

## Food shortages could force world into vegetarianism, warn scientists

### Level 3 • Advanced

#### 1 Warmer

- On average, how many days a week do you eat meat?
- Meat eaters: Imagine your vegetarian friend or colleague invites you to their house for dinner. How do you feel?  
Vegetarians: Imagine your meat-eating friend or colleague invites you to their house for dinner. How do you feel?
- Meat eaters: How likely is it that you would ever become a vegetarian?  
Vegetarians: How likely is it that you would ever start eating meat?

#### 2 Key words

Write the key words from the article next to the definitions below. Then find the words in the article to read them in context.

Answers 1 to 7 can be found in paragraphs 1 to 5.

croplands

droughts

deficits

scarcity

derive

staples

dire

- to receive or obtain something from something else \_\_\_\_\_
- land that is used for growing plants for food \_\_\_\_\_
- a lack of something \_\_\_\_\_
- something very bad \_\_\_\_\_
- a situation in which the supply of something is not enough for the people who want or need it \_\_\_\_\_
- important products, especially foods, that people eat or use regularly \_\_\_\_\_
- long periods of time when there is little or no rain and crops die \_\_\_\_\_

Answers 8 to 15 can be found in paragraphs 7 to 15.

arable  
livelihoods

constraints  
malnourished

erratic  
surplus

irrigation  
yields

- changing often or not following a regular pattern, so that it is difficult to know what will happen next \_\_\_\_\_
- this kind of land is suitable or used for growing crops \_\_\_\_\_
- an amount of money or goods that is left because a country or business has more than it needs \_\_\_\_\_
- weak or ill because you do not eat enough or do not eat enough of the right foods \_\_\_\_\_
- things that limit your freedom to do what you want \_\_\_\_\_
- the act of bringing water to land through a system of pipes, ditches etc in order to make crops grow \_\_\_\_\_
- things, such as your work, that provide the money that you need to live \_\_\_\_\_
- the amounts of something that is produced or grown \_\_\_\_\_

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*Water scarcity's effect on food production means radical steps will be needed to feed population expected to reach 9bn by 2050*

**John Vidal, environment editor**  
**26 August, 2012**

- 1 Leading water scientists have issued one of the sternest warnings yet about global food supplies, saying that the world's population may have to switch almost completely to a vegetarian diet by 2050 to avoid catastrophic shortages.
- 2 Humans derive about 20% of their protein from animal-based products now, but this may need to drop to just 5% to feed the extra two billion people expected to be alive by 2050, according to research by some of the world's leading water scientists.
- 3 "There will not be enough water available on current croplands to produce food for the expected nine-billion population in 2050 if we follow current trends and changes towards diets common in western nations," the report by Malik Falkenmark and colleagues at the Stockholm International Water Institute (SIWI) said.
- 4 "There will be just enough water if the proportion of animal-based foods is limited to 5% of total calories and considerable regional water deficits can be met by a reliable system of food trade."
- 5 Dire warnings of water scarcity limiting food production come as Oxfam and the UN prepare for a possible second global food crisis in five years. Prices for staples such as corn and wheat have risen nearly 50% on international markets since June, triggered by severe droughts in the US and Russia, and weak monsoon rains in Asia. More than 18 million people are already facing serious food shortages across the Sahel.
- 6 Oxfam has forecast that the price spike will have a devastating impact in developing countries that rely heavily on food imports, including parts of Latin America, North Africa and the Middle East. Food shortages in 2008 led to civil unrest in 28 countries.
- 7 Adopting a vegetarian diet is one option to increase the amount of water available to grow more food in an increasingly climate-erratic world, the scientists said. Animal protein-rich food consumes five to ten times more water than a vegetarian diet. One third of the world's arable land is used to grow crops to feed animals. Other options to feed people include eliminating waste and increasing trade between countries in food surplus and those in deficit.
- 8 "Nine hundred million people already go hungry and two billion people are malnourished in spite of the fact that per-capita food production continues to increase," they said. "With 70% of all available water being in agriculture, growing more food to feed an additional two billion people by 2050 will place greater pressure on available water and land."
- 9 The report is being released at the start of the annual world water conference in Stockholm, Sweden, where 2,500 politicians, UN bodies, non-governmental groups and researchers from 120 countries meet to address global water supply problems.
- 10 Competition for water between food production and other uses will intensify pressure on essential resources, the scientists said. "The UN predicts that we must increase food production by 70% by mid-century. This will place additional pressure on our already stressed water resources, at a time when we also need to allocate more water to satisfy global energy demand – which is expected to rise by 60% over the coming 30 years – and to generate electricity for the 1.3 billion people currently without it," said the report.
- 11 Overeating, undernourishment and waste are all on the rise and increased food production may face future constraints from water scarcity.
- 12 "We will need a new recipe to feed the world in the future," said the report's editor, Anders Jägerskog.
- 13 A separate report from the International Water Management Institute (IWMI) said the best way for countries to protect millions of farmers from food insecurity in sub-Saharan Africa and south

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Asia was to help them invest in small pumps and simple technology, rather than to develop expensive, large-scale irrigation projects.

14 “We’ve witnessed again and again what happens to the world’s poor – the majority of whom depend on agriculture for their livelihoods and already suffer from water scarcity – when they are at the mercy of our fragile global food system,” said Dr Colin Chartres, the Director General.

15 “Farmers across the developing world are increasingly relying on and benefiting from small-scale, locally-relevant water solutions. [These] techniques could increase yields up to 300% and add tens of billions of US dollars to household revenues across sub-Saharan Africa and south Asia.”

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### 3 Comprehension check

**Answer these questions according to the article.**

1. How will eating less meat save water?
2. What will happen if we don't reduce our meat intake?
3. Why have food prices risen so dramatically recently?
4. What were the consequences of food shortages in some areas of the world in 2008?
5. How much of the world's available water supply is used for food production?
6. Besides eating less meat, what other measures could we take to reduce the water deficit?
7. What other factors are increasing our demand for water?

#### 4 Collocations, word pairs, multi-word expressions

- a. What words in the text follow the word *food* to make collocations? Write them below.

food

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b. Pair these words to make further collocations from the text.

- |                 |              |
|-----------------|--------------|
| 1. vegetarian   | a. resources |
| 2. catastrophic | b. shortages |
| 3. current      | c. trade     |
| 4. devastating  | d. diet      |
| 5. civil        | e. supply    |
| 6. eliminating  | f. unrest    |
| 7. increasing   | g. waste     |
| 8. water        | h. impact    |
| 9. essential    | i. revenues  |
| 10. household   | j. trends    |

c. Put these words into the right order to make three multi-word expressions used in the text.

that in fact of the spite

rise on the

of mercy at the

d. Now use the language from tasks a to c above to summarize the article.

### 5 Discussion

- Do you think that changing to a vegetarian diet is the way to save enough water to enable us to feed the world?
- What other measures could we take?

### 6 Webquest

Find out which non-animal-based foods are rich in protein.

Have a look at the websites of the Stockholm International Water Institute, the International Water Management Institute, the United Nations (type *water management* into the search field) and Oxfam.

### 7 Group task

Speaking idiomatically, Anders Jägerskog, the editor of the report mentioned in the article, said, 'We will need a new recipe to feed the world in the future.'

Taking this advice literally, share your favourite vegetarian recipes with your class by either:

- writing recipes to share;
- making a home video while you prepare vegetarian food (the commentary should, of course, be in English);
- demonstrating or presenting your recipe to other members of your class.

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#### KEY

#### 2 Key words

1. derive
2. croplands
3. deficits
4. dire
5. scarcity
6. staples
7. droughts
8. erratic
9. arable
10. surplus
11. malnourished
12. constraints
13. irrigation
14. livelihoods
15. yields

#### 3 Comprehension check

1. Animal protein-rich food consumes five to ten times more water than a vegetarian diet.
2. There will not be enough water available on current croplands to produce food for the expected nine-billion population in 2050.
3. Prices for staples such as corn and wheat rose nearly 50% on international markets between June and August 2012, triggered by severe droughts in the US and Russia, and weak monsoon rains in Asia.
4. civil unrest
5. 70%
6. eliminating waste and increasing trade between countries in food surplus and those in deficit
7. a rising global demand for energy

#### 4 Collocations, word pairs, multi-word expressions

**a.**  
 shortages, production, supplies, trade, crisis, imports, surplus, insecurity, system

- b.**
1. d
  2. b
  3. j
  4. h
  5. f
  6. g
  7. c
  8. e
  9. a
  10. i

**c.**  
 in spite of the fact that  
 on the rise  
 at the mercy of

#### 7 Group task

**Teacher's note:** The group task could be set as homework or even as a project that runs over the whole term.