



EDITION - 2

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# Society

# **Domestic Violence and Dowry**

# **GS 1**

- Role of women and women organisation
- Statutory and quasi-judicial bodies
- Dispute redressal mechanism

#### Context

- Rajesh Sharma v. State of UP case Court has directed that each complaint of cruelty to a woman by her husband or his relatives, that does not involve tangible physical injuries or death, shall be referred to the Family Welfare Committee of the district
- Observations that Section 498-A of the IPC is abused by some women, particularly to harass elderly in-laws.
- The Court cited National Crime Record Bureau (NCRB) data in support

#### Family Welfare Committee

- Committee may comprise para-legal volunteers or social workers or retired officers or even the wives of serving officers but the members shall not be called as witnesses if the police or magistrate decides to investigate a particular case.
- Code of Criminal Procedure (CrPC) clearly lays down the procedure an investigating police officer must follow after registering a cognisable criminal case. These provisions have stood the test of time.
- Therefore, there was no compelling reason for the Court to substitute investigation through the constitution of an extraneous committee which will have no accountability if the disputants do not arrive at a settlement.

#### Police complaint last resort

- In most complaints registered under Section 498-A, a victim approaches the police after exhausting all options to settle matrimonial disputes.
- In most states, the police have a counseling centre at the district headquarters, where both the complainant and the accused — wife and husband — are encouraged to talk about their grievances against each other.
- At times, a complainant requests the police to not register a case but help strike a compromise between the two parties. A criminal case is registered only when a compromise is not possible

- The experiences of several women's organisations indicate that **women** approach the police as a last resort.
- This is because they, more than anyone else, are acutely aware that **there are very few options open to them outside the marriage.**
- The government has failed to provide alternatives such as emergency shelters, halfway homes, subsidised housing, jobs for single women, prompt injunctions and maintenance orders, etc, as have been done in several other countries where the issue of domestic violence came out of its closeted existence in the 1970s and 1980s.

#### Arrest vs Investigation

- Directing the police to not arrest the accused mechanically, when a case under section 498-A of the IPC is registered, was a welcome judgment in the Arnesh Kumar v. State of Bihar (2014) case.
- The police should use the power of arrest carefully, only when such an action becomes necessary under Section 41 of the CrPC.
- However, the powers of investigation cannot be substituted by constituting an unaccountable committee, especially when there is no ambiguity about this issue in the existing law

#### **Domestic violence**

- Ironically, we have all the laws in place, brought about through sustained campaigns by women's organisations over several decades—covering cruelty to wives, a special provision to deal with wife murders (termed as "dowry deaths") and abetment to suicide.
- When these criminal provisions did not yield the expected results and curb the menace of dowry violence, two decades later, the Protection of Women from Domestic Violence Act (PWDVA), 2005 for securing civil remedies such as protection, injunction and residence orders was enacted.
- The acute **domestic violence** in India has been highlighted through various national and international studies. The most significant among them is the **National Family Health Survey-III** (NFHS-III) conducted in **2005–06**.
- It revealed that 31% of married women were physically abused and 10% were subjected to "severe domestic violence."
- In the World Economic Forum's (WEF) *Global Gender Gap Report*, 2016, India's rating in the category "health and survival" is dismal. It ranks second from the bottom from among 144 countries. The issue of violence against women is dealt under this category. This makes India one of the worst countries for women in

the world! This ought to be a matter of great embarrassment for the nation with its claim of development and progress.

• These judgments seem to give the impression that going to a police station and registering a complaint is very easy, that the police immediately respond and initiate criminal action against the husband.

# The Dowry 'Demand'

- Though the scope of Section 498A is sufficiently wide to include all types of violence, both physical and mental, the police narrow it down to only dowryrelated violence.
- So for a complaint to be registered under it, even in the case of acute domestic violence, there is the requirement of adding a dowry demand.
- A woman could be mentally tortured for myriad other reasons, including not giving birth to a male child, not being fair-complexioned or due to the husband's extramarital affair.
- When a woman from the poorer section approaches the police, there is nothing to be gained.
- According to our judges, at this stage, women should be "counselled" and sent back to the same violent marriage without any protection.

# Connecting the dots

- What is the function of Family Welfare Committees? Does their establishment belie the realities of realities of women?
- Family welfare committee may hamper the causes of women by bringing the judicial process outside the formal judiciary. Examine.



# **Appointment of non-Brahmins as Priests**

# **GS 1**

• Salient features of Indian Society

#### Context

- Travancore Devaswom Board (TDB) in Kerala decided to introduce a reservation policy in the recruitment of temple priests, a decision that has garnered attention across India for its "radical" nature.
- It is being celebrated as a revolutionary decision taken by the Kerala government and an indication of the progressive nature of Malayali society.
- However, it must be noted that this move comes eight decades after the Temple Entry Proclamation in 1936.

#### Background

- The appointment of Dalit priests to temples in Kerala has been engendered by the growing departure of Brahmin youth from priestly jobs, coupled with existing aspirations of the lower castes to become priests in Brahminical temples.
- This move is aimed at the formation of a cohesive "Hindu community" through the reconfiguration of caste practices, not the eradication of caste.

#### **Paucity of Brahmin Priests**

- Primary data collected for the author's doctoral research shows that the scarcity of *Namboothiri* (Kerala Brahmins) priests in Kerala temples is a live issue.
- This is directly related to the social transformation of the state over the last many decades, especially since the eradication of landlordism and implementation of the Kerala Land Reforms (Amendment) Act, 1969.
- Temples have been undergoing financial instability as a result of land reforms and the restructuring of society.
- In this context, younger Namboothiris largely seek mobility through modern education and employment.
- Moreover, changing standards of social status and codes of social dignity have marked priestly jobs as low-rated ones in the marriage market of the Namboothiris.

### Kshetratantra Trainings and Aspiration of Non-Brahmins

• The training of priests was traditionally conducted in and by Namboothiri families, but the above-mentioned social conditions contributed to the decline of such spaces, leading to the setting up of institutions for priest-training.

#### **Connecting the dots**

• Does upward mobility of "lower castes" augur well with progressive society? Discuss critically.

# Women empowerment - all critical issues

#### **GS 1**

Role of women and women organisation

#### During the freedom struggle

- promises that inspired the enthusiastic participation of women in the national movement have remained unfulfilled
- Leaders such as Sarojini Naidu, Sucheta Kripalani, Kalpana Dutt Joshi, Bhikaji Cama and Aruna Asaf Ali
- widespread involvement of ordinary women from different walks of life in different regions
- Many of them came out of their homes into "public life" for the first time, often inspired by Mahatma Gandhi, who made their participation an important part of his own political strategy of non-violent non-cooperation

#### What freedom meant for women?

 women would have had their own notions of freedom: their goals would have been somewhat different from those of their male counterparts, and their expectations of living in a newly independent country must have been coloured by their very unequal and often oppressive social and economic circumstances

#### **Constitutional guarantee**

• Constitution did manage to encapsulate many of the hopes and dreams of the women of the time

- Constitution offered: explicit recognition of equality before law and rejection of any kind of discrimination, including on grounds of gender, along with empowering the state to adopt measures of positive discrimination in favour of women, to neutralise the cumulative socio-economic, educational and political disadvantages they faced.
- Article 16 promised equality of opportunity for all citizens (and, therefore, for all women) in matters relating to employment or appointment to any office under the state;
- Article 39(a) noted that the state should direct its policy towards securing for men and women equally the right to an adequate means of livelihood;
- Article 39(d) stressed equal pay for equal work for both men and women

# Legal provisions henceforth

• Over time, other legislation banned traditional customs and practices that were clearly unjust and discriminatory, such as dowry and child marriage

#### **Discrimination persists**

- Equality before law has certainly existed as a basic principle, but it has not been accompanied by equally just implementation
- absence of a systematically codified set of laws recognising and providing remedies for various kinds of gender discrimination
- personal laws affecting marriage and divorce, as well as laws relating to inheritance and property
- true that over the years various laws have been enacted for equal remuneration, maternity benefits for working women, rape, dowry deaths and the like
- also unfortunately true that these laws are still honoured mostly in the breach, and a sense of impunity still characterises many perpetrators of such crimes.

# How discrimination reinforces?

- workings of the criminal justice system, and indeed of the civil courts, are replete with instances of blatant gender discrimination
- especially for women from poor and disadvantaged contexts

#### **Different areas**

#### Average life expectancy

- Average life expectancy at birth has more than doubled for women, from an estimated 32 years around 1950 to nearly 70 years today.
- In fact, women's life expectancy at birth was actually lower than that for men until the late 1970s; thereafter it changed, with higher numbers for women.
- But women are known to have better survival chances than men due to scientific reasons
- due to the decline in infant mortality rates, which have fallen from more than 150 per 1,000 live births in 1950 to around 40 in recent years.
- But gender gaps in neonatal mortality (before the age of one month) remain high, and have even increased slightly over the past decade.

#### MMR

- Maternal mortality rates (MMR) have also fallen 1,300 per 100,000 live births but are now around 170
- India is one of the few countries to have failed to achieve the Millennium Development Goals of reducing maternal mortality by 75 per cent compared to its 1990 level, which would have implied an MMR (at the national level) of 103 at most
- country has the shameful distinction of accounting for the highest number of maternal deaths in the world (around 17 per cent), 10 times the number in China, even though China still has a larger population of women of child-bearing age

#### General health status

- Death due to childbirth is often related not just to lack of adequate medical facilities and prenatal care, but also to poor nutrition
- Another reason for high maternal mortality is early age at childbirth even now 61 per cent of all women are married before the age of 16 and half of them have their first pregnancy before 19.2 years
- Relative paucity of proper and affordable health care is one of the big failures of Indian development, but it also has a strong gender dimension, with women, especially poorer women in rural and more backward areas, routinely denied access to these basic services, including for reproductive health.

- Proportion of women with anaemia is nearly double the global average
- Related not only to the aggregate insufficient calorie consumption among poor households, but to disparate intra-household consumption patterns, through which women and girl children eat less in terms of quantity and quality, not only because of deprivation but because of self-denial

### Sex ratio

- Globally, the sex ratio stands at around 984. But in India, it was an abysmal 940 in 2011
- sex ratio has actually deteriorated since Independence; it was estimated to be 946 in the 1951 Census
- worse in urban areas (926) than in rural areas (947) and typically lower in higher income locations and among upper castes compared with Scheduled Castes and Scheduled Tribes
- child sex ratio (for the age group 0-6 years) is even worse, and has fallen further from 927 in 2001 to 914 in 2011
- son preference also casts a shadow on other institutions like marriage: data from the India Human Development Surveys reveal that women with no children or only daughters were twice as likely to face divorce or separation than women with only sons

# Female literacy

- Education appears to be one area of progress compared to 70 years ago, but here too the progress has been far too delayed, limited and slow, and indeed very poor compared to most developing countries
- Female literacy rates have improved over the past decades, but at 65 per cent in 2011, they were still well below the global average of 80 per cent
- Girls' enrolment in primary education has improved significantly to be nearuniversal today, but around one-third of girls now in their teens and early 20s were never enrolled in schools.
- Dropout rates remain high and there are significant gender gaps in dropout, especially by the time the age of middle school is reached

# Employment

• India always had a very low recorded work participation rate for women by global standards, including when the first employment surveys were conducted in the early 1950s.

- Thereafter, successive surveys by the National Sample Survey Organisation (NSSO) have shown hardly any increase in these low rates, which have been marked by a depressing stability over the "socialist planning" as well as the neoliberal reforms phases of economic and social policy
- Women's work participation rates actually showed a significant decline from 28.2 per cent of women aged 15 years or more in 2004-05, to as low as 21.6 per cent in 2011-12
- Because of a decline in the number of recorded rural women workers, particularly those classified as self-employed in agriculture.
- Rising real wages that have allowed women in poor households to avoid or reduce involvement in very physically arduous and demanding work with relatively low wages and instead focus more on "domestic duties"
- Also been arguments about the loss of access to common property resources that allowed women to work collecting plants and herbs, as well as mechanisation of agriculture that is paradoxically typically associated with women losing work once it becomes less physically demanding and arduous
- Whatever occurred in agriculture, other forms of recognised employment for women in other sectors like industry and services simply did not increase enough to make a dent

### Unpaid work

- Work, including paid and unpaid work, defines the conditions of human existence in fundamental ways.
- Social recognition and valuation of the work that is performed by different categories of people is an important reflection of the value that societies attach to the people who perform it
- Low recorded work participation of women is often a reflection of the low status of women in society, since the huge amount of unpaid labour that they perform is simply not recognised.
- Even NSSO surveys don't recognise those who attend to domestic duties in unpaid fashion within the home; and those who attend to domestic duties and are also engaged in free collection of goods (vegetables, roots, firewood, cattle feed, etc.), sewing, tailoring, weaving, etc. for household use
- These are all economic activities, and would be recognised as employment, if they led to any payment
- Instead of women's participation rates being less than half those of men, they turn out to be higher (at 86.2 per cent, compared to 79.8 per cent for men).
- There is less evidence of a significant decline in women's work participation in recent times

- Women are forced to engage in various activities such as fetching firewood and water for household consumption, because of the failure of the state to provide basic infrastructure and amenities, in addition to the denial of adequate affordable care services which are not recognised by NSSO as work as aforementioned
- Very existence of the unpaid-paid work continuum affects not only the bargaining power of paid women workers, but also social attitudes towards them and to their work, and indeed their own reservation wages and self-perception
- Gender gap in wages in India is among the highest in the world and that women workers tend to be concentrated in the most low-paid, vulnerable and insecure jobs with poor working conditions.
- Also huge amount of diversity, not only across urban and rural areas but across different States, socio-cultural groups and income classes.
- Substantial progress for particular groups of more privileged women and girls.

# Connecting the dots

- How did the role of women get shaped by political developments in the country in modern history? Explain.
- Why have the laws made to ensure gender equality not been effective? What remedial measures should be taken?
- What kind of health deprivation women face due to social factors? What steps the government is taking to subsidise the crisis?
- India has an abysmally low sex ratio in the urban high income regions. What are the sociological and economic reasons which explain this phenomenon?
- How can education play a role in the empowerment of women? Trace the evolution of women education since independence
- Examine the consequences of unpaid work done by women in households on the women empowerment.
- What is the nature of employment of women in India? Explain the anomalies if any.

# **Migration patterns in India**

#### **GS 1**

• Urbanization, their problems and their remedies

#### Context

- Migration statistics has not been anyone's priority in India.
- The National Sample Survey Office's (NSSO) survey of employment–unemployment and migration was last conducted in 2007–08.
- In the era of "smart" and "digital," programmes and policies related to migration are being conceived sans robust and timely data.
- Economic Survey 2016–17 highlights this data paucity while also opening up the possibilities of using innovative sources and methods for estimating human mobility in the country.

#### **Migration destinations**

- Total number of migrants residing in rural and urban India has increased steadily over the successive decades
- The top seven states, namely Maharashtra, Andhra Pradesh (AP), West Bengal, Uttar Pradesh (UP), Gujarat, Tamil Nadu, and Karnataka accounted for 62.8% of the total male migrant population of India.
- Barring UP, the other six states are relatively the more urbanised among major Indian states.
- The two factors that act as magnets for migrants and migrant workers from out of state are: these states have a diversified economic base, and they offer more employment opportunities.

# Female migration

- In the case of share of female migrants, the **top five states** in order of their share in 2001 and 2011 were unchanged.
- These states were **UP**, **Maharashtra**, **Bihar**, **West Bengal**, **and AP**. The share of these states in 2001 and 2011 was 49.8% and 48.2%, respectively.
- Women move primarily on account of marriage, and it is not an unreasonable conjecture that most women are also likely to marry within the same state.
- These five states accounted for 48.6% of India's total population in both 2001 and 2011. This is reflected in the share of these five states in terms of total female migrants.

# Component of urban population growth

- The increase in urban population is typically decomposed into the following three components: natural increase in urban areas, reclassification of rural areas as urban and net migration from rural to urban areas.
- In the popular imagination, rural-urban migration has been imagined as the prime cause for the growth of cities and blamed for associated problems like congestion and an increase in slums.
- However, the relative importance of reclassification and net rural-urban migration is context specific and varies across countries and also within India.
- Reclassification of rural areas as urban (new census town) accounted for nearly 30% of the urban growth in the period 2001–11, while 22.2% of urban population growth was on account of migration.

#### **Migration streams**

- 1. Rural-rural migration
- The importance of the rural-rural migration stream has declined both in case of men and women, not an uncommon feature during the process of economic growth and development.
- 2. Rural-urban migration
- The share of the rural-urban migration stream has marginally increased.
- 3. Urban-urban migration
- The real growth is in urban-urban movements.
- In the case of male (female) migrants, the share of urban–urban migration has gone up from 19% (9.1%) in 1991 to 28.8% (15.1%) in 2011.

# 4. Urban-rural migration

- Very little attention is also typically paid to the urban–rural migration stream.
- The share of urban-rural migration stream increased by 1.6 percentage points from 4.7% in 2001 to 5.8% in 2011.
- The increase is evident for both men and women.
- Similar to China, return migration in India may also be driven by older migrants who move back to the village after their active work life is over.

- If it is the elderly who constitute a large share of return migrants, then India will need to face head on the healthcare and care demands of these returnees.
- Migrants might return from urban to rural areas because cities are exclusionary and housing in urban areas expensive and crowded.
- The unavailability of secure regular salaried jobs that match their, usually low, skill levels might have induced urban migrants to return.

### Marriage migration

- What is missed in the discourse is that women who move due to marriage also work.
- Among all the female migrants who stated their main reason for migration as marriage or movement with earning member, nearly 35% of rural and 14% of urban women are found to be currently part of the active workforce.

# Migration for education

- Migration for education, a relatively under researched yet important area, can be traced to the uneven distribution of institutes of higher learning across the Indian states.
- The issue of reservation by domicile status in institutes of higher learning is likely to become a contested issue in the Indian courts in the coming decades.
- Domicile restrictions imposed by state governments on college and university admissions have already been challenged and quashed in court.

# Migration and the problems associated

- Cities have evolved through migration, cityward migration, and interstate migration in particular.
- Though the Constitution guarantees freedom of movement and freedom to settle within India as a fundamental right of all citizens (Article 19), migrants face several barriers in their ability to access civic amenities, housing, and employment.
- Women migrants are likely to suffer more in such situations
- **Migration** raises the central issue of the **right to the city**: the right of everyone, to access the benefits that a city offers.
- identify how best to promote awareness and representation of these groups within the city
- The right to the city perspective ultimately seeks to achieve urban transformation that is just and equitable in contrast to urbanisation based on exclusion, deprivation, and discrimination.

• Right to the city is also expected to unite disparate categories of deprived people under the common vision of building our future by building cities

Cities and historical social relations

- Migration accompanied urbanisation in Western countries as cities emerged as centres of economic growth with industrialisation.
- The nature of the city has changed from an oeuvre (work of art) to a commodity that shapes social relations, leading to unequal power, wealth, dominance, and exploitation of labour by the dominant capitalist class
- In India, large cities like Mumbai, Kolkata, and Chennai, being ports, were trade centres during colonial rule and grew into centres of factory production following industrialisation.
- As a result, existing social relations and hierarchies based on religion, caste, and gender came into conflict with the novel social forces generated by new cities and urbanisation.
- However, instead of being eroded by urbanisation, historic identities either remained intact or morphed into new forms of inequity and discrimination in the decades after independence
- In most cities, segregation along caste and community lines is still very prominently visible.

# Connecting the dots

- Migration pattern in India represent the rural-urban divide. Critically elaborate.
- The last decade has seen increase in urban-rural migration. Examine why. And what are the incipient changes accompanied by this stream?

# **Polity and Governance**

# **Remedy Worse Than the Disease**

#### **GS 2**

- Important aspects of governance, transparency and accountability
- Probity in Governance: Concept of public service; Work culture, Quality of service delivery, Utilization of public funds, challenges of corruption

#### Introduction

- Corruption in delivery of services and basic amenities to the citizens is the most pervasive and painful feature of the Indian governance. There is enormous evidence of ubiquitous corruption at all levels.
- India persistently ranks 79th among 176 countries as per the Corruption Perceptions Index, 2016 published by the corruption watchdog Transparency International (TI).
- Mega scams in India, including those that rocked our polity and society in recent years are all too familiar to us.

# Types of corruption

• As Samuel Paul described, there are two broad forms of corruption prevalent in India.

#### **Collusive Corruption**

- One is the **grand collusive corruption** where the bribe giver and bribe taker collude and conspire to confer undue benefits out of turn to favour individuals and corporates.
- Such collusive corruption undermines competition and causes loss to the exchequer, or damages public interest by environmental pollution or other social costs.
- In such cases of collusive corruption, both the bribe giver and corrupt public servant benefit at the cost of the exchequer and society.
- Examples of such collusive corruption include bribery in awarding of contracts, allocation of natural resources, granting of licences, appointment and transfer of public officials, and fabricating evidence or unduly influencing investigation or prosecution of a case.

- In all such cases, while the bribe taker is clearly culpable, the bribe giver is no less culpable as they gain undue advantage, obstruct law, undermine public good, plunder the state exchequer, distort fair competition, adversely affect the quality of public goods and services, and in general, seriously damage the governance process.
- It is for these reasons that the Government of India's **Second Administrative Reforms Commission (ARC)**, in its Fourth Report on Ethics in Governance (January 2007), has inter alia, made the following **recommendations**:
- (a) Section 7 of the Prevention of Corruption Act needs to be amended to provide for a special offence of "collusive bribery." An offence could be classified as "collusive bribery" if the outcome or intended outcome of the transaction leads to a loss to the state, public, or public interest.
- (b) In all such cases if it is established that the interest of the state or public has suffered because of an act of a public servant, then the court shall presume that the public servant and the beneficiary of the decision committed an offence of collusive bribery.
- (c) The punishments for all such cases of collusive bribery should be double that of other cases of bribery. The law may be suitably amended in this regard.

#### **Extortion Bribery**

- The second, far more common form of corruption most citizens experience in their daily lives while dealing with the government agencies is extortion.
- The anecdotal experience of citizens facing corruption mostly in delivery of public services and provision of basic amenities.
- Such cases of extortion bribery involve a wide range of basic services and amenities: ration card, birth certificate, caste certificate, income certificate, water connection, power connection, building plan approval, copy of land record, land survey, registration of a sale deed, pattadar passbook, registration of a first information report, judgment copy, etc.
- In all such cases, the citizen is seeking a service, amenity or document they are entitled to get, and there is neither out-of-turn favour nor any loss to the exchequer.
- Because of the asymmetry of power between the low-level public servants and the bulk of the poor and hapless citizens, the citizen is often forced to pay a bribe.
- Failure to comply with demands for bribe most often result in delays, repeated visits to government office, harassment, humiliation, monetary loss and loss of opportunity (rations, water supply, electricity, fee reimbursement, school admission and free healthcare).

- Sometimes the loss on account of denial of a public service could impose an intolerable burden on a poor family and lead to further impoverishment and suffering.
- Such a prospect makes the weak and defenceless citizens vulnerable to extortion of bribes even by low-level functionaries in the government.
- Criminalising such citizens, trapped in the milieu of corruption, is counterproductive and unenforceable. The state that has failed to protect the citizens and provide even the most basic services cannot put the onus on them and treat them as criminals.
- Such an approach is morally reprehensible and will only further alienate ordinary citizens from our governance process and drive them to greater poverty and despair.
- The answer to such extortionary corruption is to create a framework in which efficient and prompt services are delivered without bribe, influence, or harassment; not punishing the hapless citizen who is the victim.

#### Changes required

- Under the Section 12 of Prevention of Corruption (PoC) Act, all bribe givers (whether they are victims of extortion or active beneficiaries in collusive corruption) are guilty of abetment of corruption and are punishable with imprisonment for a term which shall not be less than six months, but which may extend to five years, and shall also be liable to fine.
- The Prevention of Corruption (Amendment) Bill 2013, now proposes Section 8 to the effect that the bribe giver in all cases "shall be punishable with imprisonment which shall not be less than three years but which may extend to seven years and shall also be liable to fine."
- Mining laws need to be amended to enforce allocation of mining rights through transparent bidding process and, as far as practicable, all natural resource allocations should be through a transparent, competitive process.

# Connecting the dots

• It is ascertained that bribe giver and bribe taker are dynamically placed according to the exigencies of the services sought. Examine in context of tackling corruption by suggesting suitable steps.

# **Issues of Healthcare – Primary and Secondary-Tertiary levels**

# **GS 2**

• Issues relating to health

# GS 3

• Effects of liberalisation

# Primacy of primary healthcare

- This debate refers to doctors and hospitals alone, with an unquestioning acceptance of the dominant hospital-centred Euro-American model of healthcare developed in the late-19th/early-20th century.
- This system is a mirage that most countries have been chasing since the 1950s-1960s, and now corporate hospitals have become its icons.

# Alma Ata Declaration

- Forty years ago, the doctor and hospital-centred healthcare was internationally recognised as neither desirable nor feasible.
- The Alma Ata declaration on "Health for All" in 1978 set out a broad set of principles called the Primary Health Care (PHC) approach.
- It focussed on multi-dimensional, inter-sectoral healthcare, which was to be made available "closest to home".
- It required technology to be simple and low cost, while being effective and safe.
- Primary care, with secondary and tertiary levels also adopting PHC principles, was envisioned as the hub of this sytem.
- This does not mean lesser secondary/tertiary level services but implies that they must be affordable and accessible, utilising technologies that provide the core of available health knowledge without unnecessary frills.
- "Decentering" of hospitals implies that primary healthcare providers are in a leadership position to identify local priorities for people's health and the kind of services individual patients need much like the family doctor.
- The experience of health systems in the UK and Thailand which give this "gatekeeper" role to the primary health workers — show that this approach creates more rational, affordable and comprehensive healthcare systems.

# Effects of liberalisation on primary healthcare

• In the name of PHC, what has developed in our public system is a **network of primary-level services with varying degrees of efficiency across states**.

- However, with the doctor and institution-centred mindset supervening, there has been in, most states, a complete deskilling of the various primary-level healthcare providers since the 1990s.
- The male multi-purpose worker (MPW) was weeded out
- The auxiliary-nurse-midwife (ANM) has been largely deskilled she has lost her child-birth related skills to the institutionalisation of births and largely become a clerical keeper of records.
- The dai, the traditionally skilled provider of maternal and child health services at community level, has been delegitimised.
- The new addition, the ASHA (Accredited Social Health Activist), is envisaged as a communicator and mobiliser, not as someone with hands-on clinical skills.
- The "skilled" healthcare providers now reaching the rural and urban poor are the private sector jhola-chhaap providers of allopathic treatment who have no formal training for it.
- Together with the chemist, they are the face of the private sector availed in over 50 per cent of illness episodes.

National Health Policy and Primary health

- Suggestions in the National Health Policy (NHP) 2017
- 1. Creation of a public health cadre,
- 2. introducing nurses and AYUSH practitioners with bridge training as mid-level practitioners at the primary level,
- 3. revamping the regulatory mechanism and the curriculum of medical education, and
- 4. promoting medical pluralism

Way forward

- Making the primary level the hub means enhancing capacities of people/communities/homes for self-care.
- The ASHA, the dai with traditional skills and modern hygiene, the re-skilled ANM and the ICDS workers, should together form a multi-skilled team at the village level. The return of the male MPW and the entry of the mid-level provider will strengthen the inter-sectoral collaborations required for health. More doctors have to be inducted into the public system by revamping recruitment procedures and improving conditions.

### Secondary and tertiary healthcare

- Secondary/tertiary-level hospitals, public and private, have to be **re-structured along PHC principles.**
- A large number of experiments such as Jan Swasthya Sahyog hospital (Bilaspur), the Association of Rural Surgeons of India, RUHSA (Vellore) and SEARCH (Gadchiroli) demonstrate the viability of rational and effective secondary and tertiary services.
- There is also much to learn from the **experiences of Sri Lanka and Thailand**.
- The private sector should be brought under regulations that are based on PHC criteria.

# Health Insurance

• Health insurance in low- and middle-income countries is recognised as a strategy to improve health access and facilitate Universal Health Care (UHC) by reducing the financial burden of accessing good health.

#### Need of insurance

- To move towards UHC, risk pooling and prepayment are necessary.
- When a large proportion of health expenditure is funded by out-of-pocket payment, as is the case in India, households or individuals are subject to major financial risk when they fall ill, because there is no sharing of risk."
- In Thailand, UHC has been implemented using social insurance.
- Complete tax revenue financing, like in the UK, is not feasible for lower and lowermiddle income countries, including India.
- To have the government pay for everybody and everything (is not feasible), so individual contribution is needed.
- In India, insurance is often associated with for-profit private insurance, when "the majority of the world's insurance is social or public health insurance.

# Rashtriya Swasthya Bima Yojana (RSBY)

- RSBY, a tax-financed health insurance that is managed through private insurance companies, was introduced in 2008 for inpatient care to Below Poverty Line (BPL) families.
- Over 40 million families were enrolled till September 2016.

# Outpatient care not included

• Outpatient care in the insurance scheme should be automatically included as

- Outpatient care comprises up to 70% of total healthcare utilisation in India and 60% of total health expenditure.
- It will be particularly critical for the poor as they would prefer not to get hospitalised and lose their work days and wages.

#### Low insurance sum

- Despite rising healthcare costs, the scheme continues to be capped at Rs 30,000 since 2008.
- There has not been any revision, while the costs of hospitalisation have almost doubled
- For a family of 4 or 4.5 persons, it is grossly inadequate.

# Increase in household consumption

- The one positive impact of the scheme was in non-medical spending
- The poor increased their household consumption level, or non-medical spending, after RSBY intervention.

# **Experiences of states**

- Yeshasvini scheme in Karnataka reported an over 70% reduction in out-pocket spending, and a 30% reduction in borrowings.
- Rajiv Aarogyasri scheme in Andhra Pradesh reduced inpatient out-of-pocket spending.
- Although relatively an economically and socially disadvantaged state, the infant mortality rate in Bihar is very close to the all-India average.
- Presence of an optimal targeting of funds under the National Rural Health Mission to low-performing districts.

# Connecting the dots

- Primary healthcare is significant for the robust healthcare system. Explain in the Indian context.
- Health insurance is a critical element to ensure tertiary level health services for all needy. Elaborate.

# Malnutrition - all aspects and schemes

#### **GS 2**

• Issues relating to poverty and hunger

#### Context

- The World Bank says the poverty rate in India is 21.2 per cent. That rate is similar to the Gallup hunger estimates of 22.4 per cent.
- The malnutrition rate (stunting among children below five years) is **38.4 per cent** according to the latest **National Family Health Survey (NFHS 4**) there are 47.5 million stunted children in India out of 154.8 million globally.
- This is because of poor diet, poor healthcare and poor sanitation.
- Global hunger index doesn't measure "hunger" at all.
- The index is mostly about child stunting, wasting etc, which have collectively come to be called "child malnutrition".
- India's under three-year-old child malnutrition rate was double the poverty rate and 20 times the percentage of the hungry in India (percentage of households in which any member had less than two full meals, on any day of the month, that is, even one day without two square meals counts as hungry).

# Aspects of malnutrition

- There are three broad aspects of malnutrition that must be kept in mind when devising strategies for dealing with it.
- 1. Access to food items
- This depends on household income or the ability to sustain certain levels of consumption.
- The rate of poverty (headcount ratio) is the standard indicator.

# 2. Information about nutrition

- Two, household/family knowledge and information about good nutrition.
- This includes **knowledge about locally available foods that are good** from the nutrition perspective.
- This can be based on:
- i. Traditional knowledge (old wives' tales);

- ii. the ability to read coupled with the availability of appropriate reading material on nutrition;
- iii. access to media such as newspapers, radio and TV, coupled with propagation of such information on radio
- iv. special **programmes like the ICDS that directly educate mothers** about child rearing and nutrition.

# 3. State of health

- Even if the right kind of food and nutrition is available, a child may not be able to consume and/or absorb it properly due to ill health or sickness.
- For instance, a child suffering from diarrhoea much of the time is unlikely to be able to ingest good and healthy food and absorb the nutrition, even if it is freely available and provided to the child by the mother/parents.
- Public health measures like clean drinking water, sanitation, sewerage, control of communicable and epidemic diseases and public health education thus play an important role in reducing mortality rates at every age and across gender.

# After liberalization

- There has been a steady decline in childhood stunting, but at a lower rate than desirable; levels of anaemia have remained stagnant; and decline in adult undernutrition have been offset by sharp increases in adult overweight and obesity
- The causes of malnutrition span determinants at the individual, community, and societal levels
- As per NFHS-4 the level of underweight has decreased by 6.8% and is stunting by
   9.6%. Level of anaemia has decreased by 11% as compared to NNHS-3 figures.

# Impact of malnutrition on education

- World Development Report 2018 of World Bank discusses the far-reaching impact of poverty and chronic malnutrition on the physical and mental development of children.
- Poverty undermines a child's learning.
- Severe deprivations—whether in terms of nutrition, unhealthy environments, or lack of nurture by caregivers—have long-lasting effects because they impair infants' brain development.
- The effects of stunting in the early years on physical, cognitive and socio-emotional development prevent children from learning well in later years. So even in a good school, deprived children learn less.

- If early childhood development programmes are to compensate for poor children's disadvantages, they need to be scaled up and resourced for nutritional inputs, along with a focus on antenatal and postnatal care, sanitation, and counselling of parents for effective early child stimulation.
- Reduction of child stunting should be one of the major moral imperatives before nations today.

#### Steps needed to tackle malnutrition

#### Sanitation

- Sanitation improvement is key, but so too are improving diets, and we know that especially for very young children (6-23 months), diets (meaning actual food intake) are terrible, but only about one in 10 meet diet adequacy (NFHS 4).
- For every existing town, states must plan and install a modern drainage, sewerage and water supply system with water storage and purification, sewage treatment plants and garbage disposal sites.

# Amending existing social sector programmes

- There are avenues available to maximise the nutrition-sensitivity of India's largescale Social Protection Programmes—TPDS, MGNREGA, and MDMS
- Addressing underlying determinants of fetal and childhood nutrition—involves strengthening the delivery of the primary mandates of these programmes.
- Programmes can incorporate specific nutrition goals and actions such as fortification and commodity basket diversification.
- Under the third approach, programmes can serve as delivery platforms for nutrition-specific interventions such as providing deworming tablets, handwashing training, and micronutrient supplementation to schoolgoing children.
- Going forward, the inclusion of fortification in the TPDS and MDMS, and the addition of deworming and micronutrients to the MDMS, at scale, could effectively address micronutrient deficiencies, reduce anaemia levels, and possibly even have cognitive benefits among target populations.

# Literacy about nutrition

• Literacy can help in acquiring knowledge about hygiene, nutrition and sanitation. The government must ensure that every citizen has the education that she is supposed to acquire with the completion of primary education. • But this education must also be made more relevant by providing information on matters that will improve their lives (health, hygiene, nutrition) and equip them to find useful information.

### **Government efforts - Also important Prelims**

- 1. Pradhan Mantri Matritva Vandana Yojana
- Pradhan Mantri Matritva Vandana Yojana (PMMVY), previously Indira Gandhi Matritva Sahyog Yojana (IGMSY), is a maternity benefit program run by the government of India.
- It is a conditional cash transfer scheme for pregnant and lactating women of 19 years of age or above for first two live births.
- It provides a partial wage compensation to women for wage-loss during childbirth and childcare and to provide conditions for safe delivery and good nutrition and feeding practices.
- In 2013, the scheme was brought under the National Food Security Act, 2013 to implement the provision of cash maternity benefit of ₹6,000 stated in the Act.
- It is Centrally Sponsored Scheme under which the cost sharing ratio between the Centre and the States & UTs with Legislature is 60:40, for North-Eastern States & three Himalayan States, it is 90:10 and 100% Central assistance for Union Territories without Legislature.

# 2. National Nutrition Mission

- The cabinet has approved the setting up of a National Nutrition Mission (NNM) with a three-year budget of Rs9,046.17 crore, to rein in malnourishment and stunted growth.
- NNM will address three aspects—the food that should be given to rein in stunting, undernourishment, low birthweight and anaemia; the delivery system required for it; and monitoring of the entire process.
- Under the mission, the government is targeting a reduction of 2% a year in stunting, undernutrition and low birthweight among 100 million people.
- Also, it aims to reduce anaemia among young children, women and adolescent girls by 3% a year.
- The mission would include several components like an ICT (information and communications technology)-based real-time monitoring system, incentivizing of states and Union territories to meet their targets, social audits, and setting up of nutrition resource centres.

# Implementation:

- Under NNM, the ministries of women and child development, health and family welfare, and water and sanitation will work together. The mission will form an apex body that would fix targets and monitor, supervise and guide nutrition-related interventions across the ministries.
- The implementation strategy for NNM would be based on intense monitoring and a convergence action plan up to the grass-roots level. The programme would be undertaken in a phased manner, covering 315 districts in 2017-18, 235 districts in 2018-19 and the remaining districts in 2019-20.
- NNM would be implemented using information technology as the basic tool; workers at anganwadis (women and child development centres) would be given smartphones and their supervisors smart tablets to monitor daily activities and compile reports. The move will be a deviation from the old practice of maintaining registers and will also help to reduce pilferage.

# 3. MAA programme

- To intensify the efforts further for promotion of breastfeeding, the Health Ministry has initiated a nationwide programme called "MAA-Mother's Absolute Affection" to bring undiluted focus on promotion of breastfeeding and provision of services towards supporting breastfeeding, along with ongoing efforts of routine health systems.
- The key components of the MAA programme are awareness generation, promotion of breastfeeding & inter personal counselling at community level, skilled support for breastfeeding at delivery points and monitoring and Award/ recognition of health facility.
- ASHA has been incentivized for reaching out to pregnant and lactating mothers and provide information on benefits and techniques of successful breastfeeding during interpersonal communication.
- ANMs at all sub-centres and health personnel at all delivery points are being trained for providing skilled support to mothers referred with issues related to breastfeeding.
- Under NHM, funding support has been recommended for all States and UTs for successful implementation of the MAA programme.

# Significance of breastfeeding

• Breastfeeding is an important efficient and cost-effective intervention promoting child survival and health. Breastfeeding within an hour of birth could prevent 20% of the newborn deaths.

- Infants who are not breastfed are 15 times more likely to die from pnuemonia and 11 times more likely to die from diarrhoea than children who are exclusively breastfed, which are two leading causes of death in children under-five years of age.
- In addition, children who were not breastfed are at increased risk for diabetes, obesity, allergies, asthma, childhood leukemia, sudden infant death syndrome etc.
- Apart from mortality and morbidity benefits, **breastfeeding also has tremendous impact on improved IQ**.

#### **Connecting the dots**

• Childhood stunting and wasting are the biggest factors in declining rank of India in Global Hunger Index. Explain the reasons important for India's pathetic state on the mentioned factors. What steps should be taken to address them?

# **Economic Developments**

# **Rural Economy and inclusive growth**

#### **GS 3**

- Inclusive growth
- Indian Economy Growth and development
- Tamil Nadu has been recognised for its ability to sustain growth along with good
  human development outcomes
- Scholars attribute the emergence of this model to a set of social policies initiated in response to a history of collective action driven by social and political mobilisation among lower castes, resulting in a political regime described as "competitive populism"
- While the state's welfare net is believed to have offset the negative fallout of agrarian distress to an extent, its limits are now evident.
- To ensure a process of sustained accumulation and development in post-colonial economies, Marxist scholars consider the resolution of the "agrarian question" to be critical Patnaik

#### Bernstein's aspects of agrarian question

### 1. Productive relations between small and big farmers

- The first draws attention to changes in control over productive assets in agriculture and the extent to which processes of differentiation and dispossession transform self-employed "traditional" cultivators into waged labourers on the one hand and capitalist farmers on the other.
- The emergence of such production relations is critical to the next problematique of the agrarian question, that is, **capital accumulation**.

# 2. Agricultural labour

- The agricultural sector should be in a phase of expanded reproduction that allows for surpluses to be generated and invested in the non-agricultural sector, the expansion of which can absorb those moving out of agriculture as waged labourers.
- The inability of the agricultural sector to generate surpluses and hence bring about structural transformation can therefore undermine the process of capitalist modernisation of the economy.
- Apart from the social justice imperative, land reform was therefore seen as crucial to this process as it generates greater incentives for surplus generation.
- Bernstein argues that under globalising conditions, ruling elites no longer look to the agricultural sector to source capital as they can overcome the capital constraint by access to global capital.
- More important, therefore, is the agrarian question of labour: the ability of "surplus" labour to move out of agriculture and that of the non-agricultural sectors to absorb the workforce productively.

#### Conclusion

• While social welfare nets are crucial to negotiate the vulnerabilities of a marketdriven growth process and do open up new political and economic spaces, it is inadequate in a context where the secondary sector has not been able to absorb labour to the extent anticipated.

#### **Connecting the dots**

• Secondary sector cannot grow efficiently unless the productive capital of agriculture is enhanced. Elaborate.

# Agricultural prospects – structural issues

#### **GS 3**

- Inclusive growth
- Effects of liberalisation

### Introduction

- Few geographies and communities in today's world remain exclusively rural or urban.
- Rural social customs and food culture are commonly found in urban life.
- Rural life is replete with capital-driven technologies and urban "externalities" in all their forms.
- The coexistence of urbanism and rurality in hybrid lifestyles reflect both the contradictions and seamlessness of social evolution.
- This said, although rural-urban socio-economic boundaries are blurring, rurality continues to prevail in India in diverse forms.

# Urbanisation and capitalism

- Rural surpluses fuelling market-centric towns around agricultural hubs can be traced to the mercantile economy of irrigated paddy lands in Tamil Nadu, to the agro-industrial regions of North Bihar, the North East Americas or Thailand.
- They indicate that capitalism and urbanisation are often built around rural enterprise.
- From the second half of 20th century onwards, after a brief spell of economic success during the green revolution, material prosperity in agrarian India has been an exception rather than the norm.
- Despite a growing economy, agricultural trade, and technology, India's agricultural performance in general, and the welfare of the large constituency of smallholder agriculturists, has been poor.
- This noted, a development model based on generating capital in the rural primary sector is important in India for many reasons: the large number of people dependent directly or indirectly on agriculture, the persisting dominance of rural smallholders, the extent of land under diverse farming systems and the role this sector plays in the well-being and sustainability of a highly populated nation.

# Effects of liberalisation on farming

# 1. Technology advancement

- Despite **technological advancements** and large budgetary outlays, the decline of agrarian well-being is fairly evident.
- 2. Agricultural distress in various forms
- Increased dependence of farmers on a seller's market for inputs amidst volatility in agricultural prices and climate, stagnating yields, a declining share in gross domestic product (GDP) and degradation of land and water resources.
- This has to be read along with the fact that 58% of rural households depend significantly on agricultural activities and around 67.1% of the total income of a typical farm family is drawn from agriculture (**NSSO 2014**b).
- 3. Demand for food increased
- A surge in the number of middle-class consumers (from 25 million in 1995–96 to 153 million in 2009–10 has pushed the demand for food commodities.
- 4. Change in consumption pattern
- Moreover, the nature of consumption has also shifted from cereals and pulses towards vegetables, fruits, milk, egg, meat and fish (NSSO 2014a).
- 5. Ecological and economic concerns
- However, the urban phenomenon of a surge in demand and related concerns of safe and healthy food has not been translated into benefits for agrarian livelihood.
- Instead, growing demand has raised serious concerns for livelihoods, food safety, nutritional security, and ecological health.
- Symptomatic of these problems are high food price inflation, farmers' suicides and the water crisis.

# **Declining income of farmers**

- As the Indian economy has grown, farmers earned less and less compared to others.
- Divergence in the growth of average income for different groups—farmers (19%), government employees (370%) and corporate sector employees (1,000%)—during last three decades.

- If this continues, uplifting farm livelihoods along with urban growth will remain a mirage, especially since about 60% of agricultural land is at risk of losing productivity.
- Environmental crisis in terms of water and biodiversity threaten the production prospects.
- With increased irrigation also came inefficiency in water use, bringing in depletion of groundwater, surface flows and soil moisture along with disappearance of local crops and animals.

#### **Connecting the dots**

• The Central government has emphasised on doubling the income of farmers by 2022. Explain the constraints that are involved in limiting the agricultural growth. Also give suggestions for the same.

#### **Security Issues**

# **Kashmir Policy**

#### **GS 3**

• Challenges to internal security through communication networks

#### Introduction

- **Dineshwar Sharma** was appointed "as the Representative of the Government of India to initiate and carry forward a dialogue with the elected representatives, various organisations and concerned individuals in the State of Jammu and Kashmir
- By denying space for dialogue, the Narendra Modi government has reinforced its policy of a military approach to Kashmir which will only give more opportunities for extremism and violence.
- On September 11, Home Minister Rajnath Singh spelt out the contours of a plan of engagement in Jammu and Kashmir.
- He said that a permanent solution to the Kashmir problem was based on five Cs, which he would define as "compassion, communication, coexistence, confidence building and consistency".

### Compassion

- On the political front as had been indicated at the height of the 2016 summer uprising when he tried to reach out to the separatist camp.
- However, the hard-line approach of the Bharatiya Janata Party (BJP)-led government at the Centre seems to have stalled any such move, and Rajnath Singh found himself isolated in view of the strong lobby that advocated and pursued a **security-oriented approach**.

# Communication

- Communication has been missing.
- The line of communication has been kept open only with those who do not challenge India's rule in Kashmir.
- By gathering the pro-India political parties again and again to understand the Kashmir problem, the government has been defeating the idea of communication with the people of Kashmir.
- Shutting the door on those who have been spearheading the resistance against the state has not been helpful in past and the same would be the case with the present and the future.
- By not engaging in a political dialogue with forces such as the All Parties Hurriyat Conference, the Government of India is also giving them an excuse to not do anything.
- Having a line of communication and putting their ability to test would have helped people think about the capacities of the leadership, but that perhaps cannot come without communication that has no precondition.

# Coexistence

- There is no coexistence on the ground.
- Particularly in the past few years, the effort has been to isolate the community.
- New Delhi has defeated the idea of Jammu and Kashmir being an "integral part of India" on the ground by not showing any respect for coexistence.
- Use of military power, that too, indiscriminately against the civilian population, putting them under curfew for 54 days at a stretch, and protecting those who commit human rights violations are some of the hard facts that talk about a different existence.

# Confidence building

- Confidence-building measures have been another casualty. Confidence has been shaken for a long time now.
- Deploying more and more forces does not help to build confidence; it dents the very essence of it.
- Confidence comes from measures that are aimed at addressing the concerns that are directly linked to people's existence, their daily life, and their rights.
- The government's loss of confidence in the people has dealt a severe blow to any process of reconciliation.
- When institutions fail to deliver justice, there can be no hope of confidence building. By treating the people as the "other", confidence-building measures can become farfetched and that is how it has played on the ground.
- The finest example of confidence building *vis-a-vis* Kashmir was when former Prime Minister **A.B. Vajpayee** took a giant step by extending a hand of friendship to Pakistan from Srinagar on April 18, 2003.
- This gesture was followed by opening the roads between the divided Jammu and Kashmir, starting trade exchanges across the Line of Control (LoC) and allowing people on the borders to live peacefully.

# Consistency

- Consistency is the only requirement in dealing with an issue like Kashmir.
- No matter what happens, foreign policy has to be consistent.

# Strategic advantage for Pakistan due to Kashmir

- It is a reasonable expectation that J&K could turn restive at the onset of war. Pakistan has not sustained the insurgency in Kashmir out of a sense of affinity with Kashmiris alone. Its military overlords have national security and the military's institutional interests at heart.
- Operationally, they wish to undercut India's conventional military advantage prior to its application on the western front.
- Keeping rear areas insecure helps in interdicting and disrupting the Indian forces en route to the frontline.
- An example is Pakistan's choice in the late 1990s of the Hill Kaka area in Surankote tehsil as a base for terrorism.
- Not only would the terrorist base prove useful for disrupting India's defences in Poonch sector from the rear, but would also help sustain the insurgency across the Pir Panjal range in the Kashmir Valley. The base was finally evicted in a division-

level operation, Operation Sarp Vinash (2003), on the heels of Operation Parakram (2001–02).

#### Afghanistan factor

- This makes clear the background to the appointment as not rooted so much in a conflict resolution initiative regarding India's leading internal security challenge, as much as in the regional security situation, energised by US President Donald Trump's Afghanistan policy speech of 21 August 2017.
- Keeping its interests at heart in Afghanistan, the US has expressed its keenness on occasion to intervene in the India–Pakistan stand-off that Pakistan, leveraging its strategic location, regularly urged.
- While India had in 2009 decisively rebuffed Richard Holbrooke, US Special Representative to Afghanistan and Pakistan (Af–Pak), the new US administration in its settling-down stage had revisited the notion.
- The Pakistanis, being past masters at manipulating the US, will, to their advantage, allow transit of US and North Atlantic Treaty Organization (NATO) logistic lines through Pakistan, demanding that the US lean on India over the Kashmir issue in return.
- Apprehending this, India appears to have scrambled to put together a dialogue process of sorts in Kashmir.

# Connecting the dots

- The security situation in Kashmir cannot be tackled without opening communication channels with the civilians there. Examine.
- Why is it imperative for India to have strong internal security for its security of the borders? Explain.

# **Environmental issues**

### **GS 3**

• Environmental pollution and degradation

#### Context

• British journal *Lancet* that concluded that there were 25 lakh premature deaths in India in 2015 due to air pollution.

#### **CPCB** suggestions earlier on crackers

- Sulphur in fireworks should not be permitted.
- Sulphur, on combustion, produces sulphur dioxide, which is extremely harmful to health. T
- Bursting crackers joined together should be banned.

# Earlier judgement on crackers

- Delhi High Court on September 14, 1998, in Sagun Kaushik vs Lt Governor of Delhi.
- In this case, the High Court had imposed a ban on the manufacture, sale or use of firecrackers that generated noise levels exceeding the acceptable limit and required manufacturers to specify the noise level on the product itself.
- The High Court also held that people should be made aware of the ill effects of air and noise pollution caused by indiscriminate use of fireworks.

#### Laws regulating crackers

- Rule 118 of the Explosive Rules, 2008, framed under the Explosives Act, 1884, provides for the manner in which licences issued under the Act to store and sell explosives could be suspended or cancelled.
- Sub-rule (5) thereof confers on the Central government the power to suspend or cancel a licence if it considered that it was in the public interest.
- Considering the grave air quality situation in the NCR, the Supreme Court found it was justified in intervening and suspending the licences given to store and sell fireworks in the NCR.

#### Measuring air quality

- The 2016 order noted that air quality was measured in terms of the **Air Quality Index** (**AQI**), **launched** in India on October 17, 2014, by the Union Ministry of Environment and Forests.
- It consists of a comprehensive set of parameters to monitor and assess air quality.
- The AQI considers eight substances as pollutants (particulate matter, or PM 10 and PM 2.5; nitrogen dioxide, or NO2; sulphur dioxide, or SO2; carbon monoxide, or CO; ground-level ozone, or O3; ammonia gas, or NH3; and lead, or Pb), and based on the levels of these pollutants, six categories of AQI, ranging from "Good" to "Severe", have been prescribed.

# Sources of pollution

- North India needs a more holistic solution to the toxic air that residents breathe at the onset of winter.
- The major sources of pollution in the NCR have been clear enough to drive policy changes.
- While their relative contributions are still indeterminate, these include construction dust, vehicular pollution, waste burning, generators and crop residue burning in the Indo-Gangetic plains.
- Ever since 2002, Centre for Science and Environment (CSE) rang the alarm bell about the quality of air in the capital and fought for the substitution of diesel with compressed natural gas (CNG) in all public transport, the crisis was evident.
- Although a metro rail was built, the city's wide roads were progressively jammed with vehicular traffic.
- Diesel-burning trucks continued to cut through the city; solid waste was managed by open burning; industrial clusters were not monitored for pollution; thermal power plants in the vicinity of the city continued to spew out sulphur dioxide and fly ash; and hundreds of diesel generators added to the mess.
- Together they enveloped the city in poisonous air throughout the year, not just during the winter when it was visible as smog.

#### IIT Report

# On industrial pollution

• Last year, the **Indian Institute of Technology Kanpur** produced a report that laid out the problem of air pollution in Delhi.

- 98% of the sulphur dioxide and 60% of the nitrogen oxide in Delhi's air were the result of pollution from thermal power plants, industrial clusters, restaurants, and diesel generators.
- There are 13 thermal power plants within 300 km of Delhi, 20 big industries, and 25 industrial clusters. Many of these industries use furnace oil for fuel that exceeds the 500 parts per million of sulphur limit.
- Similarly, the thermal power plants are not being monitored for the gases and fly ash they spew into the air.
- In addition, Delhi has 9,000 small hotels and restaurants that use coal for cooking.

# On households

• Also, although 90% of Delhi's residents now use clean fuel, the remaining 10% still cook using wood, crop residue, cow dung, or coal.

# On automobiles

• Additionally, the burgeoning number of automobiles on Delhi's roads is responsible for 20% of the deadly particulate matter (PM2.5).

# Problem not limited to Delhi

• While Delhi is the focus of current discussions, the reality is that many Indian cities have poor air quality due to a combination of the above-mentioned factors.

# Crop residue burning

- Take the 2015 ban on crop-residue burning in Punjab and Haryana for example.
- Two years later, farmers continue to violate it, because the State governments have still not taken the steps required to solve the underlying problem the high cost of cleaning the paddy stubble instead of burning it to prepare the field to sow wheat.
- Though the government has offered subsidies on a **machine called Happy Seeder**, which doesn't require a stubble-free field to plant wheat, farmers haven't taken to it as burning remains cheaper.
- Another option is biomass-energy plants that buy paddy straw from farmers for use in generating power.
- Yet, government incentives for biomass-energy plants haven't been enough to galvanise industry.

### **Intensity of Problem**

- Three years ago, the writing on the wall was the revelation by the **World Health Organisation (WHO)** that Delhi was the most polluted city in the world, and 13 out of the 20 worst impacted were in north India.
- The tell-tale parameter is the smallest measurable particulate matter PM of less than 2.5 microns — which was an annual average of 153 micrograms per cubic metre that year, well above the WHO limit of 35.
- Beijing, which was previously the black sheep of the world's urban air contamination, recorded 53 micrograms.

# Way forward

- To tackle each of these will take decisive and persistent policy actions, not panicdriven and ill-considered bans.
- Regulation, including laws concerning land use; giving priority to public transport over private; creating public access to open and green areas; and checking sources of pollution in the surrounding areas for a city is not an island.

#### Moss serves as a cheap pollution monitor - Prelims

- As per the latest research by scientists from Japan, delicate mosses found on rocks and trees in cities around the world can be used to measure the impact of atmospheric change and could prove a low-cost way to monitor urban pollution.
- Moss- the "bioindicator"- responds to pollution or drought-stress by changing shape, density or disappearing, allowing scientists to calculate atmospheric alterations.

#### Significance of these findings

- Mosses are a common plant in all cities so this method can be used in many countries. They have a big potential to be bioindicators.
- Mosses which generally absorb water and nutrients from their immediate environments – are often cheaper to use than other methods of environmental evaluation, and can also reflect changes to ecosystems.

#### What are Mosses?

• Mosses are small flowerless plants that typically grow in dense green clumps or mats, often in damp or shady locations.

- The individual plants are usually composed of simple leaves that are generally only one cell thick, attached to a stem that may be branched or unbranched and has only a limited role in conducting water and nutrients.
- Although some species have conducting tissues, these are generally poorly developed and structurally different from similar tissue found in vascular plants.
- **Mosses do not have seeds** and after fertilisation develop sporophytes with unbranched stalks topped with single capsules containing spores.

#### Connecting the dots

• Environmental pollution has been a prominent topic in the discourse. Discuss the causes of air pollution and steps that can be taken to tackle it.

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