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Australia, Sustainable Agriculture

Australia: Using Damaging Wildlife as a Sustainable Food Source

The continent of Australia is also an island surrounded by the Indian Ocean. It is about 2.9 million square miles or about 7.7 million square kilometers (Proquest Culturegrams, Land and Climate). The outback of Australia is most of the land; it is very dry, dusty, and hot. These conditions make it hard for many people to live in the outback. The most common place to live is along the shore in cities like Sydney or the country's capital, Canberra. The country has six states and two territories--although the number of states may be small, that small number needs a government.

Australia's government is a federal parliament. The current prime minister is Malcolm Turnbull. Australia is a member of the commonwealth of nations, and for this reason it has the same head of state as Britain, Queen Elizabeth II. Queen Elizabeth II is their queen, but they are considered independent and follow the prime minister. The role of queen is mainly just for appearances, just like it is in Britain. The Parliament is made up of the House of Representatives and the Senate. The House of Representatives has 150 members, but the Senate has only 76. In Australia the voting age is 18, and it is illegal not to vote in state or federal elections. If one doesn't vote, one will be fined; as a result the voter turnout is very high (Proquest Culturegrams, Government).

The population of Australia is about 23 million people. Although Australia is a relatively large country geographically, about the size of the United States, it doesn't have many people. Most of the people have either an Asian or European background, and the aboriginal peoples, the native inhabitants of Australia, are gradually becoming a minority. Almost 90 percent of people live in an urban area because of the harsh conditions in rural areas.

Many small farms are being purchased by bigger corporate farms, something that is also happening in the United States. This means more people move to more urban areas to support their lives. Now, only about 2.3 percent of Australian live in a remote area. Over 69 percent live in big cities. All Australians speak a form of English called Aussie. Most words are the same as the English spoken in America, but some words or phrases might have a different meaning. For example, "sunnies" are sunglasses and the "telly" is the television (Proquest Culturegrams, Population).

One of the main problems in Australia is pests. The overpopulation of kangaroos and the invasive rabbits are two main pest problems in Australia. Although it is legal to kill these animals, getting a license is very difficult and expensive (NSW Office of Environment & Heritage, Kangaroo Management Plan). Another problem with killing these animals is known as the "Bambi Effect" (Definitions.net, Bambi Effect). The Bambi Effect is where "cute" creatures, like kangaroos and rabbits, are seen as innocent. This results in people not wanting them killed or hurt. This happens in Iowa with deer and across the world with other animals. But the animals are pests, and need to be taken care of to create a sustainable agriculture in Australia.

Rabbits are an immense problem in Australia. They cause overgrazing, soil erosion, and much more. The rabbit gestation is only about one month, and the average litter size is six to twelve bunnies. A rabbit can have babies at the age of only six to eight months. These factors are key in the rapid spread and overpopulation of rabbits in Australia. They were deliberately brought to Australia in the 1800's by European settlers for food. Later, wild rabbits were brought for hunting (The Rabbit Problem). The current population size of rabbits is about 200-million. That is about 8.5 rabbits per one person in

Australia. This is a huge problem that has many devastating results. Controlling their numbers is a large problem.

Kangaroo overpopulation is also a large problem in Australia. Kangaroos carry many diseases, and some of those can be transmitted to humans or cattle. Kangaroos also cause overgrazing and take food and shelter away from cattle, farm animals, and other animals. The animals can also hurt small insect life by eating natural environments for them such as shrubs, tall grasses, or bushes. The animals most affected by the kangaroo population are beetles, bandicoots, reptiles, and birds. The kangaroo population is hard to control because the population is under some protection acts--the numbers fluctuate so much. Another challenge is that license regulations are very strict in Australia. It is very difficult to obtain a hunting license in Australia for rabbits or kangaroos (NSW Office of Environment & Heritage, Kangaroo Management Plan). This results in few people hunting or filling quotas.

Both of these issues have serious impacts on the food in Australia. They cause overgrazing, taking food away from cattle and people. They eat in the fields of small farmers who do not have the funds or resources to deal with these issues. This results in corporate farms buying out the small farmers who can no longer make a living. They also compete with cattle and animals for water, which is scarce in the outback (The Rabbit Problem). Australia is one of the leading exporters of wool and beef, and their economy relies on this export. As the rabbits and kangaroos displace more and more of these animals, it hurts the economy and everyone living in Australia.

In an online interview with an Australian named Geoff, he told me that Australia is also a major exporter of aluminum, uranium, and coal. These are gathered mainly from the outback, and wild animals can be of harm to mining processes. He also told me that previous methods of removing rabbits from the environment have proved ineffective, as the population of rabbits are still on the rise and are still harming farmers and miners. He explained that the population of kangaroos changes from year to year and is similar to deer in the midwestern states of the United States. These are serious problems with serious impacts that will need to be fixed.

Solutions must be long term, or the problem cannot be completely fixed. All of the methods that could work to control the populations in Australia would also give the people more food that can go to market. This would also help the food insecurity the country faces on small, poorer, rural farms and possibly create sustainable agriculture to help the people hold on to their land. This would help the current agricultural systems by making it easier and cheaper to run a smaller farm. Farmers wouldn't be required to purchase as much fencing or control systems. This would mean more small farmers could stay in business and less big companies could buy them out. This is good for the economy and for the overpopulation problems the country is facing, as mentioned later in the paper. Methods for controlling rabbit and kangaroo populations include simplifying the licensing process, creating a tagging process, using large traps for rabbits, and creating a market for the meat.

According to the NSW Office of Environment & Heritage, the licensing process for a non-commercial license requires a form to be filled out, mailed, and looked over to be considered by a local office. If the application is approved, it only allows a hunter to kill a certain number of animals in a certain way on his or her property for a short period of time. The application is filled with questions and is three pages long. In comparison, Iowa's non-commercial hunting licenses are available anytime as long as the hunter pays the fee. The fee for an Iowa resident is \$30. It only costs \$22.50 more to be able to take and use fur from the animals killed (Iowa DNR). Under a non-commercial license in Iowa, a hunter can shoot any animal in the correct season anywhere he or she is not trespassing. For Australians, the cost of a commercial license is over \$200. A hunter still has to apply with a more difficult application and there are more rules and regulations (NSW Office of Environment & Heritage, Kangaroo Management Plan). So, if the process was simplified by making it all online, easier, and cheaper, the number of hunters could be

increased and the numbers of the animals decreased. To avoid decreasing the animals too much, a tagging system is needed.

A tagging system is based on projected populations according to Iowa DNR officer Gregory Harson. This system is useful because it keeps populations where they need to be. Mr. Harson said that with a tagging system, the population is projected. To project means the researchers estimate the number of animals that will be born. Next researchers decide where populations are at a safe number. Then they take the difference and sell that many tags. Tags are put on every animal that is shot, usually in the ear. This is an easy way to make sure an animal is killed by a legal hunter. You must have a license to buy tags, so markets know whether it was shot legally and won't be scammed or sued over something they didn't know about as easily.

One positive aspect about the tagging system is if the populations are increasing more than projected, more tags can be released. If the populations are not producing as fast as projected, any tags that have not been sold can be taken off the shelves to keep the numbers from dropping too low. Tags are being used for kangaroos in Australia, but they are only used by people with a commercial license according to NSW Office of Environment & Heritage. They are not monitored as well as they should be, and the number released each year does not change more than a few. If the numbers were better monitored, and everyone is required to use tags, the system could be very effective, especially for kangaroos because their populations vary substantially from year to year. This could help the populations get to the right level in only one year and keep the numbers steady with one system for many years to come.

Another solution that could help to bring a quick change to population sizes, specifically in rabbits, is large traps. If food was set out to draw a large amount of rabbits to an area, many could be caught at once. According to Austin Henning, an avid hunter and trap enthusiast, this was recently done in the United States to trap large amounts of boar. They planted a large amount of a plant that the boar liked and once there was a sufficient amount of boar, they trapped them with a large net, killed them and brought them to market. This idea could also be used for trapping rabbits. You could plant a large amount of a plant that rabbits enjoy, put a small watering hole next to it and catch the rabbits and bring them to market. You could also keep a certain amount to continue to raise and sell to create a sustainable source of income for a family.

The market for meat in Australia is very similar to here in Iowa. Due to the Bambi Effect, people don't want to buy things like kangaroo or rabbit meat. In reality, it is a healthy source of meat and protein. Just like anti smoking commercials and posters, you could put the word out that kangaroo and rabbit is a good source of meat, and can be eaten like beef or pork. Once more people know about this, the market will increase and more people can make a living by selling kangaroo and rabbit. It would be another source of food for people in Australia. As the food becomes more popular, it would also become more normal and the Bambi Effect would not be as strong. If these methods are put into place, problems would decrease. There is a problem and a solution for almost everything in this world. Overall, these methods would lead to less food insecurity and, as the bigger businesses become involved in harvesting the meat, a more sustainable agriculture.

These methods could greatly improve the society of Australia. Some citizens are worried about the food availability of the country. With these improvements, it would put more kinds of food on the shelves and more food for people or business to donate to the food banks that are currently short on food. Many families are going hungry in Australia, and the price for food banks is going up. More people need the food, and not all food banks can keep up with the growing demand for food and clean water. About one in six Australians have gone hungry in the past year. For about half of those, going hungry is a regular occurrence (Nancey Haxton, "Australia's Poor Face Escalating Hunger Problem with Charities Reporting Increased Demand for Food"). This is a big problem that the solutions of a workable tagging system and

trapping will help fix by changing the supply and demand statistics.

There is some overpopulation and human issues in the big cities of Australia (The Overpopulation of Australia: We're Running Out of Time). According to The Overpopulation of Australia article, overpopulation causes problem such as lack of jobs, lack of living space, and lack of food. The current statistics, according to The Overpopulation Of Australia says that in 20 years, the country will almost double in population. The population could rise by as much as 15 million people in this time. It also says some large cities, such as Sydney and Melbourne, will soon become megacities, or a city with a population of 10 million or more. If people knew they could find a job out in the outback that could sustain a whole family, as hopefully this would, they would be more apt to move there. Family farms in the outback are decreasing, and this is yet another problem that is being fixed with these solutions. Together these answers help to address the economic needs for families and overall cultural benefits derived from "strong" families.

Common people who want to move out of the city could now have a new and sustainable job in the outback and more of a chance to earn the money they would need to survive. This would also decrease the rising numbers in the city. Farming can be a big business and could support a large number of people. This could help the economy as well as specific families who might be struggling. Right now, there is overpopulation and troubles in economy (The Overpopulation of Australia: We're Running Out of Time). Infrastructure is years behind, and it will cost about 1.5 trillion to fix all of the problems. The government is already struggling to keep up with the quickly changing and growing country, and of the world, so these costs will likely intensify. Giving people jobs that require them to move out of the large, overpopulated cities will help the costs to be reduced and the construction to flow smooth. This will also help to reduce cost of housing and food, which are needed for every person.

Another problem in Australia is the big businesses. They are shooting down humanitarian programs (The Overpopulation of Australia: We're Running Out of Time). The cost of running these programs is high, and most big businesses are pressured to always help. Although some businesses are happy to help, some are not and would rather spend the money taking these programs down. They end up spending money either way, and when they fight off the programs, they hurt a lot of people that could have been very helpful to the business in a few years. So, if more small farms and farmers existed, which my solutions would encourage these results, the bigger businesses might help the humanitarian programs to stay in business and to fight for more employees.

Full time jobs are becoming a rarity in the overpopulated cities, according to Greg Jericho, writer of the article Full-time jobs are few and far between - if you are new to the labour force. He writes that people who are new to the labor force are not likely to find a job, as most companies are looking for more skilled workers and aren't willing to train someone who has never worked. People between the age of 19-30 are less likely to get a full-time job. The unemployment rate has also gone up dramatically since 2011. In 2011, the unemployment rate was 3.6%, and as of 2016 it had risen to 5.9%, and was continuing to rise. This has changed a lot in the past few years. I believe if people could make a living by working and living in the outback, more people could get employed with jobs that could sustain not only them, but also sustain their family, and assist it to grow stronger and healthier. Strong healthy families also solve a lot of problems with things such as crime.

In summary, methods for controlling rabbit and kangaroo populations are: simplifying the licensing process, creating a tagging process, using large traps for rabbits, and creating a market for the meat. Every method will have its flaws, but all ideas need to be taken into account when trying to help the country. These methods could all help Australia in a variety of ways. They will help with the overpopulation problem, help bring back the small farms, keep people from going hungry, help Australia's frail; economy, help people new to the workforce to get their first job, and help families to be together and

become stronger.

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