

Master of Public Health

Reading comprehension

Read the following passage and answer the questions that follow using ONLY the information provided in the extracts:

The humble millets need more government support.

The United Nations declared 2023 as the International Year of Millets after India proposed it and 72 countries supported it. Soon after the announcement, the Indian government launched a slew of programmes, including making it compulsory for Parliament's cafeteria to introduce a few millet-based dishes on its menu. Besides putting millets on menus and creating recipes, agriculture experts point out that if the government is truly committed to promoting this crop group, which has the potential to answer several of India's agrarian, food, and health issues, it must support policies that will have a deeper and far-reaching impact. This must start from putting small farmers and women at the centre of the programme to prioritising it as a form of food security. Experts say that if the drive to push millets is inclusive and cohesive, it could be a turning point for national nutrition and for farming.

Most millets in India are grown for home consumption. According to Kavitha Kuruganti, founder-convenor of the Alliance for Sustainable and Holistic Agriculture (ASHA), this aspect must be considered while embarking on the promotion programme. "Just because the crop is being bought, it should not hurt the farmer's access to the safest nutrition grain they own." In 2018, the Indian government labelled millets, considered a powerhouse of nutrition, as "nutri cereals". The Indian Institute of Millet Research (IIMR), which is promoting the crop to reach a goal of "zero hunger", claims that millets are winners in every possible way. Health-wise, they are fibrous in content, have magnesium, iron, zinc, and niacin (vitamin B3), have high protein content, have a low glycemic index, and are gluten free.

Agriculturists consider millets the most resilient crops. They grow easily in harsh and diverse climates and soil types; they are low on inputs but high on yields and do not rot easily. Some millets can be consumed even after 10-12 years of growing, thus providing food security and avoiding food wastage. Most importantly, millets do well in small-scale farming. With

approximately 86 per cent of Indian farmers falling within the small and medium-scale category, pushing millets could directly benefit these farmers. Kuruganti, who has worked on millets with farming communities, said: “Governments tend to hype things up so much that they lose track of how things ought to be done. If this year has to be successful, small farmers, women, particularly Adivasi and Dalit women, need to be at the centre of it. Promoting millets has to be steered at the community level, with local consumption prioritised, to prevent it from becoming an elitist fad.” According to Kuruganti, the Odisha Millet Mission is perhaps the most successful for its end-to-end intervention, vision, and execution. In fact, she suggests that State governments use it as a blueprint. For instance, Odisha has put a ceiling on how much millet a farmer can sell—so that the family has something to eat.

Source: Katakam A. (2023). The humble millets need more government support [Internet]. Available from: <https://frontline.thehindu.com/the-nation/agriculture-if-government-wants-to-promote-millets-it-needs-to-support-policies/article66407847.ece> [Accessed Feb 13, 2023].

- 1) What is the goal of IIMR behind promoting millets?
 - a) To ensure everyone eats millets.
 - b) To ensure zero hunger
 - c) To boost the supply of millets
 - d) Conduct yearly millet melas across the country.

- 2) Millets have the potential of assuring food security benefits to the largest community of farmers in India, because:
 - a) They are quite suitable for farming by the small-medium scale farmers.
 - b) Millets are resilient crops.
 - c) Grains can be stored for 10-12 years.
 - d) None of the above.

- 3) According to the experts, what should the government do regarding millets?
 - a) Millets should become a part of cooking.

- b) Offer crop insurance for farmers.
- c) Distribute millets in Public Distribution System
- d) Promulgate policies for millet promotion.

Regarding the achievement of millet promotion goals, the author argues as follows:

Statement (i): Government's promotion of millets should make it mandatory for all small-medium scale farmers to cultivate millets.

Statement (ii): Government's promotion of millets should include Dalits, Adivasis and women.

- 4) Which of the following is the most appropriate argument?
- a) Both statements are true
 - b) Statement (ii) is true, but statement (i) is partially true.
 - c) Only statement (ii) is true.
 - d) Both the statements are partially not true.
- 5) According to the author, which of the following options best describes the key component of farmers successfully benefiting from the Odisha Millet Mission?

Statement (i): Increase in productivity.

Statement (ii): Access to market for farmer produce.

Statement (iii): Cap on sales of millets by farmers. Statement

(iv): Higher level of millet-prices made possible.

- a) Both (i) and (ii)
- b) Only (iii)
- c) Only (iv)
- d) Both (iii) and (iv)

Read the following passage and answer the questions that follow using ONLY the information

provided in the extracts:

Wells, not dams, have been the temples of modern India

India is a groundwater economy. At 260 cubic km per year, our country is the highest user of groundwater in the world—we use 25 percent of all groundwater extracted globally, ahead of the USA and China. When we think of water, however, our brains have been programmed to think of large dams and rivers, and not wells. This, despite the fact that India has at least four crore irrigation wells and millions of farmers who use well water in agriculture. India was not the highest extractor of groundwater in the 1960s and 70s; the Green Revolution changed that. At independence the share of groundwater in agriculture was 35 percent; today it is a startling 70 percent.

People tend to think of groundwater only through an agriculture or urban water supply lens. This, however, is just a supply-side perspective that lacks an understanding of what the resource is, and what we need to do to ensure better use of it. We need to think of groundwater as a common pool resource; the challenge however is that this common pool resource is almost invisible.

In villages, the perception often is, “This is my land and hence the water below it is my water.” But the question we’ve been asking communities to think about is, “How can you own the water below your land, when the water in your well has come from underneath someone else’s land and the water from under your land is naturally going to flow underneath your other neighbours’ lands?”

Once this has been explicitly stated and explained, people are quick to understand it especially if you use science derived from data that has been collected by communities themselves. But while the science is about hydrogeology and the mapping of water sources, the more important aspect is the application of this science – which is effective only if it involves bringing the resource (aquifers) and communities and villages together in the processes and solutions – what we call Participatory Ground Water Management (PGWM). The conventional thinking is that check

dams—which are essentially percolation tanks—will collect water that will percolate and recharge the groundwater.

But wells are only the sources of water and a mechanism to access water and distribute it according to needs and often, demand. Wells are *not* the resource; aquifers are the resource. (*Aquifers are underground layers of porous and permeable rock capable of storing groundwater and transmitting it to wells and springs.*)

If you can identify your aquifer, then you know precisely where to put your recharge structure (or, check dam). So now, instead of four check dams that you would place in areas where ‘water collects’, you could make do with two accurately positioned check dams where the aquifers are, thereby reducing costs by half while also ensuring optimal recharge. Usually, once the watershed programme is implemented, no one cares about what happens to the water in the aquifer. Farmers tend to dig deeper and make larger wells with the presumption that unlimited water is now available for the taking. Such actions are not necessarily sustainable. It is therefore important to move the focus from wells (sources) to aquifers (resources). By changing this lens, the focus then shifts from merely looking at what is going in and coming out to a variety of aspects: How do you balance livelihoods and ecosystem needs, or what happens to economic returns from groundwater and how does the drinking water security get affected when an aquifer depletes.

Source: Kulkarni H. & Aslekar U. (2018). *The Politics of Groundwater*. Available from idronline.org [Accessed: 13 February 2023].

6) The phrase ‘Green Revolution changed that’ refers to which of the following:

- a) Building more dams
- b) Expanding agriculture
- c) Exploiting more ground water
- d) Farmers getting minimum support price for agriculture produce

7) According to the author, ensuring optimal recharge of the water sources by applying science and technology, can be best achieved by the following:

- a) Enhancing community participation in the application of science.
- b) Technology to build high-capacity percolation tanks.
- c) Improving the technique of building robust and durable check dams.
- d) Capacity building of community in rainwater harvesting and recharging wells.

8) Examine the following statements and answer which statement/s is/are NOT true

Statement (i): People from a community have an excellent shared understanding of ground water as a common pool resource.

Statement (ii): People think they are the owners of water below their lands.

- a) Both, statement (i) and (ii)
- b) Statement (i)
- c) Statement (ii)
- d) None of the statements

9) The PGWM methodology is related to which of the following:

- a) Focus on recharging aquifers.
- b) Construct more check dams to collect water.
- c) Dig deeper wells to conserve water.
- d) Aims to optimally use water for farming by the community.

10) In the true spirit of the passage, evaluate the phrase: ‘Our country is the highest user of groundwater in the world—we use 25 percent of all groundwater extracted globally.’

- a) India is doing better than the USA and China in the usage of water.
- b) India is faring better in achieving sustainable development goals (SDGs).
- c) Indicates India’s rapid growth in agriculture.
- d) The methods of exploiting water are unsustainable.

Read the following passage and answer the questions that follow using ONLY the information provided in the extracts:

Assam's futile legislative crackdown on child marriage will worsen vulnerabilities.

The last two weeks have witnessed a brutal crackdown under the Protection of Children from Sexual Offences Act (POCSO), 2012 and the Prevention of Child Marriages Act (PCMA), 2006 in the state of Assam. So far, thousands have been arrested under PCMA. Supposedly driven by the underage marriage rate estimate provided by the National Family Health Survey-5 (NFHS-5) released in 2022, the government says it will continue this exercise until the next state elections of 2026. Subsequently, news reports are rife with incidences of teens bleeding to death during childbirth or dying by suicide to prevent their parents or husbands from being arrested. Dread and dismay pervade across the state as young mothers are rendered helpless in the face of the sudden arrests of their husbands, who are in most cases, the sole breadwinners. Clearly, the legislative actions of the state have only worsened the situation.

One explanation for this is that mere legislative action, that too ex post facto, breeds a sense of fear and helplessness, inducing individuals to conceal and adopt illegal means to evade being arrested. If the cause of concern motivating this legislative frenzy is high maternal mortality ratios and teenage pregnancy rates, then emphasis should be laid upon providing access to contraception and maternal healthcare, increasing education, providing job opportunities and enabling financial independence to women. Enabling provisions such as these to provide women with the agency to exercise personal choice, bodily autonomy and will allow them to postpone births to a later age.

Research demonstrates that the reasons for child marriage in India are heterogeneous across the states. In the case of Assam, cultural factors play a key role alongside poverty and lack of access to education. Assam, along with parts of West Bengal, has precarious, uncertain and unsustainable livelihoods – primarily attributable to factors specific to local geographies. Communities are often mobile and comprise a huge migrant population. Under this uncertain circumstance, inadequate access to education for children, coupled with poverty, makes them vulnerable to marrying off young girls – who are perceived as a “burden” – and as a matter of protection and safety.

Child marriage certainly deepens the problems of poor and poorly educated women, especially in terms of maternal and child health outcomes. However, the mechanisms through which child marriage affects the socio-economic and health outcomes of women and their children are more

complex. For instance, lack of a minimum of 10 years of schooling results in poor maternal healthcare uptake. It is evident that child marriage is proportional to lack of schooling.

However, exercising harsh laws to curb child marriages retrospectively plunges women into further throes of deprivation, trapping an entire generation in a vicious cycle of poverty and compromise on seeking essential social safety programmes including maternal and child healthcare services. Moreover, the PCMA doesn't support a retrospective application. Once a marriage is consummated, the law considers it to be valid and children born out of such unions enjoy all legal rights. It is imperative that the focus shifts back to improving women's access to education, job opportunities, contraception and maternal and child healthcare services for better holistic socio-economic and health outcomes and move towards sustainable development goals.

Source: Adapted from - Srinivas Goli, *Assam's Futile Legislative Crackdown on Child Marriage Will Worsen Vulnerabilities*. Available from the wire.in [Accessed: 02 February 2023]

11) Employing the method of police crackdown on the 'child marriage' couples has resulted in the following:

- a) Has stopped child marriages.
- b) Created a lot of fear; hence it will stop child marriages in future.
- c) Helped the young mothers to have better health.
- d) Has worsened the living conditions of people.

12) Better maternal health, reduced maternal deaths are achieved best by following measures:

- a) Enhance women's agency through education, contraception and decision-making power.
- b) Arrest the couple after marriage.
- c) Arrest them before they can get married.
- d) Do all the above

13) Which of the following responses is the most appropriate?

Regarding the issue of child marriage, the author argues as follows:

- a) Child marriage is a cultural reality, that's why it should be allowed.
- b) Child marriage takes place in complex social-economic and cultural circumstances. Hence multiple level social action is needed.
- c) Parents of the child couples should be punished as they are behind child marriages as violators of law.
- d) Child marriage is the cause of adverse maternal health outcomes. Hence, the government should prevent it through any means including police crackdown on those who are already married.

14) Based on the passage, identify which of the following options is NOT TRUE, regarding the arrests and criminal prosecution of those who already have been married below the legal age:

- a) Marriages are invalid as per the Prevention of Child Marriage Act, and hence legal action on the couple is valid.
- b) Law cannot be applied to the couples who have already married below the legal age.
- c) The children born to 'child couples' married below the legally permissible age, have equal rights.
- d) It perpetuates the cycle of poverty, deprivation and ill-health of women.

15) 'Child marriage is proportional to lack of education'. Which of the following reflects the most appropriate meaning of this phrase:

- a) Those who lack education generally opt for child-marriages.
- b) All those who married as children lack education.
- c) Attending school increases interaction between boys and girls, increases the chances of child marriage, and hence will lead to the lack of education.
- d) The lower the access to education, the higher is the possibility of being married while having children.

Quantitative Reasoning

The table below presents the number of COVID-19 vaccines (first dose) given in a few states and Union Territories (UTs) in India and the population of those states and UTs. Based on the data in this table, answer the following questions. (*Direction: Q.no. 16 to 19*)

State/UT	First Dose of Vaccine (As per CoWIN portal¹)	Population (As per Census 2011)
Assam	2,48,12,020	3,12,05,576
Bihar	7,34,77,780	10,40,99,452
Karnataka	5,51,72,479	6,10,95,297
Lakshadweep	61,811	64,473
Manipur	16,49,186	28,55,794
Nagaland	9,23,671	19,78,502

16) Arrange the States/UTs in a descending order of the number of vaccine doses administered.

- a) Assam >> Bihar >> Karnataka >> Lakshadweep >> Manipur >> Nagaland
- b) Nagaland >> Manipur >> Lakshadweep >> Karnataka >> Bihar >> Assam
- c) Bihar >> Karnataka >> Assam >> Manipur >> Nagaland >> Lakshadweep
- d) Lakshadweep >> Nagaland >> Manipur >> Assam >> Karnataka >> Bihar

17) As per the Census 2011, which of the states mentioned in the table is the most populous?

- a) Assam
- b) Bihar
- c) Karnataka
- d) Manipur

18) The best and the worst performing states/UTs in terms of the proportion of their respective populations covered for the first dose of vaccine are-

- a) Lakshadweep and Nagaland
- b) Bihar and Lakshadweep

- c) Karnataka and Manipur
- d) Assam and Bihar

19) Which State/UT has better first-dose vaccine coverage than Manipur but worse than Assam?

- a) Karnataka
- b) Bihar
- c) Nagaland
- d) Lakshadweep

Following is an excerpt from the National Family Health Survey (NFHS-5) report of the State of Bihar. Based on the given information, answer the following questions. (*Directions: Q. no. 20 to 22*)

In Bihar, 51 percent of women have a mobile phone that they themselves use, and among women who have a mobile phone that they themselves use, 49 percent can read SMS messages. Sixty-two percent urban women have a mobile phone they themselves use, compared with 49 percent of rural women. Mobile phone access increases substantially with education, from 48 percent among women with no schooling to 70 percent of women with 12 or more years of schooling. Only 42 percent of scheduled tribe women have a mobile phone they themselves use, compared to 61 percent of women who do not belong to scheduled castes, scheduled tribes or other backward classes. Scheduled tribe women who have a mobile phone that they themselves use are also less likely to be able to read SMS messages (32%) than women who belong to any other caste / tribe group.

20) What percentage of women in Bihar who have a mobile phone that they themselves use, cannot read SMS messages?

- a) 51%
- b) 25%
- c) 49%
- d) 75%

21) What is mobile phone access among women with 12 or more years of schooling?

- a) 48%
- b) 42%
- c) 70%
- d) 51%

22) In view of increasing mobile phone penetration in Bihar, the communications team of State Health Society decides to launch a social media campaign on the high nutritional value of Millets. Which of the following women is least likely to benefit from this campaign?

- a) A woman from a caste other than Scheduled Caste, Scheduled Tribe, or Other Backward Class who has studied till 5th standard and who lives in a village.
- b) A woman from Scheduled Caste who has studied till 12th standard and who lives in a village.
- c) A woman from a caste other than Scheduled Caste, Scheduled Tribe, or Other Backward Class who has studied till 12th Standard and who lives in a city.
- d) A woman from Scheduled Tribe who has studied till 5th standard and who lives in a village.

The table below gives the number of sanctioned positions and number of filled positions of Allopathic Doctors at Primary Health Centres in Urban, Rural and Tribal areas of Madhya Pradesh and Tamil Nadu. Based on this data from Rural Health Statistics 2021-22, answer the following questions.
(Directions: Q. no. 23 to 26)

	Madhya Pradesh		Tamil Nadu	
	Sanctioned	Filled	Sanctioned	Filled
Urban	306	271	638	564
Rural	1946	1631	2986	2722
Tribal	552	332	194	174

23) The total number of sanctioned posts in Tamil Nadu are:

- a) 3256
- b) 4680
- c) 4244
- d) 3818

24) What is the number of vacant posts in the rural areas of Madhya Pradesh?

- a) 315
- b) 1146
- c) 3577
- d) 2631

25) What is the approximate percentage of vacancy in the urban areas of Tamil Nadu?

- a) 47%
- b) 21%
- c) 35%
- d) 12%

26) Which of the following statements is correct regarding the proportion of vacancy in the tribal areas of Madhya Pradesh and Tamil Nadu?

- a) The proportion of vacancies in Madhya Pradesh is half of that in Tamil Nadu.
- b) The proportion of vacancies in Madhya Pradesh is the same as that in Tamil Nadu.
- c) The proportion of vacancies in Madhya Pradesh is four times more than that in Tamil Nadu.
- d) The proportion of vacancies in Madhya Pradesh is ten times more than that in Tamil Nadu.

The chart shows the Infant Mortality Rate (IMR) by Rural, Urban and Total from 1993 to 2016 across four rounds of the National Family Health Survey (NFHS). (*Infant Mortality Rate is defined as the number of infant deaths per 1,000 live births*). Based on this chart, answer the following questions. (Directions: Q. no. 27 to 30)

Infant Mortality Rate (IMR)

27) An IMR of 50 per 1000 live births was achieved in India:

- a) Before 1998
- b) Before 2005
- c) After 2005
- d) After 2016

28) Greatest reduction in IMR (Total), relative to the previous round was in

- a) NFHS-4 (2015-16)
- b) NFHS-1 (1992-93)
- c) NFHS-3 (2005-06)
- d) NFHS-2 (1998-99)

29) Between NFHS-2 and NFHS-3 the decline in rural IMR was

- a) 12
- b) 11
- c) 13
- d) None of the above

30) Which one of the following statements is TRUE:

- a) In 1998-99, IMR was lower in rural areas as compared to the India average.
- b) In 1992-93, IMR was worse in rural areas as compared to urban areas.
- c) In 2005-06, the IMR in India was 42.
- d) In 2015-16, IMR in rural areas and urban areas were almost the same.

Social Awareness Questions

31) What is the meaning of 'vaccine hesitancy'?

- a) Refers to delay in acceptance of vaccination despite availability of vaccination services.
- b) Refers to refusal of vaccination despite availability of vaccination services.
- c) Both a and b, above.
- d) None of the above

32) Which one of the following Indian states has taken up much criticised actions against Child Marriage in January 2023?

- a) Bihar
- b) Tamil Nadu
- c) Madhya Pradesh
- d) Assam

33) Accredited Social Health Activist (ASHA) is a —

- a) Community Health Worker
- b) Staff Nurse
- c) Auxiliary Nurse and Midwife
- d) Panchayat Worker

34) The demand to abolish Article 377 by the Supreme court of India, was primarily made by which of the following communities:

- a) Migrant communities
- b) LGBTQIA+ community
- c) Non-resident Indians
- d) None of the above

35) A recent supreme court judgment in 2022 has allowed right to safe and legal abortion at 20-24 weeks of pregnancy for,

- a) Married women.
- b) Unmarried women.
- c) Rape survivors and minors.
- d) All the above.

36) In the Indian constitution and policy making, health as a subject of legislation figures in which of the following:

- a) Union List
- b) State List
- c) Concurrent List
- d) Residuary Powers

37) For the most relevant information on health, we are likely to refer to the following source/s:

- a) NCRB
- b) Census
- c) NFHS
- d) None of the above

38) In the Global Hunger Index 2022, India was ranked 107 of the 121 countries. It means –

- a) India has very few people who are lacking food, hence it is a higher rank.
- b) India has considerably high number of people going hungry, hence it is a lower rank
- c) India is one of the highest exporters of food.
- d) None of the above

39) Which of the following schemes/ programmes is likely to help you if you are ill and need medical attention?

- a) PMJAY
- b) MGNREGA
- c) Swachh Bharat Abhiyan
- d) None of the above

40) During COVID19, Government of India invoked the following Act/legislation to effectively respond to the pandemic:

- a) Indian Lockdown Act 2020
- b) COVID prevention Act 2020
- c) Epidemic Diseases Act 1897
- d) All the above

Descriptive Essay

Instructions:

Choose ANY ONE from the questions given below. The length of the essay should not be less than 700 words, excluding the title, and any references, if provided. The essay should be formatted well with paragraphs, necessary punctuation etc.

- I. Which sections of the population in your view were the worst affected by COVID 19 in India?
Explain your answer with suitable examples.
Or
- II. Describe any major health challenge faced by people living in major cities in India and what according to you are the possible ways to address this challenge?
Or
- III. 'Digital technology is the best solution to improve access to health care in India'. Do you agree with this statement? Or do you disagree? Explain your answer.

