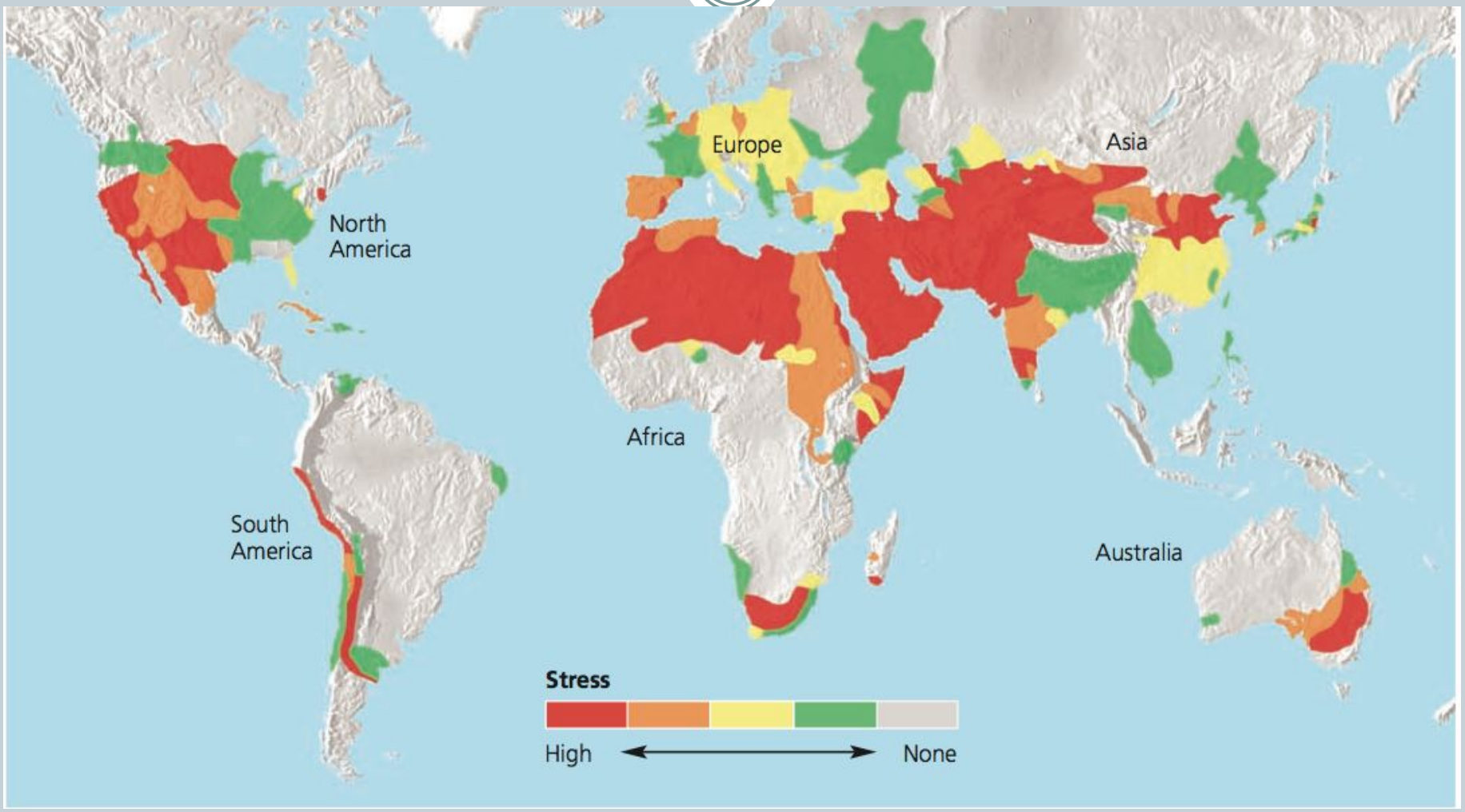
Water Resource

- We already know that water covers about three-quarters of the Earth's surface, and
- It is essential to life (plants, animals, humans)
- Water is a renewable resource- that is after it has been used it returns to the water cycle and in time it will be used again.
- The total abundance of water on Earth might not seem to be a problem.
- people rely heavily on **fresh water** and its amount is limited (3.5%) in comparison to the rising world population and increasing demand.
- Huge amount of water is being polluted and also wasted.
- Making water available where and when it is needed is a problem.


Europe
Asia
North America
Africa
South America
Australia
Stress
High
None

Use of Water

Water is used in many different ways, including:

- Domestic use: for showering, washing clothes, watering lawns and gardens etc.
- Agricultural use: includes water used in irrigation.
- Industrial use: water used for processing, washing and cooling in facilities that manufacture products.
- In-stream uses: hydroelectric power generation, navigation, recreation, fish and wildlife habitats (ecosystems).

Worldwide,

- irrigation agriculture consumes over 70% of all the water used by people
- industry accounts for a further 20 % and
- domestic & municipal uses account for most of the remainder (10%).

The amount used, and what it is used for, varies a great deal from country to country.

Increasing Demand For Water (Fresh Water)

- Water is the most basic and most important of all natural resources.
- We require regular supplies of water but it must be **fresh water**.
- Most comes from rivers, lakes and underground aquifers.
- Sea water can be used but the salts dissolved in it must first be removed (by desalination) before it is suitable for people to drink or use directly.
- Demand for water has increased markedly in recent centuries.
- During the twentieth century world water use increased seven times.

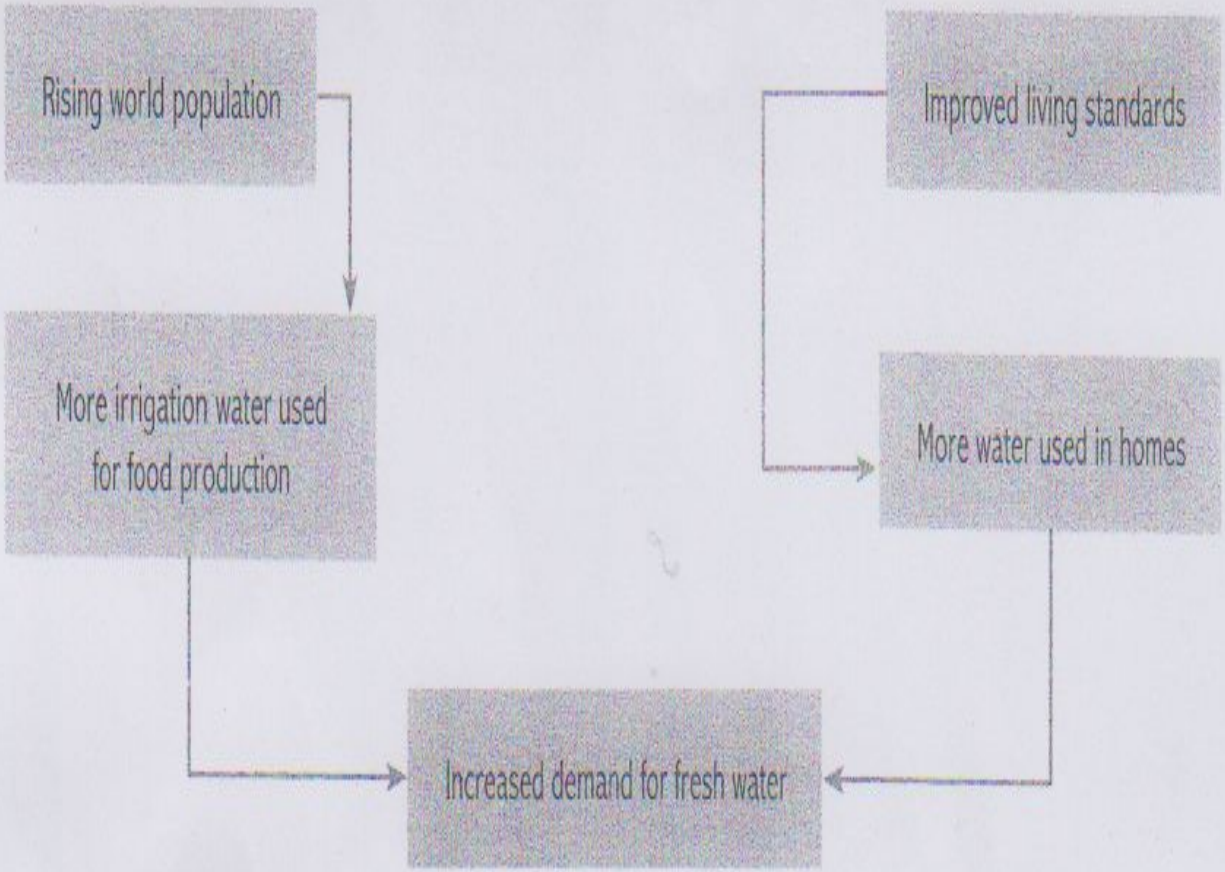


Figure 2.13

Increasing demand for fresh water

Water conservation

Water conservation is the **careful use** and the **protection** of **water resources**. It involves both the **quantity** of water used and its **quality**. Conservation is an important component of sustainable water use.

<u>Steps that can be followed for water conservation:</u>

- Use improved agricultural irrigation system
- Use computer monitoring and schedule release of water for maximum efficiency
- Integrate the use of surface water and ground water to more effectively use the total resources
- Turn off water when absolutely not needed for washing, brushing and so on
- Take a long bath rather than a long shower
- Don't wash sidewalks and driveways with water rather sweep them
- Industries might curb water usage by increasing in-plant treatment and recycling of water or by developing new equipment and processes that require less water.

Sustainable water use

Water is essential for life. It is also necessary for maintaining ecological systems necessary for the survival of humans. As a result water plays important roles in

- ecosystem support
- economic development
- community well-being

From water supply use and management perspective, sustainable water use can be defined as use of water resources by people in a way that allows society to develop and flourish into an indefinite future without degrading the various components of the hydrologic cycle or ecological systems that depend on it.

- THANK YOU