jobs for **10 lakh youth**
      - **1% cost of** any national highway project to go into **green corpus fund**

## • Rail

- World's 3rd largest rail network
- Carry 2.3 crore people daily,
  - 13 lakh employee
- 3 million tonnes of freight daily ; 90% of the total coal moved in India.
  - 65% railway's income from freight
- Issue
  - operational ratio = 98
  - only 5% of non fare revenue
  - Need 50 lakh crore between now and 2030 - for modernisation
    - The capital outlays for Railways is just about Rs 1.5 lakh crore per annum
  - "Bullet trains will cater only to the elite community. It is highly expensive and beyond the reach of ordinary people. What India needs is a modern, clean, safe and fast rail system," Sreedharan.
  - Accidents
    - Almost 20,000 lives are lost on tracks yearly
    - Since independence, 25% increase in rail network, but > 1000% increase in passenger and freight traffic
      - Mumbai - carries 80 lakh daily (2 cr population)
    - Wagon (DFC) - Derail ; Fire ; Collision
      - 25 dead, 400 injured as Utkal Express derails near Muzaffarnagar, UP (2017)
    - Punctuality - "Officially 70%, actually less than 50%" Sreedharan

## • Waterway

- Port
  - 90% Intl trade in volume ; 70% value
- Inland waterway
  - Logistic share - 1.5%, China having 8% share.
  - Cost → World Bank : road is 2 times
- (Adapted from U.S. DOT Maritime Administration)

Mode of Transportation	(Safety)	(Enviro)
	1 unit	1 unit
	100 times less	3 times more than ship
	100 times less	10 times more than ship

## • Airways

- Rail - From a growth of 10 per cent in 2014-15, it shrunk to 5 per cent in 2015-16
  - Airways - The 20 % for next 5 yrs

- 25 per cent of domestic air travel happens over inter-city distances **within 500 km**

## • Next Gen Transport

### ◦ Bullet Train

- (SHINKANSEN TECHNOLOGY)
- 500km (Mumbai - Ahmedabad)
- 1 lakh crore - 0.1% interest at 50 yrs +15 moratorium
- 90% of passengers travel by sleeper class or lower
- IIMA study - need fares 4-5k to breakeven with **1 lakh ridership daily.**
  - Airfares are 2.5k.
  - 60 years to repay

### ◦ Hyperloop : Virgin Hyperloop One

- Recent infra status to 70kcr project - fast land acquisition
- faster than airplane speeds - 1000km/hr
  - India's fastest train **Gatiman Express-160 kmph**
  - 35min- mumbai - pune
- no emission(100 per cent electric route)

### ◦ Industrial corridors

- Delhi Mumbai Industrial Corridor (\$90bn)
- Amitabh Kant - it took 14 days for goods to be transported from **Delhi's industrial areas to ports on western coast of India**

## • Housing

### ◦ (3 crore shortage)

- PMAY (Urban)
  - 2018 - 30 lakh had been constructed, though 60 lakh houses had been sanctioned
  - Target - 2 cr by 2022.
- PMAW (Gramin)
  - 1 crore households would be provided assistance for construction
    - Rs 1,20,000 in plain areas and to Rs 1,30,000 in hilly states

### ◦ Rent control

- 1.1cr houses lying idle :Census 2011
- Draft Model TENANCY Law 2019

## • Electrification (Rural)

- Accessibility (30 crore - no access to electricity : according to Census 2011)
- Issue
  - high AT&C losses -(25% according to CEA report)
  - low plant load factor of coal (60%)

## Science and Tech

- Block chain + 5G + AI/ Deep learn/ Big data —> Can do marvel for Admn

- **Blockchain - BelYo**
- **25 lakh STEM graduates next only to China.**
  - Including **23 IIT and 31 NITs**
- **IPR**
  - Case study : **Spiriva for asthma**
    - The **monthly cost** of the medicine in the U.S. is over **Rs. 20,000**,
    - it costs a mere **Rs. 250 in India.**
  - **Glivec** médecine by **Novartis - SC** rejected
- **GSLV - PSLV**
  - **PSLV**
    - **90 minutes**
    - **1750 Kg to Sun-Synchronous circular polar orbits of 600-900 Km altitude.**
    - **four-staged launch**
  - **GSLV**
    - **36k km and 4ton with MK III**
  - **Cryogenic tech**
    - **Use of hydrogen and oxygen in liquid form** -
      - Need **100** degree below **oxygen** and
      - **250** degree below for **H2**
  - **India's self made heaviest - 3.5ton - GSAT 29**
- **Chandrayan 2**
  - **Cost 1k cr**
    - **Avenger** cost -2.5k cr
  - **Supported** by lot of **academic institutions and industries** -
    - contributed **60%** of the cost of **Chandrayaan-2** and
    - **80%** of cost of the **GSLV Mark III.**
- **SPACE DIPLOMACY**
  - In **1988**, 30 years after the world's **first remote sensing satellite** by Soviet Union (1958)- we sent **1st remote sensing satellite — IRS-1A**
    - Now **25 years later**, India has one of the **largest civilian constellation**
- **Super comp**
  - **Pratyush and Mihir- 165th position** → top 30s in the [Top500 list of supercomputers](#)
    - **4.0 PetaFlops** unit at [IITM, Pune](#)
    - **2.8 PetaFlops** unit at the (**NCMRWF**), [Noida](#).
    - **=6.8 PetaFlops**
    - **4th** country in the world to have a [High Performance Computing](#) facility dedicated for [weather](#) and [climate](#) research
- **Quantum comp**
  - **Micius**

- Sycamore
- Internet giants
  - Facebook
    - Indian Disaster Response summit - NDMA + FB for creating '**Disaster maps**'
    - ECE +(teams up) with FB - send reminder to 18yrs ppl to register for **vote**
    - "Boost your business" and "**Shemeansbusiness**"

- Lithium
  - Bolivia- 33%, Chile- 33 %,
    - Argentina - **6% of the world's reserves**
- Internet
  - The report says that India has the **second largest internet user base** at **12% globally**
    - (**Total 50cr - 30 cr urban and 20 cr rural**)
  - India has the world's **highest data usage per smartphone**

- 5 G
  - 1st phone **1995**
  - Recently- 2019 - govt decided to **auction 5g spectrum**
  - **700Mhz and 3.5Ghz** bands identified
    - TRAI recommended Rs **500cr/MHz**
  - COAI : 5G is **overpriced by at least 30% to 40% compared to SK and US**
  - **Adv**
    - **5-10 times high speed**- about 10gbps/sec - peak data speed 100gbps
    - Revenue earn for govt- - **about ₹5 lakh crore.**

- Big data
  - Need **Data localization** - US dept of Energy in 2015 - Data centers in the country took **2% of its overall power of US.**

- AI
  - **Natraja Chandrasekaran Committee**
  - Coined by **John Macarthy in 1956**
  - All Big Five: Alphabet, Amazon, Apple, Facebook and Microsoft have scaled up investment -
    - **Sundar Pichai** will prove to be "**more profound than electricity or fire**".
  - **25% of total job losses of world in India only**
  - **Mr Mohsen**

- Crypto Currency
  - Libra ; SOV ; Petro
  - Benefits
    - **1 lakh rupees** invested in bitcoin in **2010** is worth few **100 crore** today.
  - Issue
    - **Ethereum collapsed from 300\$ to 0.1\$ in one day.**
    - **only 21 million bitcoins** can be mined worldwide

- Japan's largest cryptocurrency exchanges- **Coincheck** (is a bitcoin **wallet** and exchange service), reported a **hack - USD 500 million worth** -victimised **2.5 lakh customers** within **8 minutes.**

- **Cloud computing**

- **International Cloud computing challenge** - “**World Skills India**” 2019 is being held in **India**.
- **NASSCOM**- in the **Asia-Pacific** region, **India** stands **second** only to China, as the **largest** and **fastest-growing cloud services market**.

- **Nanotech**

- **Physicist Richard Feynman** – father of nanotechnology
- **1gm of DNA** can **store**- **250 million GB**
  - **Microsoft** - in few yrs all **info** will be stored in **DNA**
- **Graphene**

- **Robotics**

- **40s** - **Isaac Asimov** first used the word **Robotics**.
- 60s - first industrial robot **Unimate**
- **Daksh**: It is developed by (**DRDO**)
- **Cyborg Super Soldiers**:
- **Sleepless Sentries**
- **Russian - space robot**
- **Bandicoot**

- **Black hole**

- **Chandrasekhar limit** - **1.4 \* Mass of sun**
- **Event Horizon Telescope (EHT)**
  - **Galaxy Messier 87**, which is **55 million light years away**

## ENVIRO

- **Emission** -

- **China** - **17% popu- 30%**.
- **India** - **17% popu- 7% emmission.**
  - (**US**—> **20** ; **India** —> **2 metric tonn of CO2 per capita**)

- **Nitrogen**

- **N2O** (**300 times more potent** GHG than CO2)

- **Acid rain** - rain with **pH<5.6**

- **Air pollution**

- **14 in top 20** —> International image
  - Health impact - Just **vehicular pollution** - **33 per cent of the total PM 2.5 emissions today**
- **World Bank** -**air pollution** to be the cause of an estimated **16 lakh** premature deaths in India, which translated into a welfare loss equivalent around **8% of India's GDP**.

- If delhi's air pollution could be lowered to national standard, it would increase life expectancy of delhi's people by 6 years
- Bharat stage 5 and move from 4 to 6 - **effect from 1st April 2020**
- **World Air Quality Report 2019**
  - **21 of the world's 30 cities** with the worst air pollution are in India
- **Climate change**
  - According to “**Global climate change vulnerability Index**”
    - **5th** most vulnerable ;
    - As per **HSBC** report (2018) - **most** among major devpd and emerging economies.
  - **Depress the living standards of nearly 50% the country's population by 2050 : WB**
  - **Warming**
    - The **UN's WMO** has said the world is heading for a **3-5° C** rise in temperatures this century.
    - **June was hottest ever recorded on Earth** :European Centre for Medium-Range Weather Forecasts
      - **France** recorded the hottest temperature in the country's history (46 C)
    - Recent melting of **10 billion ton of ice sheet in Greenland** - within **24 HOURS**
    - **2017** was recorded as hottest year without being influenced by El Nino. **1.1 degree more** than preindustrial levels.
    - **Two-thirds of Himalayan glaciers**, the world's “**Third Pole**”, could melt by **2100**
  - **Cold wave (polar vortex)**
    - **Minnesota, US** —> -33 degree (lowest in 22yrs)
  - **Farmers** -
    - **loss in farmers income from climate change = 15%** (economic survey 2017-18)
  - India's **per capita CO2 emission – 2 metric tonnes** where **US is approx 20**
    - **Climate Justice + Green Good deeds**
    - To meet **INDC target**, India needs **\$ 2.5 trillion**
      - Reduce **emission intensity** of its **GDP** by 33-35% by 2030 as compared to 2005 level
      - By **2030, 40%** of energy through renewable sources
      - **175GW** by 2022
      - **NAPCC** (SEHWAG HK)
- **Climate Change Performance Index (CCPI), 2020**
  - **In top 9**
- **Environment Performance Index** -
  - Slipping from rank **141** in 2016, to **177 in 2018** - by Yale University + Columbia University+ WEF
- **Urban Heat island**
  - **(IIT) Bhubaneswar** - **0.5 degree C** increase in **absolute** local temperature in cities (since **2000** to **2010**)
- **Finance**
  - **Green bond**

- 1st GB in 2007 by WB and EIB (european investment bank)
- In india, first GB by Yes bank in 2015
- Currently, **GB market globally = \$180 billion**
- India - **7th largest** green bond market

## • Forest

- Currently, **15 States and union territories have 33%** of their geographical area under forests.
  - India is ranked 10th in the world for **25%** of land under forest
- **MP planted 6 crore trees in 12hrs**
  - **MH planning 33cr and UP 23cr**
- **Nutrition gardens** in **Mizoram** - staff will work along with children
- **Amazon** rainforest cleared
- **Conservation**
  - **Bishnoi Movement** - Year: **1700s**
  - **Chipko Movement** - Year: **1973**
  - **Jungle Bachao Andholan** ; Year: **1982** ; Place: **Singhbhum** district of **Bihar**
  - **Green Yatra** - MH - '**Go Green Kids'**
  - **Project Green Hands** - Isha foundation TN
- **India State of Forest Report (ISFR) 2019**
  - **Tree and forest cover** together made up **24.4% --> 24.56**
  - **Decline** of Forest Cover in **North Eastern** Region
  - **Mangrove** cover in the country has increased by **1.1%**
  - India is on the **right track** to achieve its Paris Agreement commitment of **2.5 -3 billion carbon sinks**
- **Thirumal-pad (1996)**

## • EIA

- Environmental (Protection) Act, **1986** for **29 categories** of **developmental** activities involving investments of **Rs. 50 crores and above.**

## • Biodiversity

- India = **8% of world's flora and fauna**
- Asset to countries - **33% of total wealth** of developing countries

## • Invasive species

- **2nd most serious threat** to biodiversity **after global warming (IUCN)**

## • Wetlands

- **60,000 wetland in India** ; majority – **inland** wetland
- **SC :Jagpal singh judgment.**

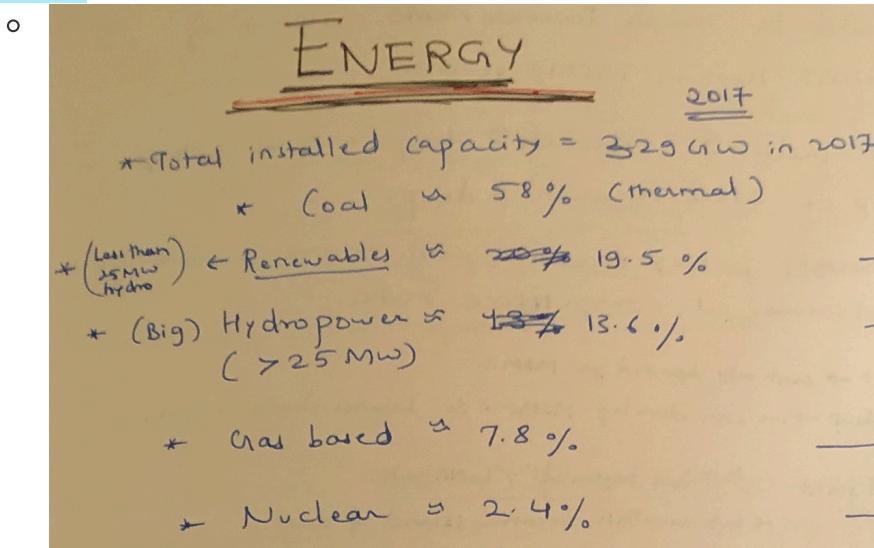
## • Wildlife

- **22 = 4** species of **fauna** and 18 species of flora have gone **extinct** in India in the past few centuries.
  - e.g. **Cheetah, Sumatran rhino**

- **Tiger**
  - 2222 tigers : Tiger census 2014 (80% of world's tigers) → 3000 (2018)
  - Large poaching cases (25% mortality)
  - man animal conflict - 50% of tiger death outside tiger reserves – NTCA data
  - Global Tiger Recovery Program - doubling by 2022
  - Kinshasa Resolution of 1975 (under IUCN)
- **Elephant**
  - National heritage animal of india in 2010 ;
  - schedule 1 ;
  - Plan bee
- **Corals**
  - distribution – indo pacific region – 30 degree N&S
  - salinity = 25-40%
  - depth of ocean water < 50m (need sunlight)
  - Coral reef – schedule 1 in wildlife protection act 1972 – highest degree of protection
- **GM**
  - 1000 farmers in Akola district have publicly sown unapproved
    - (HT) BT cotton and Brinjal using smuggled seeds
  - 60 countries have accepted GM crops-crops range from soyabean, corn, brinjal, and, even apples and potatoes → China and US are becoming leaders
  - GM technology adoption has reduced pesticide use by 33%, increased crop yield by 25%, and increased farmer profits by 66%
  - Americans and elsewhere consuming Bt corn or soybean for over 15 years have not reported any health issues.
  - 2016, 100+ Nobel laureates signed a letter challenging Greenpeace (Norman Borlaugh also support to remove food hunger from world)
- **Waste - 6Rs**
  - Facts
    - Around 60 million tonnes of waste is generated annually in the country at present
    - 10 million is plastic waste,
    - 8 million tonnes is hazardous waste
    - 1.5 million tonnes is e-waste
    - 0.2 million tonnes is biomedical waste,
    - Out of this, only about 60-70% of waste is collect and
      - only 25 % of this waste is processed and treated.
  - waste-to-energy plant -Delhi's at Narela - use 2,000 metric tonnes of waste every day to generate 24 mega watt of energy.
  - **E- waste**
    - india = world's 4th largest e waste producer

- Main sector – **telecom** sector (15%)
- 95% of e waste **managed** by unorganised sector
  - only 2.5% of total e waste = **recycled**
- **Amazon** offer Rs x for selling old mobile
- **kerela**
- **Plastic**
  - 60% of that plastic produced ends up in either a **landfill** or the **natural** environment.
- **Waste Water**
  - Centre eases norms for **sewage plants** all over India (including **Ganga belt**) - BOD - <30mg/l from 10mg/l
- **SWM**
  - Jagruti ben from Anand district, Gujarat

## • Energy



- **175 GW** of renewable energy capacity
- India ranks 3rd among 40 countries in **renewable energy country attractiveness index**
- **100% FDI** under **automatic** route for renewable energy **generation** and **distribution** projects
- **Solar**
  - **capacity** 20 times from **2 GW to 40 GW** in **8 yrs**
  - **Madhya Pradesh** -Asia's **largest** solar Power project -
    - Will also produce the **cheapest** solar power in the country at just Rs **3 per unit.**
  - Anupgarh tehsil
- **Wind**
  - **Cost rise - 2.85Rs/unit - in 2019**
    - (Normally 2.5 Rs/KW)
- **Biofuel**
  - Aug 2018 - Spicejet- Deradune to Delhi - 500 families from Chhatisgrah grew Jatropha
  - **National Policy on Biofuels, 2018**
    - Target of 20% of ethanol in petrol and 5% of biodiesel in **diesel** is also proposed by

2030.

#### ■ Methanol

- India's **90%** of methanol demand through **import** – **99% of import from Iran, Saudi**
- India = **5th largest coal reserve** (feedstock of methanol)
- **Ireland** – **stopped investing in fossil fuels**
- **Norway** – **banned deforestation (40% electric vehicles)**
- **Sweden** – **electric roads for charging vehicles**

#### • Green buidng

- **We shape our building, then it shapes us** - Winston Churchill
- **Green building**
  - **Lighting** load by **50%**
  - **Well ventilated** - **33% load on AC**
  - **Operating cost** of building by **25%** - without affecting project cost
- **Baba saheb Ambedkar memorial ; Indira paryavara Bhavan** - **5 star rated GRIHA**

### Crime :

1. **6% increase in cybercrime** in 16 than 15 as per **NCRB**.
  1. **JAMTARA** - JH - Aadhar bank link - ewallet transfer
2. **Actrocities**
  1. against SC and ST - increase
3. **India is on top of the list in Global Slavery Index 2014.** (absolute numbers with about **1.5 crore enslaved people**.)

### Disaster

- **E5 - THINK ON THESE TERMS (PEPEE)**
  - **PLANNING**
  - **ENGINEERING (natural + science)**
  - **PREPAREDNESS (prevent + protect)**
  - **EDUCATION**
  - **EQUIPPED agencies + ENFORCEMENT (EVACUATION etc)**
- **Impact on**
  - **Air**
  - **Soil**
  - **Water**
  - **...**
  - **Human - impact different ppl differently**
  - **Animals**
  - **Business**

- Agri
  - Manuf
  - Urban poor e.g. Vendors
- Building
- Transport
- Communication
- Reports
  - UN Office for Disaster Risk Reduction - India -
    - World's 3rd Most Disaster-Prone Country
  - "Global climate change vulnerability Index" - India is most vulnerable country to CC:
    - HSBC report (2018) - among major devpd and emerging economies
  - WB: equivalent loss of 2% of our GDP
- Cyclone - 75% of coast (NDMP 2016) ;
  - 10% of the area and 33% population
- Flood - 10% area prone (NDMP 2016)
  - 2015 study of WB -50% poor not consider moving out of flood-prone areas, bcoz - uncertainty of living
- EQ
  - NDMP 2016 - 60%
- Landslide- 30% of world happen (NDMP 2016)
- Drought and Desertification
  - NDMP 2016 - 70% of cultivable area (all vulnerable data)
  - Maharashtra: This summer, residents of 5000 villages were solely dependent on tanker
  - 2016: ISRO report -30% of India's land was degraded
  - World : Launched in 2015 - the Bonn Challenge- bring 150 million hectares deforested by 2020
    - India joined - pledged - 13 million hectares
  - Nobel Peace Prize in 2004 for with the Green Belt Movement - in Nairobi, Africa
- Forest fire
  - 50% of forest cover area- prone ; (FSI) :
    - forest fire incidents-risen 50% in the 3 yrs (Bandipur)
    - 90% - are man-made.
- Urban fire
  - Uphaar cinemas- 60 lives ; Surat - 20 ; Karol Bagh - 17
  - Standing Fire and Advisory Council :
    - there is a 95 percent shortfall of fire stations in the country,
    - 95 percent in terms of fire personnel.
    - 80 percent in firefighting and rescue vehicles
- Heat wave

- Southern France - all-time high of 46°C
  - Around 2000 death in 2015 (as per NDMA) - max in AP

## Internal Security

- **Cyber Security**
  - ‘Agent Smith’ - 1.5cr/2.5cr (worldwide)
  - Zomato - stolen ‘personal info’ of 1.5 cr and put on sale on ‘darknet’
  - JNPT port has been asked to pay ransom of 300\$ in bitcoin.
  - India = 3th most vulnerable country in terms of cyber security breaches (Internal security threat report Symantec india)
  - 20-30% of the data can be breached in chinese device
- **Terrorism (SHOW by SERIES)**
  - Mumbai Bomb blast 1993
  - AI – 814 hijacked in 1999 – support from Taliban —> Masood Azhar
  - attack on indian parliament 2001
  - terrorist attack in mumbai 2008 by LeT (26/11)
  - Pathankot attack 2016
  - Uri attack
  - Pulwamam attak —> Balakot air strikes
- **Kashmir**
  - "Operation All-Out" that killed 200+ militants.
  - Option of "silent return" - "Majid Khan", 22
  - 2017 and 18 : India recorded 1000 ceasefire violations and lost 30+ soldiers on the LoC.
    - LAC - But the two sides have no agreement on the position and location of the LAC.  
Still last shot at Nathu la border in 1967, more than 50 years ago.
  - LAWS - killer robots
- **Naxal**
  - 2013 V.C. Shukla, former Union minister and 27 ppl killed.
  - strengthening of CRPF (also 40% recruitment from locals) and CoBRA (Commando)
  - Area affected - shrunk to 90 districts from prep 200+ of the country.
- **Defence**
  - US withdrawal of GPS support system during Kargil war
  - Cost of 1 rafeal fighter plane is 1500 crore (without tech transfer)- total 32
  - Sell it - forex e.g. Indonesia planning to buy Brahmos
  - FDI upto 74% through automatic route and 100% through government approval route
  - (pritam singh committee) - in buying
  - Apoorva Chandra committee
- **Cold start doctrine**

- Integrated Battle Groups(**IBGs**) -tailor-made based on **Threat, Terrain and Task-** mobilise within **12-48 hrs**

- **Police**

- **Conviction rate - 45% of IPC (NCRB).**
- **Rajasthan and WB has 75% deficiency** in weaponry.
- **women - less than 10%**
- About **40 Ppl were killed in Haryana bcoz Sec 144 -**
  - **Sec 144- unlawful assembly was not invoked by state police - Dera Sacha Sauda convict**
- MHA will **rank** India's **best police** - 15k sanctioned police stations—> 10k in rural areas and 5k in urban.

- **Refugee and Asylum**

- UN REFUGEE CONVENTION **1951**
- **About 2 lakh refugees - 30 countries**
- **In some place - Over 30% are immigrant** and hence **indigenous** people are losing identity.
- Burden is borne largely by **developing** countries- host over **80%** of the refugee population in the world
  - **Latin America:**
    - Over **100,000 Venezuelans**

- **Migration**

- International - **India** was the largest **country** of origin of **international migrants** at **1.7cr**
  - 2011 Census migration data : immigration **rate** has decreased **0.6% in 2001 to 0.4% in 2011.**
    - number of **Indians** have begun to return from foreign
    - **50% of India's remittances from migrants in West Asia (Total = 80billion in 2018)**
    - **Kerala receives remittances approx 40% of its gross State domestic product.**
- Census 2011 - **Total migration 45cr** (Within India)
  - **40 cr internal (within state)**
  - **5 cr external (outside state)**