

Andy Mustedanagic

Cedar Falls High School

Cedar Falls, IA

Spain, Water Scarcity

Spain: Saving Water All Around

Water is becoming scarce all over the world. Some countries still have plenty of water while others struggle for every drop. In countries where water is scarce or becoming scarce, people are working hard to provide water to everyone. Spain is one of the many countries that is beginning to face a water crisis. Families all over the country are having water troubles and the acts that are being taken to help the people are not working well enough. The lack of water is dangerous for human, animal and plant health. In order to solve this problem of water scarcity, many steps must be taken to conserve water. The everyday person must be thought about along with farmers and major businesses.

Spain is a country located on the western side of southern Europe. It is surrounded by the Atlantic Ocean except where it connects to Portugal and France. The country is run by a democracy with an elected prime minister (O'Callaghan). Spain has a population of about forty six million people (O'Callaghan). Twenty percent of the people live in rural areas while the rest are urban areas (TradingEconomics). The people of Spain work in a variety of jobs, from doctors to farmers. Many people work in high tech industry jobs, medicine, and small to large shops and restaurants. Farming is a large part of the Spanish economy; thirty eight percent of the land is cropland while fourteen percent is grazing land ("Key Facts on Farming in Spain."). The main crops are olives and grapes, which are used to produce their largest exports of wine and olive oil (Lloyd). Spain is also known for its production of organic fruits and vegetables (Lloyd). The country also has a varying climate; some places are humid while some arid and others semi-arid (O'Callaghan). Families in Spain on average have two and a half people in them ("Average Household Size in Spain."). Families normally have small breakfasts followed by a midday snack. Then comes a large lunch. Later on another small snack and ending the day with a late dinner. Work hours and school hours in Spain can revolve around the eating schedule. School starts in the morning and around lunch time students either get a 2 hour break or are done for the day. Work schedules act the same except for some restaurants and small shops. Some restaurants do not open until 4 o'clock because most people are working until then (Brogaard). Families get their food from food markets, shops, and supermarkets. Some who live on farms or have family on farms get food from the animals or crops they raise. Water is a problem for the Spanish; they are experiencing

droughts. The droughts make water more expensive, which makes it harder for families to get water. This is having a negative impact on the people's quality of living. Spain has one of the most expensive electricity bills in Europe and the gas bill is a medium cost. Utilities overall are on the higher side for Spanish people (S.L.). Although, primary education is free for children, except for uniforms, books and other equipment (donQuijote). This makes it easier for families to afford food because school is not too large of a worry.

Spain faces a challenge with water scarcity. The country is experiencing large and long droughts along with water pollution. Eighty percent of the available water is used in agriculture (Hiero). The water is used to water crops and give water to animals. Agriculture is a large priority because of the economic impact that it has. Grapes and olives must be grown to make wine and olive oil, the two largest exports of Spain (Lloyd). Although the agriculture is also causing water pollution of by the runoff of fertilizers into freshwater sources. Spain also experiences water problems in there urban environment, such as cities. An increase of ten percent has been seen in demand for water, which is due to new national water plans (Hiero). Leaky pipes are also another cause of problems all over the country and cause lots of water to be lost to the environment. The small leaks in houses, underground systems and various other places build up a large amount of wasted water over time. Another factor of water waste is the fact that Spain is a tourist hotspot; this brings a large demand to the water resources of urban areas. Hotels require the use of many large washing machines, in order to wash articles such as towels and robes that are provided to customers. They also use dishwashers to wash the many dishes used in there restaurants. Plus, most hotels have swimming pools and or fountains that use massive amounts of water. Over the whole country there is a twenty percent freshwater loss over the last twenty years (Hiero). In certain areas of the country however the percent goes all the way up to forty (Hiero). With water being so scarce, the cost of water is growing more and more in urban and rural areas. In some areas water is only available during certain times of the day (ExpectFocus). Health dangers develop with scarce water. Dehydration is more likely and during warm months heat stroke is more common, especially for the young and elderly. The overall quality of life for all people is degraded with the water crisis. The environment is also experiencing negative effects with wild life struggling to survive along with vegetation dying. This also helps increase climate change because there are less organisms to replace the carbon dioxide with oxygen, and the dead organisms are releasing carbon back into the environment, which creates more carbon dioxide. Carbon dioxide is a major greenhouse gas, which contributes to climate change.

The solution to this problem requires many steps and areas of approach. One priority is teaching farmers about conserving water with how they irrigate crops and feed animals (circle of blue). Techniques that are very precise with water distribution and cost effective are very important for

the Spanish farmers. Drip and trickle pipes are very effective in conserving water. Drip and trickle pipes

are pipes that have small outlet holes for water along the pipe. When a system like this is installed, water is delivered directly to the roots and prevents large amounts of water evaporation. They can be expensive because pipes must be installed throughout all the plants being grown. The system may be expensive, but in the long run, farmers could earn money back by having to spend less money on water while still adequately watering crops. If a farmer is poorer a technique that focuses on localizing the water to smaller areas is better than nothing. A technique like a center pivot with sensors in the ground that tell what areas need water could be a viable technique. The sensors are not even necessary. They are an extra cost that help the system work better, but can be skipped. These systems even help eliminate pollution by reducing the amount of runoff. An even less expensive solution would be placing many low flow and small area sprinklers throughout the crops. The sprinklers should be aimed at a low angle allowing water to get to the ground as soon as possible and eliminating the amount that is evaporated. A simple practice that all farmers could use is irrigating crops during low sunlight times. The goal for crop irrigation is to deliver an adequate amount of water for the crops with the least amount of water possible.

When concerning animals and water, it is important to avoid as much evaporation as possible. A simple fix would be placing animal's water sources in the shade. The shade protects the water from evaporating at a faster rate. Creating a system where water is only placed into the container when the animal needs it is important. One system is having a paddle inside the bowl that when pressed down releases water into the bowl at a slow rate to give the animal the water it needs but not much more. Essentially a water fountain made for animals to operate on their own. This eliminates much of the water evaporation that naturally occurs. Although, this could be a little costly the benefits of less water wasted and less money spent on water, help pay back the expense. Another priority is reducing water use in urban areas. The first place is to start by looking at how to reduce the use in homes (circle of blue). One easy fix is advertising how installing low flow faucets and showerheads along with toilets in bathrooms can save a large amount of water which will lower a person's water utility bill. When people see they can save money easy just by replacing a few things, they will jump at the chance. Next is to start teaching people simple things they can do at home to save water. For example replacing or fixing any leaky pipes or faucets, turning off the water while brushing teeth or washing dishes, and taking shorter and/or fewer showers. Simple little fixes on a large scale can make a large difference in water consumption. Another major area to work on is tourist water consumption. Maintaining pools, washing towels and dishes, and giving water to bathrooms are large areas where hotels use water. It is important to ask guests at hotels to help save water by reusing towels, and cutting down showers and water use if possible. Hotels can put little notes in rooms asking guests to help with the water problem.

Hotels can also reduce water consumption by upgrading their dishwashers to newer that are more water friendly. The same can be done with washers for towels. When it comes to pools and fountains, the hotels should get rid of the fountains and beach side hotels should also eliminate pools.

This project will not be easy to complete. It will take plenty of funding, a strong leader, and a large input from the communities. The United Nations is a big influence on people around the world, therefore they would be a good leader of this project. When people see something as large as the United Nations is taking attention to this, the people of Spain will be motivated to join in and help. The source of funding for this project this will have to be by donation and fundraising. Funding from other organizations would be a large help. The biggest help will have to be the people of Spain. Without the people themselves choosing to take a part in the solutions then nothing can be done. Motivating the people to take part will be a large focus of the project. To have a large impact, the whole country will have to be targeted at once. Many people will be needed to help in these solutions. An institutional approach will be very effective in creating the change needed. Sending representatives all over the country and having them talk to people about the previously stated solutions, can cause a real change. Eventually as people start to see the change, they will end up spreading the ideas to friends and family. Those representatives can simply be volunteers educated on the matter or they can be real experts that research water scarcity problems. The ideas just need to be spread.

In order to solve the water quality problem in Spain many solutions are needed. An approach on farming is very important due to the large use of water in agriculture. Crops and animals must be given adequate water to survive, but the goal is to use the least amount of water possible. Although, not using enough water can hurt the country. While in urban areas, people need to be taught ways that will help save them water and why it is important to save water. The people must also be motivated to participate in doing these activities. The people are the main ones who can fix the problem. Unmotivated people cause no change. Another fix that will help save water is having hotels ask guests to help save water. Hotels can make a large difference by changing a few things. Fundraising and/or organization funding is how this project will be funded. A leader for the project should be a well-recognized organization in order to motivate the people. Motivating the people of Spain to take part in conserving water will start Spain on the path to exiting a water crisis.

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