Cambridge International AS & A Level

Cambridge International Examinations
Cambridge International Advanced Subsidiary and Advanced Level

GLOBAL PERSPECTIVES AND RESEARCH **9239/11**

Paper 1 Written Examination **October/November 2017**

1 hour 30 minutes

INSERT (RESOURCE BOOKLET)

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READ THESE INSTRUCTIONS FIRST

This Resource Booklet contains Documents 1 and 2 which you should use to answer the questions.

You should spend approximately 10 minutes reading the documents before attempting to answer the questions. This is allowed for within the time set for the examination.

This document consists of **3** printed pages and **1** blank page.

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The documents below consider issues related to standard of living/quality of life. Read them **both** in order to answer **all** the questions on the paper.

Document 1: adapted from *The third world's drinking problem*, an article written by Asit K Biswas and Peter Brabeck-Letmathe. The article was published in 2014. Asit K Biswas is co-founder of the Third World Center for Water Management and a founder of the International Water Resources Association and World Water Council. Peter Brabeck-Letmathe, Chairman of Nestlé, is also Chairman of the global public-private partnership 2030 Water Resources Group (WRG).

In 2012, the United Nations (UN) claimed that 88% of people worldwide had access to clean drinking water. However, the World Economic Forum recently identified an urgent global threat – a shortage of drinkable water. Also, both the Third World Center for Water Management and AquaFed (which represents private water companies) estimate that 3.4 billion people, nearly half the world's population, still drink poor quality water. So, the UN claim seems doubtful as there would appear to be a global problem with drinking water.

Last year there was bad news. China's Ministry of Environmental Protection admitted that over half of China's lakes and rivers are not clean enough for drinking. Pollution of drinking water supplies has led to severe health problems. India's Central Pollution Control Board reported that nearly half of the country's rivers are too polluted for drinking. Pakistan's National Assembly heard that 77% of urban water and 86% of rural water was unsafe. Nepal's Department of Water Supply and Sewerage concluded that 85% of water supplies are seriously polluted.

International organizations confuse increased water supply with clean, safe, drinking water. Even worse, they confuse sanitation with wastewater management. There is a big difference between sanitation and wastewater management. Nearly 90% of households in the Indian region of Delhi have adequate sanitation (indoor toilets). However, their untreated wastewater is emptied into the Yamuna River – a source of drinking water. Mexico City is considered to have a high level of sanitation even though it transports untreated wastewater, full of toxic chemicals and pathogens, to the Mezquital Valley, where it is used to water crops. Untreated wastewater must be kept separate from drinking water and must not be used in farming.

A recent survey by the Central Pollution Control Board of India showed that only 2% of towns have both a sewerage system and a sewage treatment plant. Furthermore, most sewage treatment plants do not work or are often closed, owing to bad management, poor maintenance, faulty design, lack of regular electricity supply, and absent, untrained or uncaring employees. Similarly, China's Ministry of Housing and Urban–Rural Development reported that most areas had wastewater treatment facilities. However, only 12% of these were of a high standard and 377 facilities built in one year were inefficient and did not meet national requirements. The problem is not lack of investment. China spent $112.4 billion on water infrastructure in 2006–2011, and India has spent massive amounts of public funds cleaning up the Yamuna River. Yet both countries' water supplies remain highly polluted.

The world's water and sanitation challenges can be solved if there is the will. So, everyone must be involved. Governments must build strong water management systems and use public funds properly. Their planning must separate wastewater and drinking water. Employees of water and sewage companies must be fully trained and all systems must be monitored. The public must recognize that they can only have better water services if they pay taxes and tariffs. For their part, the media must stress the benefits of good water delivery and wastewater management systems – and hold politicians and bureaucrats accountable if they do not take action. Finally, water professionals need to provide better quality water, not just more water.

Document 2: adapted from *China's bottled water: the next health crisis?*, an article by Abigail Barnes. The author has a PhD in Law from Vermont Law School and a Master's degree in Environmental Management from Yale University.

China's water resources are under more pressure as the country's economy grows. This growth has resulted in severe water pollution. Studies suggest that only half of the urban water supply meets national quality standards. In April 2014, officials in Lanzhou, a city of three million people in western China, advised residents not to drink tap water because of pollution. Of course, residents rushed to buy bottled water – a quick fix. In future, there will be a huge increase in demand for bottled water in China, caused by poor tap-water quality, better health awareness, higher income levels and international tourism. Therefore, China's government must deal with threats to bottled water quality including a lack of transparency, weak regulation and artificially low prices.

The global bottled water industry is known for its lack of transparency. In countries with severe water pollution, it is especially important for bottlers to be open about water source and purification methods. The reputation of a bottler depends on product quality, which should make bottled water safer than Chinese tap-water. However, Chinese bottlers do not have to list water source or filtration method and often do not provide this information. This lack of transparency is a huge threat to safety.

The second threat is weak regulation. In China, where 70% of fresh water is polluted, strict filtration is necessary. However, Chinese bottlers are not required to test for acidity, or impurities like mercury and silver. Recent scandals have increased worries about the safety of bottled water. Several bottled water companies failed random inspections. One brand contained bacteria 9 000 times the permitted level. In addition, a number of counterfeiting scandals have emerged. Many illegal water factories bottle tap-water and sell it as spring water under popular brand names. According to an employee in the bottled water business, nearly 60% of water barrels on the Chinese market are falsely branded. Officials rarely check the serial numbers on water products so there is little protection for consumers. The bottled water industry continues to monitor itself. While this approach might work in some countries, it is risky for nations like China. In China, there is severe water pollution, industry is not supervised and confusion surrounds national and provincial regulations.

The final threat to the industry is pricing. The price of bottled water must cover its costs of production while also remaining affordable. Domestic brands sell for as little as 1 yuan (0.15 US dollars). Advanced filtration technologies are expensive so it is difficult to make a profit honestly.

In the end, Chinese reliance on bottled water is a sign of a larger, more serious problem. China has some of the most polluted freshwater resources in the world, and its municipal water systems are in desperate need of repair and modernisation. Therefore, China's government must address these threats to water quality. It must enforce laws on polluters and monitor and supervise the industry. It must invest in clean water systems, introduce new laws and tighten up inspection and regulation. Otherwise, China risks the safety, security and availability of clean drinking water, including bottled water.

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