**Drought**

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|  | **Namibia, 2013** | **California, 2014** |
| **Impacts** | **Social impacts**  Worst drought for 30 years  1 in 3 people were at risk of malnutrition  778,000 Namibians were either severely or moderately food insecure  Harvest yielded 42% less than in 2012, which meant severe food shortages  People left their homes to search for water as there was none in their villages (the wells had dried up)  **Environmental impacts**  Severe drought can have a large impact on the savannah ecosystem. It can change an area of grassland that could sustain livestock to an area of inedible grasses and plants that livestock cannot live on. This is because the grasses that can cope with drought are not good for livestock.  Large areas of Namibia are changing from savannah grasslands to desert due to the lack of rainfall. Only drought-resistant plants can survive in these conditions but the Namibian farmers’ cattle cannot graze on them. | **Social impacts**  Farmers use 80% of the human usage of water in this area. If there are water shortages their crops will die or they will plant fewer crops, resulting in less food for people.  Loss of 17,100 jobs in farming.  5% of the irrigated land in California wasn’t planted.  The Department of Agriculture predicts that prices of fruit and vegetables will rise by 6%.  **Environmental impacts**  Wildfires are becoming a regular occurrence because of the dry and dead wood. There were more than 12 fires in May 2014 near San Diego. Fires like this usually occur in the autumn.  Some rivers and streams are closed due to fishing. If water levels continue to drop the water will become warmer and the young salmon will be unable to survive as they require cool running water.  The earth is shrinking because of depleted groundwater reserves.  Between 2008 and 2011, parts of the Central Valley subsided more than 60cm.  The dry weather meant a better grape harvest and better tasting wines. |
| **Responses** | **By individuals**  Farmers were forced to sell their livestock.  People migrated to towns in search of work.  In one village almost all people, about 350, left in search of water and grazing land for their cattle.  **By organisations**  UNICEF appealed for US$7 million to support their efforts to respond to the needs of women and children.  The International Red Cross and Red Crescent asked for US$1.5 million.  Algeria donated US$1 million in food aid.  The Lutheran Church helped in a number of ways. For example, by providing basic food assistance to vulnerable communities with no access to governmental distribution points, trying to ensure a safe environment and access to clean water.  **By the government**  In May, President Pohamba declared a state of emergency and requested US$1 million in international support to avert a crisis.  Pledged £13 million in relief for the worst-hit households.  The Ministry of Agriculture, Water and Forestry (MAWF) gave two options to farmers who do not have enough grazing land for their animals; either to sell their livestock while they are still in good condition, or a subsidy for the cost of transporting their animals to emergency grazing areas. | **By individuals**  Farmers will have to pump more water, which will cost an extra US$453.  People have been asked to use water more sparingly.  Farmers are planting smaller crops because there is not enough water for them to grow.  **By organisations**  New mandatory laws forbid restaurants to put water on tables without it being requested.  Hotels must also ask guests if they will reuse their linen and towels to save water.  Advanced forecasting models are being developed by NASA to help with the water shortage.  They are also developing new ways to better manage the state’s water resources.  The state also plans to monitor water levels more closely.  **By the government**  The state is preparing to undertake fish rescues to capture them in shallow waters and transport them to deeper waters closer to the ocean. For example, Chinook salmon have been taken in trucks to San Pablo Bay because there was little water for them to swim through to get to the ocean.  Governor Brown declared a state of emergency.  In February, President Obama gave US$183 million from federal government funds.  In March, Governor Brown signed drought-relief legislation worth US687 million. It included US$25.3 million for food and US$21 million for housing for people such as farmworkers who are out of work.  Residents in the Santa Clara Valley have been told to limit watering of lawns to twice a week or face a US$500 fine.  The Reclamation and Natural Resources Conservation Service announced that they hope to provide up to US$14 million of federal funds to help farmers to conserve water and improve water management. |

**Revision tasks**

1. Describe the difference between arid environments and drought.
2. State one human and one physical cause of drought.
3. Draw a table that compares the impact of drought on people and the environment in the USA and Namibia.
4. State one impact of drought for people living in the USA.
5. Compare the response to drought by organisations in the USA and Namibia.

**Sample exam questions (8 marks)**

1. Evaluate the responses of individuals and governments to drought in developing and developed countries.
2. Assess the impacts of drought in a developing country.
3. Evaluate the responses to drought in a developed country.
4. Assess the effectiveness of responses to drought in developing and developed countries.
5. Assess the following statement: *Drought presents a greater threat to people living in developing countries rather than those in living in developing countries.*