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Albania, Factor 6
Sustainable Agricultural Practices

When you think of developing countries do you think of Albania? Do you know where Albania is? When I thought of developing countries Albania never crossed my mind. I also had never heard anything about it outside of my Geography class. Albania is a small country of about 3,166,000 people. The Albanian culture has gone through a lot and is finally rebounding from it. They are still facing some major issues, like hunger and poverty. To help with these issues I looked into how sustainable farming would help these problems. A typical Albanian family is comprised of a man and a woman. Although Albanians have an extremely high birthrate, they tend to have relatively small families, of only an average of two kids. This is because of a high infant mortality rate. In Albania men are perceived to be better than women. It is believed that the more male children you have, the more secure you are going to be later in life. To have a baby boy is something to be celebrated but to have a baby girl is a great disappointment. A high percent of the population is in a state of poverty in Albania. Some of the staples in an Albanian's diet include bread, beans, corn, cheese, and yogurt. They have a meat-oriented cuisine and eat mostly lamb. They also have rice when it is available. Albanians will feed their guest extremely well, even if it means they have to go hungry the next day. Albanian education has four main sections; preschool, basic compulsory school, secondary education, and institutes of higher learning. Preschool, for ages between three and six, is usual but not mandatory. Basic school, for children 6-14, combines practical work with book studies. Secondary education is between three and five years depending on the subject being studied. Some of these schools specialize in the arts, sports, and foreign languages. The other institutes of higher learning include two agricultural schools, an institute for the fine arts, three teacher-training institutes, and a University of the Sciences. Albania has an 88% literacy rate. Health care is expanding to meet the needs of the people. They are improving the doctor-patient ratio and adding more space. Health care can be seen developing by the decreased infant mortality rates, higher life expectancies, and the low number of HIV/AIDS patients. Although cancer is prominent they also have high immunization rates for children up to a year old. Most families live on the countryside on small, privately owned farms. Housing was poor before the war and is still a problem. During World War II about 61,000 buildings were destroyed in Albania and over half of them were houses. Housing is definitely still a problem. This is because the primary focus of construction was industrial. There were also shortages of materials and skilled labor. Housing construction was focused in the main cities because of the increased urban population. About 30% of the housing that is currently available today was built during the Communist regime. These houses consist of a concrete frame filled with brick or block in-fill. A survey about household living conditions showed that about 74% of rural houses do not have an indoor toilet while only 18% of urban households do not have an indoor toilet. It also said that about 54% of rural houses did not have access to running water compared to the 5% of urban houses.

Most families can barely raise enough crops to feed themselves, let alone the whole country. Part of this is because 70% of the country is mountainous and often inaccessible. The rest of the country receives seasonal precipitation and alternates between being very dry to flooded. Most of the soil quality is poor but there are small sections of land that have good soil and dependable rainfall. The soil quality and rainfall greatly affect how the crops will yield. The agricultural practices in Albania have greatly changed throughout the years. Through the years that Albania was under the rule of Communism they produced enough food to feed the nation. The government ran everything and all people were treated equally. This was good until the people lost the motivation to continue to work efficiently. In turn the crop yields dropped. After the Communist regime fell things changed. The economy collapsed after the government abandoned central planning. Even with the collapse agricultural production rebounded because of cooperative farms and the elimination of fixed pricing. Formerly government owned farms were divided

between private owners. This gave owners about a hectare plot of land to profit from. Wheat is the main crop in Albania but corn, oats, sorghum, and potatoes are also important. Recently a greater emphasis has been put on the production of cash crops such as; cotton, rice, beets, vegetables, sunflowers, fruits, and nuts. The Albanian government also established free-market measures to stimulate the agricultural economy. During the Communist regime the government had set up machine tractor stations where farmers could use the tractors to cultivate the land. When the regime fell these stations turned into state-owned enterprises that offered their services to customers. They charged outrageous prices, ignoring state limitations, and also required to be reimbursed for fuel at higher prices than they paid at the pump. 75% of Albanian tractors were over fifteen years old by 1991 and few could be repaired. This has left people with two options; paying the inflated fees or planting and harvesting by hand. Today, though, the number of tractors in use has risen again. The amount of artificial fertilizers supplied to farms has risen while the amount of fertilizer has fallen.

One of the barriers stopping improvements to agricultural productivity is the topography of Albania. Since most of Albania is mountainous cuts back on the amount of land that can be used agriculturally. The climate also affects how well the crops will grow. Albania is on the boarder between the Mediterranean climate and the moderate continental climate. This means that Albania receives rainy winters and cyclones along with hot, dry summers. This drastic change of weather can slow the growth of crops. Albania is a developing country and is still developing a sound infrastructure. This affects the industry and economy of Albania. Industries in Albania have been low throughout history. After World War II they rose rapidly but by 1993 industrial production had fallen 54%. Due to privatization industry has been increasing slowly. The Albanian economy took a major hit after Communism fell but it is now rising at about 7% per year. About 50% of the economy is still based on agriculture and unemployment is still high. When Albania joined Bosnia, Herzegovina, Bulgaria, Croatia, Romania, Serbia, Montenegro (Yugoslavia), an the former Yugoslav Republic of Macedonia to create a Balkan free trade zone it showed that it was in the process of an economic reform. This free trade zone eliminated tariffs on goods to be imported and exported. This increases access to affordable food. One major setback to the Albanian economy came in 1999 when they received 450,000 Kosovo refugees. Albanians now had to compete for food, jobs, and housing with the refugees.

Erosion, herbicide, and pesticide use are impacting the agricultural production in Albania. Erosion is a critical problem because it is affecting the economic welfare, food security, and public health of Albania. Albania is highly eroded and needs to implement new techniques to stop this erosion before it gets any worse. Each year nearly 60 million tons of sediment is dumped into the Adriatic Se by Albanian rivers alone. This means that on average Albania has a soil erosion rate of 27.2 tons per hectare per year. This is more than twice the level most countries have established as tolerable. It also means that on average 2.3 millimeters of nutrient rich topsoil are lost in the ocean each year. Along with dumping topsoil into the oceans agrochemicals like; pesticides, fertilizers, and industrial pollutants are put into the rivers, lakes, and oceans. This causes water quality to decrease and other industries could suffer. If these chemicals continue to be dumped into the ocean it will kill fish, shrimp, and other aquatic organisms. If these die than shrimping and fishing industries will fail. If Albania keeps loosing 2.3 millimeters of topsoil a year they will have lower crop yields and will eventually be experiencing more flooding due to the decrease in elevation. Artificial fertilizer is the man made chemicals applied to fields and organic fertilizer is manure from livestock. Using fertilizer isn't a bad thing until it is used in excess. That is only because it has chemicals that can harm the environment. Albanians are at a slight disadvantage to implementing sustainable farming practices because they don't have the federal support that a developed country does. The United States is also trying to reduce erosion and fertilizer use. To do this they offer to pay farmers to preserve and not farm sections of land. In Albania they don't have the infrastructure to support doing this. Besides they don't have as much land, this becomes a factor as if they plant less they can export less. Families are having a hard enough time growing enough food to feed themselves they cant afford not to farm all of their land. Soil erosion and fertilizer use will only get worse until we do something

about it. There are a few ways to measure erosion by simply viewing the land. If rills or gullies are present they show that a concentrated flow may have existed. Exhumed rocks that are scattered loosely on the surface rock-free areas usually indicate soil loss. Exposed roots are also an indicator of soil loss.

Organic farming is also a way to protect the environment by not using fertilizers and other chemicals. The Organic Agriculture Association of Albania (OAA) was founded in 1977 by a group of organic specialists to promote sustainable production methods during the transition between Communism and the new government. Later they joined a bigger project funded by the Swiss Government. They wanted to support rural development through improved market access of high value produce. They focused on fruit, vegetable, and olive production. Law regulates organic farming and farms have to be inspected and certified. Although only about 30% of harvested produce is to go to market there has been a growing demand for locally produced products in Albania. Organic farming is sold at a higher priced market but it takes more effort and has more regulations. A benefit to organic farming is that there is no need to buy fertilizer. That is not only cheaper but also better for the environment.

A few ways to help stop erosion through farming are no-till farming, crop rotation, adding buffer strips, and integrated pest management. No-till farming is when farmers don't till or mix the soil after harvesting. Farmers till the land to loosen up the soil. Tilling doesn't have to be done, if farmers don't till their fields it leaves the root systems of last year's crop. This root system holds soil in place and prevents soil erosion. Another way to prevent soil erosion and reduce the amount of nitrogen fertilizer needed on the field is crop rotation. Crop rotation is when a field is alternated between crops; for example one year the farmer would plan corn in a field. Corn needs nitrogen to grow so it uses all of the nitrogen in the ground. The next year the farmer would plant soybeans or another legume in that same field. He needs to plant a legume because they don't use nitrogen; they actually put nitrogen back into the soil. The next year the farmer would plant corn in that field and he wouldn't need to put as much nitrogen on the corn to make it grow successfully. A good way to prevent soil erosion by rivers is by putting in buffer strips. This is when farmers don't plant all the way up to the river; instead they leave a strip of grass or prairie to hold the banks of the river together. The grass in the buffer strip also catches chemical runoff from the fields. Integrated pest management is a combined approach to the management of pests and weeds. It is a combined approach that uses only what is needed. For example, for the management of weeds a farmer could use a combined approach of cultivating and using herbicides. The over-use of herbicides and pesticides overtime can create a resistance by the plants. Using integrated management practices reduce the amount of herbicides and pesticides needed. If all of the farmers in Albania could practice these techniques there would be a lot less soil erosion. This would not only help the crop yields but also some other important industries of Albania, such as the fishing industry. These techniques will also help preserve the land so we can leave less of an impact on the Earth. Deforestation is the clearing of the Earth's forests on a massive scale. This usually does damage to the land. A few reasons forests are cut down are for money, to people's need to provide for their families, and for agriculture. Small farmers will often cut down a few acres to plant for their family and use the wood for fires. Cutting down these trees eliminates a great root system. Without this root system the soil is free and is much easier to wash away. Stopping deforestation would create less farm land but it would improve the soil quality and stop soil erosion. Stopping soil erosion and deforestation and reducing our dependency on fertilizers would benefit everyone. It benefits the farmers, maybe not right away but in the long run, by producing higher yields and preserving the land so they can farm it longer. It also benefits different industries because they could possible produce more and this would allow industries to expand. Stopping these problems will create a cleaner environment that benefits everyone who makes their living off of it. Resolving these problems will expand Albania's economy by boosting industries and exports. It would also allow people to make a profit and raise them out of poverty.

Future climate change will definitely affect production of crops. The weather plays a major role in how crops grow. If it is too wet they get drowned out; if it is too dry they shrivel up. Global warming is a big

issue right now and if the temperature continues to rise than we will have to consider irrigation solutions. Population growth is a big factor for Albania. Since Albanian isn't a big country it doesn't have a whole lot of room to house more people, let alone feed them. This also goes with urbanization because if the majority of the country becomes urban cities there will be no more farmland. Having to import all of the materials needed to run the industries would decrease the profits of that industry. Albania is still a developing country and there isn't sound electrical supply. Urban cities are where the majority of electrical power is used so if urbanization were prominent in Albania they would have to increase their import of energy. The sustainable farming techniques would greatly lower rural pollution. It would especially lower water pollution. If less fertilizer could be used in Albania chemical pollution in the air would also be reduced.

To get the word out about using the sustainable agricultural practices I would have representatives from civic organizations and government officials go around to communities and spread the word about what these practices are, how easy it is to implement them, and the benefits from using these techniques. I think it would also be a good idea to have the government offer cash incentives to practice these techniques. Communities should encourage others to try these practices. It all starts with one; if one family can start with these techniques it will spread to others.

Sustainable farming techniques including no-till farming, crop rotation, adding buffer strips, organic farming and reforestation all help solve hunger in Albania and bring Albanians out of poverty. Most of Albania is mountainous so they need to take advantage of every inch of land possible. Even though this is true they also need to be concerned about preserving the land and to do that farming every inch isn't the answer. Soil and chemical erosion does not just hurt farmers; it hurts all types of industries. The aquatic industries, like the fishing industry, are especially hurt. They can't work if the chemicals kill all the fish. Everything is intertwined, what you do will affect something and someone else. So next time you think of Albania or any other country see what ideas you can come up with to help strengthen their infrastructures and solve hunger. Sustainable farming is just one idea.

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