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Turkmenistan, Chemical Pollution

Hunger, Poverty, and Chemical Pollution, Problems in Turkmenistan With Solutions.

When you think about it, there are a lot of problems in the world. From poverty to global warming, and hunger to terrorism, our planet Earth isn't perfect, it isn't a utopia, but everyone has the ability to try to make Earth a better place. Turkmenistan is one of those countries that has problems that affect the whole world. Now Turkmenistan struggles with hunger and poverty, but they are slowly making a change to make that a problem no more. They are doing so by putting markets and shops in the more rural areas where around half the population lives, so soon, hunger will not be a problem. Poverty is also a problem, but that is slowly being solved by Turkmens going and working at local markets, farms, and other jobs. From all the good things in Turkmenistan like the government, the cities, the population, all of that, there is another major problem that stands out, chemical pollution. Chemical pollution is the toxins and chemicals that are released into the atmosphere, and that pollutes the air that we breathe in. So it is our job to come up with solutions to these problems, to make the world a little bit better and cleaner.

To start it all off, here is a little bit about Turkmenistan's country and families. Turkmenistan is a country located in Central Asia, neighboring Uzbekistan, Iran, and Afghanistan. An article about Turkmenistan stated, "The current population of Turkmenistan is 6,095,485 as of Thursday, March 25, 2021, based on Worldometer elaboration of the latest United Nations data." (Turkmenistan Population LIVE). The country has a decent population for the country being mostly a desert, but the rural and urban population percentages are 48.4% rural and 51.6%. Turkmenistan has 5 provinces for government, the provinces are named Ahal, Balkan, Dashoguz, Lebap, and Mary. The provinces are also divided into districts. Gurbanguly Berdimuhamedow is the current and second president for Turkmenistan, and is the second because they declared independence from the Soviet Union in 1991. An article on farms in Turkmenistan stated, "The two most significant crops are cotton - which is grown on half of the country's irrigated land, and wheat. ("Agriculture in Turkmenistan"). Turkmens really care about their cotton because they are one of the top cotton producers in the world. The average family size is 5 people in a household which makes it a little difficult with families because if the family is set up in a rural area, then they will already have a difficult time getting food, and the supplies they need to live their lifestyle, but they need to get a bit more since there are 5 of them. The households in rural areas are what you would expect from a rural area, houses that can sustain life and keep a family safe, but aren't as nice as the ones in urban areas, speaking of urban areas. But let's get out of the desert and step into the big cities, the households where these families live are actually pretty nice, they look like what you would find in a nice city in America, with big hotels and nice houses, roads, shops, cars, people, and monuments. about 70 percent of Turkmenistan is a part of the Karakum desert. Now when you hear desert, you typically think inhabitable, dry, hot, and harsh conditions. But the Karakum desert is a little different. Besides the harsh winds from time to time, the Karakum desert is perfect for a small farming town. The soil, even though it is in the desert, can actually be used to grow crops. In the karakum desert, you can grow cotton, a variety of vegetables, and a majority of fruits. The Karakum desert is known mainly for the rich natural oil reserves spread widely around the desert. One nice thing about the oil reserves is how much money it makes for Turkmenistan. In an Article titled "Turkmenistan Exports, Imports, and Trade Partners" the following was said about oil exports, "The top exports of Turkmenistan are Petroleum Gas (7.59B)" So not only is having the natural

gas reserves helpful for personal use, it is also useful for exports. So back to the farms in the desert, a farm is not a farm without having a water source, well luckily enough the Karakum desert actually has a river that passes through it, the 850 kilometer long river is perfect for settlements along its banks, as a bonus the water is also perfect for crops. With all of these pros for starting up farms in the desert, there are the barricades to prevent certain goals. Living in a desert also comes with the heat and the arid climate. In an article titled "Climate of the Karakum Desert" it states, "and in the central part of the Central Karakum from 86 to 93 degrees fahrenheit." People usually have the ability to adapt to climate change, if incentives are utilized to lure people to the desert area to farm, people may just do that. When the U.S. was first founded, people were offered plots of land to farm and homestead. If eligible, young and physically capable, Turkmenistanians are offered a chance at land ownership or co-op, some or many may try this as a step out of poverty for them and their extended families. The climate is hot, but having homesteads that can be shut up and insulated from the heat during the day to offer protections to farmers can combat that barrier. Farmers could work during the coolness in the early mornings and evenings to tend to crops and possibly livestock. Now, It is time to get planning. Getting started will be the tough part, we will need to get the starting farm plots built and the actual town with places for the people to stay. Money should not be a problem from how rich the country already is, but the main problem will be the getting the community together to work on this. One suggestion, is get the less fortunate people or the people that don't have homes, money, and a job, and use a government incentive program to persuade them to want to work in the town to get it set up, then they would also be able to have a job, a place to stay, food, and money. Setting up the farms will greatly solve hunger and poverty by opening up more jobs for the less fortunate. So now that we have our workers, our small town, and our little farm plots, we start working. The typical jobs for these towns would be mostly absorbed by mining (working on the natural oil reserves) and farming, other than those two there will be working at markets, hospitals, or whatever else they get set up in the towns. From doing the farming and mining, we can sell/use the goods, for our great benefit, the oil can be sold for good money, and it can also be used to power electricity and whatever else it will be needed for, also the food from farming can be used for feeding families, or selling to others. These towns will come with a lot of benefits for hunger and poverty, by opening jobs for people to make money at, and by setting up farms to put food on the table. The towns will also help the main problem. Chemical pollution. By having these farms all around, it will space out the fertilizer so it will be being used in more areas instead of just one area. It will take a little bit to get started but it will come with a lot of benefits

Along with all of these cool things about Turkmenistan, there are also some bad things about Turkmenistan. An article on Environmental issues in Turkmenistan stated, "Environmental issues in Turkmenistan are most visible in three significant areas: desertification, the drying of the Aral Sea, and chemical pollution. All three of these areas are directly linked to agricultural practices in the country."("Environmental Issues in Turkmenistan"). But there was one problem that stood out, that was one of the biggest problems in Turkmenistan, it is Chemical pollution. Turkmenistan is suffering from chemical pollution because of over-fertilization, over fertilization is when you give your plants too much fertilizer to the point where it doesn't take in that fertilizer and the plant may have problems or even die while in its growing stage. A statement about fertilizer stated, "Excessive use of fertilizer on cotton and other crops, as well as the use of pesticides such as DDT causes a large chemical pollution problem. Many fertilizers and pesticides have entered groundwater supplies via leaching or runoff from farms due to excessive or improper use."(Environmental Issues in Turkmenistan). Over-pollution also impacts the environment by letting the toxic chemicals into the air. Removing chemical pollution from farm areas is an important move, because if the chemicals get into the crops, they could ruin the crops, the soil, and even cause harm to the farmers. The tough part is, is that we can't just remove fertilizers from our farms because they are what help the crops greatly, so if we aren't going to remove the fertilizers, but we also need to do something to get rid of them, it comes to the simple solution of spacing them out more and spreading the fertilizer amongst other farms. The only problem we run into when wanting to do that is the lack of farms. Now a proper idea for fixing that problem is making more farms which should not be

difficult due to the fact that 4% of the country's arable land is used. So, if we make more farms out of this arable land, we can solve the chemical pollution problem. The farms will also make the employees money which will help in solving poverty, and working on farms will also mean getting food which will help solve hunger as well. Another solution to fixing this problem is getting more organic fertilizer, instead of using chemical fertilizer. For organic fertilizer you can use animal feces, well the two barriers we run into when wanting to do this, is no big animal farms, and endangered species scattered around Turkmenistan, so we don't have many animals to use for fertilizer and we don't have any place that has animals. But, one thing we could do, is start setting up some pastures for some of these animals, it would benefit Turkmenistan in many ways, by getting the feces for the fertilizer, growing up the population of these species, new tourist attractions, etc.

Now, a problem has been addressed, now the solution to that would be to come up with an idea that would involve using less fertilizer. Turkmens grow cotton and wheat, but they use most of their fertilizer on their cotton. An article on Agriculture in Turkmenistan stated, "Although Turkmenistan was formerly the world's 10th largest cotton producer, exports have fallen by 50% in recent years. ("Agriculture in Turkmenistan"). So even though they have dropped from 10th largest producer, they are still a big cotton producer. Turkmens want to make as much as they can and fertilizer speeds up the process of the growing of the plants, so Turkmens over fertilize their cotton because they want it to grow faster and more efficiently, but instead it results in chemical pollution and the plants might even run into growth problems due to the over-fertilization. My solution to this would be to take a step back on the fertilization, only fertilize when the plants need it, give the plants the minimum amount they need, and not much more than what they need. Research found that, "Agriculture in Turkmenistan is a significant sector of the economy which contributes 12.7% of the GDP and employs 48.2% of the workforce. However, only 4% of the total area is cultivated. ("Agriculture in Turkmenistan"). Now Turkmens may not want to give the plants less fertilizer because it may take a little bit longer, but if that is the case, then you make more farms, and then do the same thing there, since only 4% of the land is cultivated, I think of it as you could take the chance to get cotton faster but take the chance of your cotton dying, or fertilizing the cotton less, have moderate cotton production, but have a higher chance of the cotton surviving during its growing season, and having better cotton. Over-fertilization is not only harming the cotton. In addition to the healthier cotton, the atmosphere will not have to take in the chemical pollution coming from Turkmenistan. Another thing we would have to pay attention to, is how the chemical pollution is affecting the crops. Having more farming land and growing more crops is what we want, but if we have chemical pollution still in the air, it will make matters worse. Chemical pollution getting to the crops would be bad because it can fill the food with diseases that can rather kill the plants, or infect a human or animal that consumes the plant.

My recommendations to solve hunger, poverty, and chemical pollution are to make more markets near the rural areas of Turkmenistan, and make more farms in the rural areas. A website on Unemployment rates shows, "In 2020, Turkmenistan had an unemployment rate of 4.4 percent. ("Unemployment, total % of total labor force"). This shows that if we made more farms and markets in the rural areas, more people would work at the farms, and the best part is, that this goes along with my idea for solving chemical pollution. Researchers also found, "Agriculture in Turkmenistan is a significant sector of the economy which contributes 12.7% of the GDP and employs 48.2% of the workforce. However, only 4% of the total area is cultivated." (Agriculture in Turkmenistan). My solution to chemical pollution is for Turkmens to make more farms, so you would be using less fertilizer on the few farms you have and be using more fertilizer spread out, so more farms would actually be a really good thing for Turkmens. Also the markets and the farms will help make food available, and it will give jobs so Turkmens can get a job and make money.

All in all, Turkmenistan has quite a few problems, hunger and poverty for example, but Turkmenistan is working on changing that, Turkmenistan is building shops and markets in rural areas to make it easier for Turkmens to get food and supplies, and poverty is being solved by adding more shops and markets in

rural areas for more Turkmens to get jobs and make some more money for their families. Another big problem is chemical pollution, chemical pollution is when a high level of chemicals or toxins are being released into the atmosphere and poisoning the air. The solution to solving chemical pollution in Turkmenistan is to make more farms, and cultivate more of the land and so that way Turkmens won't be using so much fertilizer on the little farming land that there is. When Turkmenistan uses this idea to solve the chemical pollution, it will impact the country greatly, by getting rid of one of the problems in Turkmenistan.

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