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 Senegal, Factor 6: Sustainable Agriculture

Senegal: Fighting for a Better Future and For Better Oil

Senegal, located on the western coast of Africa, is one of the most stable countries in the north western region. Senegal has since thrived since gaining its independence from France in August of 1960. The capital, Dakar is a cultural hub and holds many different aspects of Senegalese culture. The official language of Senegal is French, but the majority of people speak Wolof or the local dialect of their village. In Dakar people speak in a combination of French, Wolof, Arabic and some English as well (*Kwintessential; Senegal- Language, Culture, Customs and Etiquette*).

The Peace Corps has been a part of Senegalese culture since 1962 (Peacecorps.gov 1). They provide support and help where ever needed. Senegal has traditionally been very open to new ideas and opportunities. The majority of the country is Muslim, roughly 94%. Christianity and other religions are also practiced. The other religions consist mainly of tribal practices.

A typical Senegalese family averages about 8 people in a household. There could be several generations in each family (aunts/uncles, cousins, grandparents) all living together in one house. The women of the family typically make all of the food. A normal meal consists of cooked rice with some spices added and an assortment of veggies. Fish is a major export of Senegal, so if your family is wealthy, you could also have fish regularly as well as chicken.

Roughly three-fourths of the population of Senegal is farmers. The average size of family farms are less than ten acres. Eighty-four thousand farmers work the land and create job opportunities and food sources for themselves. Children are given the opportunity to go to school, if their village has a school. Boys and girls both can attend school and some towns even have a secondary education option. If children and teens do not pursue upper education, they usually stay in the village and help support their families.

Children start their education by learning manners and etiquette. Some villages have schools that children can attend for a primary and a secondary education. These schools typically charge a small fee and if a family has several school aged children it can add up. There is Muslim School that children can go to and learn about the Quran. Both boys and girls can attend school and get an education. The structure of the school year is similar to the American school system in the terms of vacation and breaks. The school vacations are somewhat placed around the harvest times and when families need their children to help with the farm.

In Senegal as well as the surrounding countries, there are some serious health epidemics. Several are Malaria, AIDS, Gonorrhea and parasites. The majority of villages get little to no health care and if people need it they have to travel to get to the support that is needed. There are midwives and other specialists that can help, but doctors are harder to get a hold of. In the larger cities it is easier to get help due to the available resources to have new medical technology. The lack of health care is a major problem and it is what causes people to get certain illnesses. As of right now in Senegal the life expectancy of men is 63 years old and for women it is 65 years old (<http://www.worldlifeexpectancy.com>). People are not educated properly on hygiene practices and other health information that could help to lead a healthier life style.

The typical size of a Senegalese farm is roughly 10 acres or less. Family run farms makes up two thirds the countries farms. The other one third is commercial farms that are for mass production. Farms are

generally run by the women of the house. The men of the family have other jobs that may not pertain to the farm, but the women are in charge of the children and keeping the farm running.

Families may also have animals around on their farms. Livestock is not a major source of income, but people can have cows so that there is a supply of meat, milk, and other dairy products. Cattle and horses are used to help in the fields by pulling the plow. Lots of families have domestic animals living with them, such as cats and dogs. They are not entirely considered pets, but they live with the family.

Major crops grown in Senegal are corn, millet, rice, sorghum, and peanuts. Out of all of those, rice is the hardest to grow and harvest. That is due to the fact that there is a water scarcity happening currently in Senegal. It is extremely difficult for farmers to get the amount of water that they need to grow rice. Even if a farmer lives near a river, the water might not be clean enough to use or the farmer may not have a way of transferring the water to his/her farm.

All tilling is done via manual labor. The majority of farmers cannot afford to use tractors. Farmers can use a horse and plow to till their fields, but sowing seeds is done by hand. Before planting, the farmers burn their fields to get rid of brush and debris (Kirkendall interview). The growing season in Senegal goes from June to mid-October or sometimes even into November. The corn is harvested first and is done all by hand. Then the peanuts are harvested by pulling the bush from the ground and pulling the peanuts off. There are machines that are available for rent, if the farmer can afford it, and they can break open the peanuts instead of the women doing it by hand. There are large sticks shaped like canes that are used to beat the peanuts off of the bush (H Macfarlane interview). The last crop of the season that is harvested is millet. The men come and cut down the stalk and tie it into bundles and left to dry. The stalks are used for whatever the farmer sees fit.

The way families get money from crops is typically done by trading within their village. People in the village can go and barter with each other on what food and goods are worth. There are also buyers that go village to village and bring scales. Each person brings up the food they want to sell and they get it weighed and then they are given a price. People can barter with the buyer or wait for another one to come to town. The only problem with waiting for the next buyer is that peanuts depreciate due to the aging of the shells and the nut itself (H Macfarlane interview).

The lack of water is a very impactful barrier. It causes a problem because you need water for crops to grow and for people to survive. There is only a portion of people that live near a river or the Atlantic coast and even then those people do not have the best access to clean water to drink and to farm with. If people do not have clean water to work with, their health will not be stable. An idea that could help to keep water is rain basins. Families could have one for washing clothes another for cooking and then several for use in the fields. To reduce runoff from the fields, farmers could make small ditches around their fields so that all runoff water can go back into the soil surrounding the plants. Also their farming habits will get steadily worse. Another agricultural problem is the trees that grow in Senegal. Farmers see trees as a blessing and a curse. Farmers want more land so that there can be a bigger harvest. The farm owner therefore cuts down the trees to make more space, which is then taking nutrients out of the soil. Cutting down the trees also takes away a windbreak. In Senegal, desertification is a growing problem. As the climate is changing in western Africa, winds coming in from the north are bringing the Saharan weather south and expanding. The lack of trees means lack of healthy land (Kirkendall interview).

A large problem that Senegalese people have is lack of education. Both genders are allowed to attend school, but it is often difficult for families to send all of their kids. It can be expensive to send several children from one family to school. This problem goes hand in hand with the lack of employment opportunities. If young people cannot get a primary and secondary education, it is impossible for them to go on to college. Many times, children and young adults get pulled out of school, if they go at all, to help

the family farm or to help the men in the families with other jobs. This is a fairly common situation that occurs. Children are somewhat held back from higher education because of their families (H Macfarlane interview).

Nutrition is a problem that affects many different people and places. One of the reasons is because it is very difficult to grow fruits and vegetables that have lots of nutrients. In Senegal it is a problem due to the lack of health care that can be given village to village. In larger cities it is easier to get support, but when the closest midwife or doctor is an hour away, it is very difficult to get that help. Senegalese people would be able to get health care and support easier if the transportation system wasn't flawed as badly as it is. The roads are unfit and damaged. Also, the vehicles are old and break easily out in the desert terrain.

Another problem that goes with nutrition is that food gets wasted. Sounds crazy, but it's true. Mangos get thrown out or are left on the side of the road because they are no longer "perfect". The buyer only wants what is prettiest and will taste the best (H Macfarlane interview). If the food goes bad, and gets thrown away, a family goes without. Also, when trucks get left on the side of the road or breakdown, all of the produce that was in the truck has to be thrown away.

Sustainable agriculture impacts every aspect of Senegalese life. Maintaining enough food for a family is difficult, even in good times, but when families are facing hard times, it is almost impossible. Agriculture, as stated above, is a main source of income for most families. Farming plays a major role in nutrition and health. If a family doesn't plant or harvest their crop at just the right time, they may not have the amount of food they need to make it to the next season. If the timing is off for planting/harvesting, the family will be playing catch up for a while until they are back to normal. When a family falls behind with crops, it is almost like they are in debt.

Right now in Senegal, there is a food shortage crises. That is because of the very poor previous rainy season. The ground was not prepared for the planting season and did not strive in some regions. If the farmers plant too early, there might not be enough rain for the seeds to sprout. That also goes for planting late. There is a demand for food and families are fighting to overcome hunger. Families do not have the resources to grow certain fruits and vegetables that they need for the nutritional values. It is expensive and very hard to do.

Due to desertification, the lack of sustainable agriculture is worsening. The Sahel has always been arid and dry, but the Sahara is creeping in and will be worsening the environment. There are some simple ways to perhaps fix this problem. One of the ideas is that every year, farmers could rotate their crops into separate fields. The problem in Senegal is somewhat similar to the dust bowl that happened in America in the 1920's. Farmers are over working their fields and in turn the soil is weakening. A solution would be to rotate the farmer's crops so that the nutrients would be restored and shifted. The nutrients would be restored to the soil over time by different crops. Therefore the production of crops in the fields would increase.

The Green Wall Project (GEF official website) is a local African initiative that is working to help prevent desertification. The idea originated with help of the Nigerian president and the Senegalese president. The initiative is to plant trees and help farmers learn how to care and use the trees effectively. The 'Green wall' would provide a wind block that will help to prevent soil erosion. There is also a very small project going around in Senegal that was started by an American Peace Corps volunteer who had the idea to design a clay oven that would make the fire wood last longer. This idea would also help the tree deforestation as well as the families to make meals faster and easier (Kirkendall interview/H Macfarlane interview). The design of the oven helps to keep heat stored inside and to have the wood last longer.

On a small town/village level, one way people could help to better sustainable agriculture is a community garden. People can all come together and grow a couple of easy fruits or vegetables. The children can help to maintain it and learn about how to grow food and get the satisfaction of growing their own food. It would be a community effort to keep it going and to make sure it is successful. It will also bring the village even closer together. Another idea is that a community farmers market starts. It would be very local and available for one village or several close towns. Families could bring food items that they would like to trade or sell for other goods that they need. Keeping things local would be beneficial to the families and the village itself. The farmers market could also be part of the village trade that is already happening.

If the government decides to take a large stand in helping to fight desertification and to grow sustainable agriculture, they could start a project that would help each family get trees. This idea would take a long time to see the end result, but it will have a good outcome for generations to come. Each family is given 1-2 trees, or a single village get 15-20 saplings. The villagers could be shown how to maintain and get the most they can out of the trees, the long term affects would be huge. Families can use the trees for shade and even get food from it. In the end it all would be worth it. There is a tree that is found in Senegal called the Baobab tree. The tree itself is made of spongy fibers inside of the trunk and can hold water like a sponge. It also has a root system that can keep the tree alive during a dry season (Baobab.org 1). It takes a while for these trees to grow fruit, but in the mean time they provide a great deal of shade and wood. Baobab fruit is used in several traditional meal in Senegal and is also used in medicine (Baobab.org 2).

Planting trees and starting small community gardens are just the first step towards improvement. Making life easier for farmers and their families is the first step to improvement. By making small improvements to what people are already doing, the Senegalese will see major benefits over time, such as healthier soil for their crops to grow in, better wind blockage and less soil erosion.

If every village made a small step, the nation itself would move a long way. The fight to end hunger and to help build sustainable agriculture will be present for a long time, but if the world works together, it can be done. People everywhere need help one way or another, and by giving the support needed, the world will become a better place.

Even if just a small clay oven is brought into a home, it can change a lot. By giving farmers the ability to use trees for food and as a very valuable resource it could change how life can be. Improving poor farming practices will take Senegal very far. Children are the future and they need to be shown how to find better agricultural practices. Their education is very important to the future of Senegal. With the help of the ideas mentioned above and ideas already in motion, Senegal will prosper and overcome the problems it is facing with sustainable agriculture. Senegal began as a strong power and has shown that it will stay that way. They are a very independent country and has a very stable government. It seems that the Senegalese are tough, it shows that there will be success if the people put their hearts into it.

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