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Nutritional and economical importance of cacao massive production development in Mexico

One of the things that makes this country valuable is its weather, Mexico's weather variety is so rich, that it allows us to produce lots of things, and it makes agriculture one of the most successful activities in Mexico.

In Mexico we mainly produce: sugar cane (*Saccharum officinarum*), corn (*Zea mays*), banana (*Musa sapientum*), sorghum (*Tayassu Tajacu*), orange (*Citrus sinensis*), wheat (*Triticum aestivum*), tomato (*Lycopersicum esculentum*), lemon (*Citrus limon*), green chili (*Cap0sicum annuum*), pope (*Solanum tuberosum*), mango (*Mangifera indica*), avocado (*Persea americana*), been (*Phaseolus vulgaris*), barley (*Hordeum distichon*), apple (*Malus sylvestris*), grapes (*Vitis vinifera*), rice (*Oryza sativa*), peach (*Prunus persica*), strawberry (*Fragaria vesca*), soy (*Glycine max*), sesame (*Sesamum indicum*), watermelon (*Citrullus lanatus*), cucumbers (*Cucumis sativus*), onion (*Allium fistulosum*), asparagus (*Asparagus officinalis*), broccoli (*Brassica oleracea*, and cacao (*Theobroma cacao*).

Historical Background

Theobroma cacao is the scientific name for cacao. The cacao seed has always been important in Mexico, and this is because of the Mayan and the Aztec cultures. For them, the cacao bean was used as currency. It was the basis of their economy, they also had to pay a kind of tax that it was called tribute. They were farmers and they kept their food in a kind of barn in order to be prepared for the winter. They grew their products in very special places that were built by themselves called chinampas (little islands made of cane and mud, by doing that they evaded the soil from degradation). Besides the Aztecs were a warrior tribe and thanks to tributes, they could obtain lots of cacao beans.

It is also important to say that cacao is original from the south of Mexico. The Spanish people were the ones who transported cacao from there to Europe, and then to Africa. In short time chocolate became very popular in all the world.

Plant Description

The cacao tree is a plant that gives between three and five harvests during the year. It reaches a height of six meters; on that tree, a flower grows up around the branches and the trunk; the cacao seed grows in that flower (see figure 1). Only between 30 and 50 out of 30,000 flowers, produce the cacao seed. These seeds can be purple or white.

The cacao can be turned into a lot of things such as:

1. Chocolate
2. Cacao mass, liquor or butter
3. Toasted seeds.

Health Benefits

Cacao turned into chocolate, provides health benefits, it acts at heart level. By taking 40g per day it can help your organism get HDL (High Density Lipoprotein), which is the one that protects you from the arteriosclerosis (artery alteration) and helps you reduce the LDL (Low Density of Lipoprotein) which is called "bad cholesterol". It also has antioxidants and anti-inflammatory properties, as well as vitamins, proteins, and it helps the coronary health because it contains polyphenols. Probably one of the characteristics that most people like about this delicious product is that it increases the production of endorphins related to sexual drive and keeps the depression away according to an enterprise called Phytobase Nutritional (2006).

Mexican Cacao Producers

In Mexico, there are two cacao producers. That is why I am going to make a comparison between the states of Chiapas and Tabasco, so we can understand the problem. Tabasco dominates the production with 75% of Mexican cacao comes from Tabasco, which is located at the Southeast of Mexico; it is near to Campeche (South), Veracruz (North), and Chiapas (West).

There are three properties which produce cacao, which are:

1. Finca Cholula
2. Hacienda la Luz
3. Hacienda Jesús María

All of these properties are in a region called Chontalpa. Tabasco which is divided into five municipalities. Has a territory of 70606 km², this amount of land represents 31.08% of the whole state. According to INEGI there are 833,604 citizens in Chontalpa, this represents 37.82% of Tabasco's inhabitants. There is a very small index of illiteracy in Tabasco in comparison with Chiapas and some other Mexican states. According to INEGI (2010) just 6 out of 100 persons don't know how to read and write. (Instituto Nacional de Estadística y Geografía, this is the equivalent to the U.S. Census Bureau)

In this region, homes can be inhabited by people who could be relatives or not, but they live of a communal good. Almost all of these houses have electrical energy, potable water, and drainage system, and in the streets there is a complete public lightning service and there is a law department with patrol cars guarding the streets.

Tabasco is a state where we can also extract lots of petroleum. Some of the products that are harvested are:

1. Banana, *Musa sapientum*
2. Corn, *Zea mays*
3. Bean, *Phaseolus vulgaris*
4. Pepper, *Piper nigrum*
5. Yucca, *Manihot esculenta*
6. Mango, *Mangifera indica*

On the other hand, we have Chiapas, which is also located in the Southeast of the Mexican Republic. Chiapas borders are: Tabasco (East), Veracruz (North-East), and Oaxaca (North).

Chiapas produces the remaining 25% of Mexican cacao. The region where it is harvested is called Soconusco. It is at the very south of Chiapas. Soconusco is divided into sixteen municipalities. Its territorial extension is 5,475 km², which represents 7.2% of Chiapas territory. According to INEGI (2010), 664, 437 persons live in Soconusco. This is the 16.9% population of the whole state of Chiapas. 16.5% of that region is illiterate, and if that was not enough, most of the people in Soconusco live in poverty. Very few of them have electrical energy and drainage system in their houses.

They depend on their crops, which are:

1. Coffee, *Coffea arabica*
2. Banana, *Musa sapientum*
3. Rice, *Oryza sativa*
4. Corn, *Zea mays*
5. Mango, *Mangifera indica*
6. Papaya, *Carica papaya*

The Ideal Weather

The optimum weather condition for cacao beans is tropical, although it requires some special environment conditions which are temperature and rain, wind, and light or solar radiation, because this is a plant that requires no direct sunlight and the ideal temperature is 21° C (70°F). It also requires a soil with enough organic matter, deep, regular topography, and with a good drainage.

In order to collect the cacao, the farmers need to invest a lot of time, it is collected using their own hands, and with a special and very dangerous knife. It is important to say that this work implies lots of people and patience, not to mention the risk that using this special knife implies.

International Producers

The World Bank says that Africa is a poor continent, their poverty has increased in the last 25 years. More than 300 million people live with less than 1 usd per day, and 43% of the villagers don't count with potable water. Agriculture gives work to 70% of the people and it represents 40% of their exportations.

Africa controls cacao exportation with a 69% of worldwide production; countries like Ghana, Cameroon, Niger, and Ivory Coast are the main producers. These countries biggest strength is their really cheap price they offer to the buyers.

Besides taking care of our country, we also should worry about the other developing countries, and try to help them in order to get a higher life quality.

To achieve this, if the biggest, specially if the biggest exporters of cacao beans, rise the price of their harvests they will get a better salary and they will help us, so that we can regulate the costs of the cacao beans worldwide.

The Problem

As I have started before, our problem is that the Africans sell their cacao at a lower price than Mexicans do. Even if Mexican cacao is of a very high quality, the buyers don't really care about it. So, Soconusco farmers have to almost give away their crops in order to earn some money. These farmers produce 27,173.61 tons of cacao per year, Mexico's government buys every ton for \$ 3,505 us dollars.

According to the Mexican government (SAGARPA Secretaria de Agricultura, Ganadería, Desarrollo Rural, Pesca y Alimentación, 2011), out of the 20,573.5 tons of cacao that is harvested, 30% of it is for chocolate, 20% for cacao powder, 30% for cacao bars and the other 20% is the cacao seed.

Mexico's main buyers are the U.S., Canada, France, Spain, Switzerland, and Germany. Big enterprises like Nestle, Ole Mexican Food Inc, Diaz Food, Dulces Food Inc., and Mars, take advantage of these really needed farmers, and buy their product at a very low price; that allows them to sell at prices, which will give these enterprises profits of over 200%.

For example, there are very expensive chocolates, like the ones that Mars produces, which are sold in a very high price, for example the M&M's price is \$15 pesos (\$1.25 usd), for only 3 grams of chocolate. This might not be important for the American minimum wage, but we have to consider that the Mexican minimum wage is \$58 pesos (4.66 usd) per day. Another example is Chocolate Abuelita from Nestle, it costs \$31.50 pesos, which turned into dollars would be approximately \$2.65 U.S. dollars, for 375 g of chocolate.

Proposal

For most of the developing countries, is the most important thing, because it is the basis of their wellbeing. If you have a sustainable agriculture in your country, your country will become self-sufficient in terms of nourishment and your country won't have to worry about food problems. You can lower the costs of the products. You can also reduce the importations in order to save money, because by having mass production you don't need to buy products from other countries.

Besides the many important health benefits of cacao, the historical importance of the product for our country, and the fact that it is a highly demanded product worldwide, it makes a strong point in our economy. Nevertheless, it is a product that needs to be fair traded, again as I mentioned before, our mentality needs to be that of a citizen of the world, not only of a country.

As we have seen through this research, in order to grow cacao beans we need very special conditions. My proposal is to get financing for these cacao producers from the government, which would imply the construction of greenhouses in Chiapas, and by doing that, we would be able to produce more cacao and give work not just to men but women too. They will be empowered in their society where machismo still remains. We can produce cacao massively without letting aside the high quality of Mexican cacao. If we have a massive production we could increase our exportations to developed countries like U.S.A., Switzerland, France, Germany, Spain, and Canada

We can also get another benefit from mass production. In Chiapas there are a lot of poor people, so if we have enough cacao beans, we can turn them into chocolate in order to feed children who present malnourishment. We can also establish treaties with under developed countries, in which we provide them with chocolate and they can give us some of their products in a fair exchange relation.

In the same line, who can get an investment from the private sector, in order to improve logistics and distribution to collect all the cacao in only one place.

Finally, the government can act as an intermediary between the producers and the enterprises, so prices can be regulated and in that way, favor the small holders, by doing that, we will be able to achieve fair trade.

Conclusions

The experience of working in the research and the essay, is very important because of what cacao means in our country and what it means worldwide. Cacao does not just offer health benefits, it also offers something cultural, a heritage, we as Mexicans should be proud of. Because cacao turned into chocolate, it is very demanded. We Mexicans, should be proud of it because Mexico was the origin of this important seed, and at the same time open to share it and improve it.

This essay also meant a lot to me, because it made me feel proud of my country and made me value all I have, because by seeing how the farmers do not have many things, definitely I realized I am privileged, I have a better way of life. They have to worry about taking care of a family approximately of 4 to 6 persons, of what are they going to eat, what are they going to do in order to get a little more money.

Besides it also make me see the real importance of cacao, not just in Mexico but worldwide, because it represents what Mexico really is, Mexico is a very rich country in terms of weather, food variety and cultural. Cacao is a seed that represents our country, it represents what we could become as a country, if we work together, we will grow up.

As well we can see how fair trade, can change the way of life of a whole community, by having a good and, a very simple organization. Cacao is very important, because I said before, if we turn it into

chocolate, it can give a lot of work, and by doing that, we will be able to give the Chiapas`s society work, and if we do that, we can also decrease the index of violence in the country.

And we should take care of cacao because of all the different products we can get from it, because they offer a very important contribution to our health, it is essential to us, because it helps our circulatory system.

I can conclude, that we must care about not just for our country and our society, we have to look for the benefit of others, no matter what color, religion or preferences they have, we must start acting as a team in order to all have food security, so that people do not starve to death. We must be citizens of the world, not just citizens of our country, so that we can achieve not just fair trade, but caring for all parts of society, specially for the less advantaged. We need to work for a better world, so that everyone has the same possibilities to get what they want, at least get food security for everyone.

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