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HEALTH & ENVIRONMENT

Yojana Summary

HEALTH & ENVIRONMENT

June 2021

LEAD ARTICLE

Connections for Survival
Sunita Narain

FOCUS

Are We on a Cliff?
Balmiki Prasad Singh

SPECIAL ARTICLE

Sustainable Health
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1. SUSTAINABLE HEALTH

- **GS-2:** Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources.
- **GS-2:** Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

FACTS

- ❑ Non communicable diseases (NCDs) lead to the death of 41 million people globally each year. This is more than 70% of all deaths in the world.
- ❑ 77% of NCDs deaths are in middle and low income countries.
- ❑ India's per capita public expenditure on health is just Rs. 1,657 in nominal terms, as compared to Rs. 5,000 in Sri Lanka and Rs 3,500 in Indonesia.
- ❑ India has 7 doctors for 10,000 population, as compared to 9.5 in Malaysia, 11.5 in Philippines, 12.2 in Vietnam and 18.3 in Singapore.
- ❑ Doctor to population ratio in India is 1:1,404 in urban areas and 1:11,000 in the rural areas, against the WHO recommended ratio of 1:1,000.
- ❑ Also, WHO recommends 44.5 health workers per 10,000 population to achieve the Sustainable Development Goals (SDGs). India has only half of it.
- ❑ According to WHO, between the years 1990 and 2015, under-nutrition or malnutrition is the major cause of death in 45% of all deaths among children aged below 5 years.
- ❑ The proportion of underweight children in developing countries has declined from 28% to 16% in 2015. However, in India, about 47% of the children were underweight in 2013.
- ❑ Similarly, the prevalence of Stunting is almost 34.7% in Indian children.
- ❑ **Mental Health:** As per the mental health survey 2016, life time prevalence of mental illness in India is 13.7%. Over 15 Crore patients need active intervention.
 - ❑ o 28% of the global suicides occur in India.
- ❑ **Global Hunger Index 2020:** India ranked 94 among 107 countries. India was classified in 'serious hunger' category.

Prevalence of Non-Communicable Diseases

- ❑ **Non Communicable Diseases (NCDs):** A NCD is a disease which is not transmitted from one person to other directly. They are mostly genetic or lifestyle diseases. For e.g., diseases like Diabetes, hypertension, Parkinson's disease, kidney diseases, heart diseases are examples of NCDs. Out of these, 4 categories viz. cardiovascular diseases, cancers, respiratory diseases and diabetes account for almost 80% of all premature deaths.
- ❑ **Diseases of the Rich:** Unlike the communicable diseases which are more prevalent in the poor, NCDs are mostly limited to the richer class of society. This is because communicable diseases are mostly spread because of the inability to access hygienic food, pure water and clean surroundings. NCDs, on the other hand, are majorly attributed to genetic factors or a consequence of the fast-paced life without adequate concern for health.
- ❑ **Reasons for the spread of NCDs:** Major causes for the spread of the NCDs are attributed to:
 - **Fast-paced life:** A wave of urbanization is underway in the country. This is characterized by high paying jobs in the urban areas. Such a lifestyle does not leave adequate time for leisure activities, leading to stress induced diseases in the individual.
 - **Job targets:** Again, the high paying jobs have strict targets and a fear of job loss, if these targets are not met. This also leads to stress, sometimes deteriorating to depression and other mental issues, if the performance of the individual is not up to the expectations.

- **Insufficient Physical activity:** At the same time, it is seen that contemporary jobs are much more focusses on brain activity, with physical activities taking a back seat. Coupled with insufficient time for physical exercise or gym training, it has the potential to increase the vulnerability towards NCDs.
 - **Unhealthy junk food:** Spread of globalization has led to the adaptation of food habits from different cultures in the country. Experts have called this McDonaldization and Coca-colonization of the world. Though knowledge and appreciation of cultures is a positive effect, it has also promoted uptake of unhealthy junk foods, leading to the spread of NCDs in the community.
 - **Smoking:** Usage of tobacco is another major cause of the spread of NCDs. Usage of tobacco has spread in the form of chewing in rural areas and smoking in urban areas.
 - **Pollution:** The spread of respiratory diseases can be attributed to the use of unclean fuel in rural areas as well as an increase in air pollution across the cities of the country. In fact, media reports have also attributed the increase in the incidence of cancer to the spread of plastic pollution in the country. Though medical science is yet to conclusively establish the cause of cancer in humans.
- **Epidemiological transition:** Studies have pointed to the epidemiological transition in the prevalence of NCDs in the country. A study in the medical journal Lancet has found that 7% of the population of India had diabetes, with 10-15% of the population showing early signs of diabetes viz. increase in blood sugar levels. The study has concluded that the states with high GDP have more prevalence of diabetes.
 - **Changing Trends:** The study has pointed to the increase in the incidence of diabetes in the urban poor. Therefore, it can be inferred that access to food has increased for the urban poor, but, this may not be lead to better nutrition. On the contrary, the study also points out that the urban rich are showing a decline in the incidence of diabetes. This shows the adaptation of better food habits in the rich.

Health for All

- **History of International Cooperation:** Health sector has been accorded top priority by the United Nations, manifested in the Alma Ata Declaration in 1978 which defines health as 'state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity'.
 - The Article 3 of the Universal Declaration of Human Rights (UDHR) provides that everyone has the 'right to life, liberty and security of person'. This is extended by the Supreme Court of India by stating that the right to life includes the right to food and health.
- **Other Countries:**
 - **Thailand:** It has introduced universal health care without any charge for everyone since 2002. As per the recent reports, 77% of all hospital beds in Thailand are in the public sector.
 - **Cuba:** It has a compulsory service for the doctors and nurses for at least 3 years in the rural areas. Also, there is a sustained drive to get all the old people with cataract operated in the public hospitals. Cuba has also started a radical drive to fund the primary healthcare system.
- **Challenges in the health sector:**
 - **Retreat of the State:** Critics have blamed the spread of capitalism for the retreat of the State from the welfare functions like subsidized education and universal health coverage. This has led to a general decline in the coverage of the public health system for the population, especially in the rural areas. For instance, the doctor to population ratio in rural India is 1:11,000 as compared to the WHO recommended ratio of 1:1,000.
 - **Low Health Expenditure:** The burden of a huge population in the country is compounded by a meagre health expenditure of 1.26% of the GDP. This is low even when compared to the south Asian standards, with countries like Bangladesh and Pakistan, spending almost 3% of their GDP on healthcare. Countries like Thailand increased their public health expenditure from 1.7% (2001) of the GDP to 2.7% (2008) in a span of 7 years.
 - **Demand and Supply Mismatch:** The Medical Education system is unable to keep up with the increase in the demand for qualified professionals including doctors, trained nurses and para-medical healthcare personnel. In India, there are only 7 doctors per 10,000 population, as compared to 12.2 in Vietnam and 18.3 in Singapore.

- **Inadequate coverage of the health insurance:** The challenges of the ailing public health system in India are exacerbated by the minuscule insurance coverage. In 2019, India's life insurance penetration stood at around 2.82%. Non-life insurance coverage (like health insurance) is also quite low, at 0.94%.
- **Increase in Out of Pocket Expenditure:** Retreat of the state, minuscule insurance penetration and rise in the incidence of diseases have led to an increase in the out of pocket health expenditure in India. In fact, catastrophic health expenditure is considered the most frequent cause of households slipping below Poverty Line in India.
- **Malpractices by the Medical Professional:** Multiple media reports have pointed to the absence of government doctors in the duty hours due to their commitments to private clinics and hospitals. At the same time, even private doctors have been accused of colluding with the diagnostic services to recommend unnecessary tests to the patients.

Conclusion

- ❑ As the economic growth progresses, there is a need to monitor the population against the risk of spread of NCDs. Also, people must be made aware of the healthier life choices and benefits of a more active and fulfilling life.
- ❑ Also, the government needs to increase the spending in the healthcare sector, because a healthier workforce is one of the most important factors contributing to the economic growth and overall progress of the country.

2. GANDHIAN PERSPECTIVE ON CORONA

- **GS-4:** Contributions of moral thinkers and philosophers from India and world.
- **GS-3:** Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources.

COVID Allowance: The article advocates increasing the salary or providing a COVID allowance to the employees, in the spirit of Trusteeship theory. This is akin to Mahatma Gandhi advocating a plague allowance for the employees during the Ahmedabad Mill Strike. The major reasons behind the provision are:

- ❑ Increased spending at home due to Work from home. For e.g. electricity bills, internet charges etc.
- ❑ One-time infrastructure requirements like purchasing laptops and setting up furniture for make-shift office at home.
- ❑ Lower expenditure by the employer on account of decreased electricity consumption and housekeeping.
- ❑ Increased risk of contraction for employees still needed physically at work or increased transportation charges for private travel arrangements.
- ❑ Increased medical costs, diagnostics and vaccines, both for symptomatic and asymptomatic people.
- ❑ Increased stress due to employees being available 24 x 7 as well as management of both home and office at the same time.
- ❑ Increased mental issues due to financial stress, increased availability, being home-stuck and lesser avenues of recreation.
- ❑ Long term damages to the body organs of the 'recovered' employees, as outlined by some studies.
- ❑ Multiple waves of the pandemic, leading to institutionalization of the pandemic and, therefore, the requirement of support.

Relevance of Gandhiji during the pandemic

- ❑ **Invoking of Gandhian Spirit:** The pandemic has changed the way of managing things in multiple sectors and essentially in our way of life. In the changed scenario, experts have recommended revisiting Mahatma Gandhi's readings and invoking his spiritual teachings.
- ❑ **Greed:** One of the oft-quoted sentences from Gandhiji is 'The world has enough for every human's need, but not for their greed'. This is in contrast to the basic premise of economics that the wants are insatiable and the resources are limited.

- **Containment of wants:** However, in the pandemic, the idea of ‘containment of wants’ by Gandhiji got strengthened. As the factories locked down and the economy came to a halt, people drove to stock essentials, creating artificial shortages. It was further accentuated by the hoarding and black-marketing of many traders.
- **Reduction in discretionary spending:** Households, in general, have reported increased savings during the pandemic. Most of it is attributed to a shift of preference away from brand-consciousness and towards local products. This is beneficial for the growth of local enterprise and cottage industry, as well as the people, who have experienced healthier lifestyle, after eliminating non-essential consumption. Shift to herbal remedies, smaller gatherings, reduction in substance abuse have also contributed to a healthier trend.
- **Non-Violence:** Gandhiji calls for an end to violence in all forms. This is not limited to physical violence, but also extends to psychological violence as well as economic violence. Withholding the wages of the workers or underpaying the workers is also a form of violence. Unequal land holdings are a form of greed and violence against the deprived. It was sought to be corrected by Vinoba Bhave, a devout Gandhian, through the Bhoodan Movement, though, with limited success.
 - **Reverse Migration:** In continuation of Gandhian philosophy on violence, it can be said that the circumstances necessitating workers to forcefully migrate in the absence of gainful employment in their hometown is another form of violence. Another aspect of this was the images of thousands of workers walking to their hometowns, in the initial phase of the lockdown, after exhausting their savings, in the face of starvation.
 - **Domestic Violence:** Again, the pandemic needs rethinking about the decrease in family values and the remodeling of the family system. During the lockdown, police reported an increase in incidents of physical violence towards women. Also, media reports depicted increased humiliation of women as well as intimidation and controlling behavior towards them. This points to a worrying trend where family, which stood as the symbol of support for an individual, turned into a place of violence when people were homebound for a few weeks.
- **Dignity of labour:** Gandhiji advocated a few hours of manual labour to everyone to maintain physical and mental fitness and to maintain the dignity of labour. The pandemic has provided an opportunity to re-evaluate the dignity of labour due to the shortage of skilled workers in the urban areas. In fact, many establishments paid for the air fare of the migrant workers to ensure their return to the worksites. This is an opportunity to realize the importance of workers and treat them sympathetically.
 - **Importance to Man, not machines:** Gandhiji has often been misunderstood in his opposition to machinery and automation. He was not against the industry per se. In fact, he used to consider industry important for the growth of the country. His opposition was to the use of machinery by shunting out manual labour. This is especially important in the case of India, where human labour is abundant and a shift to machines could exacerbate poverty.
- **Empowering Village Communities:** Gandhiji’s ideas were focused on empowering the village communities and making the villages self-sufficient. Reverse migration has again brought back the idea of rural development in focus. If the workers are able to find the opportunities nearby their permanent place of residence, they would not be required to migrate in search of better livelihood.
 - **Skill Mapping:** As the workers have returned home, many states have embarked upon skill mapping. They have realized the importance of immense potential of human resources, which has remained unutilized so far. Skill mapping will enable the use of services of the migrant labour back home.
 - **Atmanirbhar Bharat:** Though the idea of Atmanirbhar Bharat is related to self-sufficiency in the country as a whole, it can be remodeled at the level of village too. There has been a focus on shifting to local resources, instead of imported products, wherever possible. In fact, Japan has launched the Supply Chain Resilience Initiative (SCRI- link to RCEP: India’s stand article) in this regard, to make the global value chains more resilient and end over-dependence on any single source of supply for a particular commodity. This is warranted at the level of villages too.
- **Principle of Trusteeship:** Gandhiji encouraged the rich class, especially industrialists, to consider themselves as not the owner but the guardians of industry. The industry functions only due to societal support in the form of labour, consumers and other aspects. Therefore, the profits accruing from the sale of manufactured commodities must be distributed within the society. The concept finds manifestation in the form of Corporate Social Responsibility (CSR).

- ❑ **Cooperatives:** Although most migrants are casual wage laborers, some also have their own established businesses in other parts of the country. After their return to the home state, their experience in running the business can be harnessed to create cooperatives. They can come together and successfully establish a strong foundation for a new enterprise. If required, expert assistance from the International Labor Organization (ILO) can also be taken for the same.
- ❑ **Empathy:** Gandhiji worked hard to cement the ties between the different sections of the country. As the migrants returned and their stories flashed on the news media, many NGOs and groups of citizens came forward to support them by providing food and arranging transport for them. This spirit of empathy would have definitely been appreciated by Gandhiji. The Shramik special trains which were run by the government were also a step in the right direction to facilitate the return of the migrants.

Conclusion

- ❑ Despite the death of Gandhiji almost a quarter of a century ago, the teachings of Gandhiji remain relevant to the progress of Indian society. The spread of the pandemic, which has been termed as the 'once in a century' crisis, have brought renewed focus on Gandhian values of non-violence, containment of wants and dignity of manual labour. His efforts towards the holistic development of the country will be in vain if we don't implement his teachings in contemporary India.

3. SMART AGRICULTURE

- **GS-3:** Major crops-cropping patterns in various parts of the country, - different types of irrigation and irrigation systems storage, transport and marketing of agricultural produce and issues and related constraints; e-technology in the aid of farmers.
- **GS-3:** Issues related to direct and indirect farm subsidies and minimum support prices; Public Distribution System- objectives, functioning, limitations, revamping; issues of buffer stocks and food security; Technology missions; economics of animal-rearing.

Climate Smart Agriculture: It is an integrated approach to managing landscapes with an aim to enhance food security, while simultaneously managing the ill-effects of climate change on Agriculture.

As per the world bank, CSA aims to achieve three simultaneous outcomes:

- ❑ increased productivity to increase food production,
- ❑ enhanced resilience to reduce the vulnerability of agriculture to droughts, pests and other stresses,
- ❑ reduction in emissions from agriculture including avoiding deforestation due to agriculture and ways to absorb carbon.

Smart Agriculture

- ❑ **Smart Agriculture:** It is defined as the usage of technologies and tools to improve the yield, efficiency and profitability in agriculture. The term is not yet popular in the market. However, it holds a lot of potential in the long term as the usage and adoption of technologies spreads in the agricultural market.
 - It includes the collection of data by using sensors, diagnosis of the collected data and extracting intelligent information from the data, making decisions with or without the help of artificial intelligence and implementation of the steps by appropriate actions as well as efforts to automate the repetitive actions.

Tools of Smart Agriculture

- ❑ **Internet of Things:** It includes the integration of different devices to perform various tasks like monitoring the soil moisture, chemical applications and livestock health remotely. This information is relayed to the farmer in real-time to help in quicker and reliable decision-making.
- ❑ **Big data:** Big data is the large volumes of data generated from the years of research in a particular sector. In agriculture, it can be used to provide the farmers make better decisions on the basis of rainfall patterns, water cycles, fertilizer requirements etc.

- ❑ **Artificial Intelligence:** Artificial intelligence is useful in automating the processes which traditionally require greater human effort. For e.g., one potential use of AI is in Weather Monitoring. By taking previous years' data as an input, the systems are able to predict the chances of surplus and deficit in rainfall in the current year.
- ❑ **Machine Learning:** Machine Learning refers to the process of application of technology to tasks which traditionally require human intelligence. For e.g., researchers have been able to make the machines learn to distinguish between a healthy plant and an infected plant, by scanning the images of leaves. Therefore, instead of a time-consuming pathological analysis to detect the diseases, a handheld scanner can be relied upon for the same task.
- ❑ **Usage of Drones and Sensors:** Various media reports have pointed to a lack of labour availability as well as the increasing expenses in hiring manual labour for agricultural processes. Drones and sensors can be useful to minimize the requirement of human presence in tracking the herds of animals as well as monitoring the health and nutrition of cattle.
- ❑ **Other Technologies:** It includes greenhouse automation to regulate the temperature of crops as per the requirement, precision farming to apply the adequate amount of moisture as well as fertigation to apply the required quantity of fertilizers mixed with irrigation water and predictive analysis for smart farming.

Government Initiatives for Smart Agriculture

- ❑ **Soil Health Cards:** The scheme was started to impart knowledge about the type of soil, nutrients required in the soil as well as to help the farmer decide the most appropriate crop as per the ability of the soil to support the crop. A network of labs in the country has helped the farmers make an informed decision with regards to the sustainability of agriculture.
- ❑ **e-National Agricultural Market (eNAM):** As mentioned above, farmers were restricted from better price discovery due to the restrictions imposed upon them by the APMC Act. To facilitate better price discovery as well as to connect the farmers in a region to the consumers all over the country, the government has initiated the eNAM project, which is an e-commerce portal for agricultural commodities.
- ❑ **Direct Benefit Transfer:** Considering the dependability and vulnerability in agriculture, the government has come up with various schemes to support the farmers. It includes subsidies on power, fertilizer and earlier, fuel. However, the subsidies have been plagued with challenges like mistargeting, ghost accounts and delays in transfers. Therefore, the government has started to transfer the subsidy directly to the bank accounts of the farmers to overcome the aforesaid challenges.
- ❑ **Agri-tech startups:** Various initiatives have been taken to introduce the appropriate technologies in the Indian Agriculture sector. For e.g. Uttar Pradesh government has partnered with the Bill and Melinda Gates Foundation and TATA Trusts to set up an Indian Agriculture Incubation Network at IIT Kanpur.

Conclusion

- ❑ As the population increases, there would be a need to increase the yield of agricultural crops to maintain food security in the country. In such a scenario, it would be imperative to decrease the dependability of agriculture on traditional systems and support its transition to the usage of advanced technologies.

4. E-WASTE MANAGEMENT

- **GS-3:** Conservation, environmental pollution and degradation, environmental impact assessment.

Facts

- ❑ 53.6 Million tons (Mt) of e-Waste was generated in the world in 2019.
- ❑ Only 17.4% of the total e-Waste generated in the world was recycled.
- ❑ India produced almost 1.9 Million Tons of e-waste in 2015.
- ❑ In India, 95% of the e-Waste generated is managed by the informal sector.

Extended Producer Responsibility: It refers to the responsibility of the manufacturer or producer of the electronic products to dispose of the same in an environmentally sustainable manner.

- ❑ It includes take-back or setting up the collection centres to facilitate the consumers in product disposal.
- ❑ E-waste management rules, 2011 were amended in 2016 to include collection targets for the producers.

e-Waste

- ❑ **E-Waste:** It refers to the waste generated by discarding the used electronic products, such as computers and mobile phones.
- ❑ **Reasons for the growing e-Waste in India:** E-waste in India is growing because of multiple reasons including:
 - **Rapid growth of electronics industry:** Electronics industry has grown rapidly in India over the years. It has almost tripled from US\$ 11.5 billion in 2004-05 to US\$ 32 billion in 2009-10. As the sector has grown resource-intensive, waste generation is bound to rise.
 - **World's 2nd largest smartphone base:** India is the world's second largest smartphone market in the world. The active internet users are likely to touch a number of 90 Crores by 2025 from 62 Crores in 2020, pointing to a growth of almost 45% in 5 years. This will further increase the smartphone penetration in the country, leading to a considerable increase in e-waste generation in the country.
 - **Rapid upgradation of Technology:** The smartphone industry has seen rapid growth in India. This has led to an increase in the number of smartphone brands in the country, with every one of them promising better and more upgraded products. Similarly, the introduction of 5G technology has boosted the replacement level of smartphones as per their compliance to the technology. This points to a faster rate of smartphones becoming obsolete and their entry into the e-waste system.
 - **Shipping from Developed nations:** Due to the prohibitory costs of recycling electronic wastes, many companies in the western countries go for cost effective method of shipping the waste to developing countries like India. This prevents such companies from the local laws, which are stricter in the developed nations.
 - **Corona pandemic:** The spread of corona pandemic was accompanied with physical lockdown and work from home provisions. This has led to a rapid surge in the sales of electronic products in the country. Similarly, the spread of online education is also contributing to the growth in electronic industry. This is bound to increase the production of e-waste in the country in the long term.
- ❑ **Predominance of Informal Sector:** As already mentioned, e-waste management in India is predominantly undertaken in the informal sector. Informal sector thrives upon unauthorized waste collection with untrained individuals. The formal sector is not enthusiastic about e-waste management due to prohibitory initial investment.
- ❑ **Inferior Working Conditions:** Handling of e-waste management in India is mostly done by rag-pickers and other workers, who are not properly trained for the task. They are underpaid and are unaware of the safety requirements of the job. They get the disposed-off electronic wastes mostly from the waste handlers or the repair shops.
- ❑ **High Initial investment:** Despite the government rules as well as media attention, there is a dearth of authorized collection centres in the country because of the high initial investment. The big players are not interested in the sector, due to the lack of return on the investment. There is a need for the government to incentivize setting up of the recycling plants in the interest of public safety and public health in the country.
- ❑ **Danger to Health:** Unsafe disposal of the e-waste has the potential to cause damage to the health of individuals coming in contact with the harmful elements and the chemicals contained in the e-waste, like Lead, Cadmium etc. If unchecked, this would lead to an increase in the public health expenditure in the country, effectively shaving off few percentage points from the GDP of the country in the long run.
- ❑ **Danger to Environment:** Improper recycling of the e-waste in the informal sector may lead to spillage of harmful chemicals into the environment. It might mix in the air, leading to air pollution, or pollute groundwater, making it unfit for human consumption. Therefore, there is a need to train the workers to handle the e-waste appropriately.
- ❑ **Loss of Valuable Material:** Again, e-waste has valuable components like rare earth metals as the constituents of electronic products. India is already deficient in the production of rare earth metals and is dependent on their imports. This leads to dependence on imports as well as loss of precious foreign exchange. Therefore, it is imperative that such valuable components are extracted for reuse in the industry.
- ❑ **Lack of Awareness:** It is not only the handlers, who are not aware of the proper handling procedure of the e-waste, even the general public does not the consequences of unsafe handling of the e-waste. Even the technologically advanced people in the country have little knowledge of the ways of proper disposal and the waste collection centers in the area.



Way Forward

- ❑ **Better implementation of the Rules:** India had introduced the Electronic Waste (Management and Handling) Rules in 2011, with initiatives like Extended Producer Responsibility (EPR – see inset) within its ambit. They were amended in 2016. However, the media has reported about their lax implementation in the country, which needs to be corrected.
- ❑ **Creation of infrastructure:** E-waste sector in India suffers from lack of requisite infrastructure including metal processing equipment. This makes the recyclers export the waste material, thus losing access to valuable rare earth and other metals. Ultimately, the country has to import these metals back from the foreign countries. Therefore, there is a requirement for Viability Gap Funding in the industry as well as to provide adequate incentives to the industry.
- ❑ **Formalization of the industry:** The formal industry is unable to compete with the informal sector as the informal sector has no overheads like protective equipment costs and no administrative necessities. There is a need for better implementation of the rules to disincentivize the informal sector from extending better prices to the aggregators.
- ❑ **Responsible e-waste Management:** There is a need for India to work together with other developing nations to control the dumping of e-waste in the developing countries. It has serious ramifications for the target country's public health system.
- ❑ **Shifting Responsibility to Producers:** The manufacturers and the producers of the electronic waste need to be incentivized to produce better products which are easier to recycle. By using the mechanism of Extended Producer Responsibility, the government has made sure that since it is the producers who will ultimately recycle the products, they will use lesser toxic and easily recyclable material in the products.

Conclusion

- ❑ India is one of the largest e-waste producers in the world. Therefore, it is imperative that it takes effective steps to ameliorate the crisis brewing in the form of uncontrollable production of e-waste in the country.
- ❑ Time and again, the media has pointed to the ineffective implementation of the well-intentioned policies as the biggest challenge to environmental sustainability in India. This anomaly needs to be corrected for sustainable resource management and effective management of e-waste in India.

UPSC PREVIOUS YEAR QUESTIONS

- ❑ Appropriate local community-level healthcare intervention is a prerequisite to achieve 'Health for All' in India. Explain. (GS3: 2018)
- ❑ Public health system has limitations in providing universal health coverage. Do you think that the private sector could help in bridging the gap? What other viable alternatives would you suggest? (GS3: 2015)
- ❑ Identify the Millennium Development Goals (MDGs) that are related to health. Discuss the success of the actions taken by the Government for achieving the same. (GS3: 2013)
- ❑ How far is the Integrated Farming System (IFS) helpful in sustaining agricultural production? (GS3: 2019)
- ❑ How can the 'Digital India' programme help farmers to improve farm productivity and income? What steps has the Government taken in this regards? (GS3: 2015)
- ❑ What are the impediments in disposing the huge quantities of discarded solid wastes which are continuously being generated? How do we remove safely the toxic wastes that have been accumulating in our habitable environment? (GS3: 2018)
- ❑ "The best way to find yourself is to lose yourself in the service of others". - Mahatma Gandhi (GS4: 2020)
- ❑ What does this quotation mean to you in the present context: Anger and intolerance are the enemies of correct understanding? " - Mahatma Gandhi. (GS4: 2018)
- ❑ Discuss Mahatma Gandhi's concept of seven sins. (GS4: 2016)
- ❑ There is enough on this earth for every one's need but for no one's greed- Mahatma Gandhi. (GS4: 2013)

MAINS PRACTICE QUESTIONS

- ❑ What are the challenges associated with the introduction of 'Health for All' in India? Discuss, while throwing light on the adequacy of public finance in the country in the health sector.
- ❑ How are Gandhiji's teachings relevant in fighting the Corona pandemic? Do you agree that there needs to be a provision for the COVID allowance for the employees in the industry?
- ❑ Differentiate between Smart Agriculture and Climate Smart Agriculture. Do you think that the government has been successful in introducing the concept of smart agriculture in India?
- ❑ Explain the various stages of the e-waste management cycle. Also, discuss the major challenges associated with the e-waste management in India.

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YOJANA SUMMARY: QUESTIONS

Multiple Choice Questions

- With reference to the Non Communicable Diseases (NCDs), which of the following is/are correct?
 - They are generally referred to as the diseases of the poor.
 - They are mostly genetic or lifestyle diseases.
 - Poverty cannot be a cause of such diseases.Select the correct answer using the code given below:
(a) 2 only (b) 3 only
(c) 1 and 3 only (d) 1, 2 and 3
- With reference to Child health in India, which of the below statements is/are correct?
 - Stunting is defined as low weight for the age of a child.
 - The incidence of stunting in India is more than the incidence of underweight children.
 - India ranks in the 'serious' category of Global Hunger Index 2020.Select the correct answer using the code given below:
(a) 3 only (b) 1 and 2 only
(c) 2 and 3 only (d) 1, 2 and 3
- 'Alma Ata declaration 1978' pertains to
(a) Education (b) Torture
(c) Refugee protection (d) Health
- As per the World Bank, which of the following is not a stated outcome of 'Climate Smart Agriculture'?
 - Increase in Productivity.
 - Reduction in Vulnerability of crops.
 - Fortification of food grains.
 - Reduction in Emissions.
- With reference to e-waste management in India, which of the below statements is/are correct?
 - Extended Producer Responsibility refers to the obligation of producers to repair the product with an aim to extend its life and reduce the e-waste.
 - Informal management of e-waste is the major limitation to the implementation of e-waste management rules, 2011.Select the correct answer using the code given below:
(a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2

ANSWERS WITH EXPLANATION

1. (a)

Statement 1 is incorrect: Non Communicable Diseases (NCDs) are the diseases which are not transmitted from one person to other directly. Unlike the communicable diseases which are more prevalent in the poor, NCDs are mostly limited to the richer class of society. This is because communicable diseases are mostly spread because of the inability to access hygienic food, pure water and clean surroundings. NCDs, on the other hand, are majorly attributed to genetic factors or a consequence of the fast-paced life without adequate concern for health.

Statement 2 is correct: They are mostly genetic or lifestyle diseases. Four categories of NCDs viz. cardiovascular diseases, cancers, respiratory diseases and diabetes account for almost 80% of all premature deaths.

Statement 3 is incorrect: The spread of respiratory diseases can be attributed to the use of unclean fuel in rural areas as well as an increase in air pollution across the cities of the country. Therefore, use of unclean fuel like wood, charcoal or biomass can also be a reason for the spread of NCDs, which is generally attributed to the poor class.

2. (a)

Statement 1 is incorrect: Following are the important definitions in the area of childcare:

- **Stunting:** low height for age.
- **Wasting:** low weight for height
- **Underweight:** low weight for age

Statement 2 is incorrect: In India, about 47% of the children were underweight in 2013. At the same time, the prevalence of Stunting is almost 34.7% in Indian children. Therefore, the incidence of stunting is lesser than underweight in India.

Statement 3 is correct: India ranks 94 out of 107 categories in the Global Hunger Index. It is classified in the serious category, with a score of 27.2. Global Hunger Index is measured in 3 dimensions and 4 parameters:

- **Undernourishment:** People having insufficient calorie intake.
- **Child Mortality:** It is measured by the Under-5 Mortality Rate.
- **Child Undernutrition:** It is measured by two indicators, viz. stunting and wasting in the children.

3. (d)

Health sector has been accorded top priority by the United Nations, manifested in the Alma Ata Declaration in 1978 which defines health as 'state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity'.

4. (d)

Climate Smart Agriculture: It is an integrated approach to managing landscapes with an aim to enhance food security, while simultaneously managing the ill-effects of climate change on Agriculture.

As per the world bank, CSA aims to achieve three simultaneous outcomes:

- increased productivity to increase food production,
- enhanced resilience to reduce the vulnerability of agriculture to droughts, pests and other stresses,
- reduction in emissions from agriculture including avoiding deforestation due to agriculture and ways to absorb carbon.

5. (b)

Statement 1 is incorrect: Extended Producer Responsibility refers to the responsibility of the manufacturer or producer of the electronic products to dispose of the same in an environmentally sustainable manner. It includes take-back or setting up the collection centres to facilitate the consumers in product disposal.

Statement 2 is correct: India produced almost 1.9 Million Tons of e-waste in 2015. However, 95% of the e-Waste generated is managed by the informal sector, which is a major limitation to the implementation of the e-waste management rules in India.

