

ETHIOPIA

Athenaeum Paper
September 5, 2019
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Mr. President, Mr. Secretary, and fellow Athenaeum members, I recently had the opportunity to travel to Ethiopia on behalf of the American corn milling industry, which provides nutritionally enriched corn meal for use in refugee camps and in times of famine. Ethiopia experiences famine on a regular basis and also has experienced a number of refugee situations recently, so it has been a long-standing user of our products. The picture you are seeing shows a warehouse full of corn meal and lentils which have been staged in Dire for distribution to those who need it. Inhabitants of eastern and southern Africa are accustomed to eating a type of corn meal porridge, so it is easy to introduce nutritionally dense corn meal into their lives. The Africans already know how to cook the product, which encourages uptake. Most of this paper will be about Ethiopia and what we saw and experienced, not about the work of the American corn dry milling industry.

You all know that Ethiopia lies in Africa. It is in the northeast corner, north of the equator, close to the horn of Africa, bordered by Somalia on the east – sight of a long-lasting civil war and producer of many refugees, on the south by Kenya, on the west by Sudan and South Sudan – sight of another recent civil war and producer of refugees, and on the north by Eritrea – sight of yet another civil war and producer of refugees, and Djibouti – stable and calm. It is slightly less large than twice the size of Texas, about 426,400 square miles.

Ethiopia lies on a plateau covering about 2/3 of the country. Its elevation ranges from 6,000-10,000 feet, helping to ameliorate the otherwise hot climate expected so near the equator. The plateau slopes downward in all directions towards the lowlands, including the Denakil Depression which lies some 400 feet below sea level and is one of the hottest places on earth. The plateau is bisected by the Great Rift Valley, which runs north and south through east Africa. More about the Valley later. The Blue Nile finds its headwaters in Ethiopia, flowing north through Egypt to the Mediterranean Sea. There are other good rivers in Ethiopia, including the Awash and the Baro, many of which are dammed to produce 88% of Ethiopia's electricity. While hydro power is a renewable resource, it only works when you have enough water. Some years Ethiopia receives plenty of rain, some years it does not. Therefore, power

generation can be erratic, and even in the best of years, Ethiopia barely manages to generate enough power.

Ethiopia has a population of just shy of 100 million people, of whom roughly 20% live in cities, including Addis Ababa, the capital and largest city lying roughly in the center of the country, with a population of roughly 4.5 million in 2007. Since then it is projected to have grown at a rate of about 5% a year. As is often the case with growing cities, its infrastructure has not kept pace with its growth. At night, only the main streets of Addis are lit, and there are fewer lights per mile than we would see here in Hopkinsville. When you leave Addis and move out into the smaller cities, they are quite dark at night, with just a few street lights on the major road through town or at the town center. The small villages often have no lights at night.

Even though Addis certainly has a good bit of traffic, it is noticeably quieter than Nairobi or Dar es Salaam, which I also visited on behalf of the millers. For years, Ethiopia followed a policy of isolationism and self-sufficiency, so it remains a bit off the beaten track, even for Africa. Even today, Ethiopia maintains strict local-ownership regulations for projects, reducing the amount of foreign investment. Because of this requirement and the relative poverty of the population, we saw very few foreign franchises. We did see other westerners there, but not many. There are also far fewer flights offered by European airlines to Addis than to other east African capitals. This may also be because of the large network of flights developed by Ethiopian Airlines, which is the largest airline in Africa by all measures, including fleet size and number of passengers served.

To visit Ethiopia, you have to obtain a visa. When you arrive at the airport after flying overnight to Europe and then all day from Europe, you are greeted by the usual gruff Immigration officers who require you to present your passport and visa and who take fingerprints using an electronic reader. While I have never had to do this in Europe or Oceania, this method of documenting visitors seems to be the norm in Africa. Once you walk out of the airport into the night, you smell fragrant flowers and charcoal smoke from cooking fires. You must then haggle with a taxi driver to carry you to a hotel, unless you have ordered a car using Uber. Seriously. One of the pleasures (?) of riding in a taxi is that most of them

are old Fiat 128's, which are completely gone in the west. They are all painted light blue. If you are feeling truly adventurous, you could ride one of the motorized tricycle scooters. Also painted light blue. Or, you could ride the bus.

Addis is home to most of the nation's governmental institutions, its major university, which occupies the grounds and buildings of the formal royal palace, major banks, and international hotels. There are a few high-rises, but it is certainly not like Chicago. Most construction is concrete and glass for larger buildings or concrete block and tin for more modest structures. Addis is also the terminus for the only railroad in Ethiopia, which runs north to Djibouti, which, while a separate country, serves as the major seaport for land-locked Ethiopia. The current railroad, financed and built by the Chinese government, replaces a much older railroad that had fallen into disrepair. It is not certain that Ethiopia will manage to repay China for all of its loans or what will happen if it does not repay the loans. The Chinese government has already taken over a port development in Sri Lanka for non-repayment, which has caused civil unrest over expropriation of domestic assets. China has also financed the construction of limited access toll roads, which do help traffic to flow quickly and have almost as much donkey traffic as vehicular traffic, and a light-rail system in Addis. You see signs in Chinese all over the country, wherever construction is occurring. While the roads in Ethiopia do have stripes, there is greater variety of striping than we see at home, including some zigzag striping. In any case, the striping seems to be more a form of public art than any sort of safety measure. Ethiopian drivers honk regularly as they drive along, warning people and donkeys that the vehicle is coming or that the driver is about to pass you on the left or on the right, or sometimes both if enough vehicles are moving. Sometimes, rather than staying in the right lane, as is customary in Ethiopia, oncoming drivers will switch lanes to pass each other.

Like most African countries, Ethiopia's population consists of numerous tribes, the chief of which are the Oromo, Amarha, Somali, and Tigray. Each group has its own language and its homeland; Addis is a mixture of all of these because of economic migration. The Amarha have been the most prominent tribe for many years, producing many of the country's leaders and also providing the official language and script, which is unlike any other script. The United States is host to a significant Ethiopian

diaspora, perhaps as large as 500,000 people, most of who live in Washington, DC, Minneapolis, New York, and Los Angeles. If you ride a taxi in Nashville, you are almost certain to have an Ethiopian driver.

About 44% of all Ethiopians are adherents of the Ethiopian Orthodox faith, 34% Muslims, 18% Protestants, 0.7% Catholic, and the rest traditional, other, or none. The Ethiopian Orthodox faith is an off-shoot of the Coptic Church of Alexandria, achieving autocephaly in 1959. It remains in communion with the other Oriental Orthodox Churches, of which it is the largest, having between 45-50 million members. It is by far the largest pre-colonial Christian church in sub-Saharan Africa. Ethiopia was the second country, after Armenia, to officially declare Christianity the state religion in 333 AD. At the risk of veering off too far into the weeds of religion, a prohibited topic, it seems that one of the major theological differences between Oriental Orthodox Christians and Eastern Orthodox, Catholic, and Protestant Christians has to do with the nature of the Christ. Oriental Orthodox Christians hold that the Christ has one nature, which one nature is composed of the two natures, namely the divine and the earthly. Other Christians hold that the Christ is of two natures, being simultaneously divine and human. Now that you are all completely clear on that fascinating point of arcana, we will move on.

Tradition holds that Christian evangelism began in Ethiopia immediately after Pentecost. The book of Acts contains this passage mentioning Ethiopia: "And he (Philip the Evangelist) arose and went : and behold, a man of Ethiopia, an eunuch of great authority under Candace queen of the Ethiopians, who had the charge of all her treasure, and had come to Jerusalem for to worship, was returning, and sitting in his chariot read Esaias the prophet." Acts 8:27-28. Even at the time of the writing of the book of Acts, Ethiopia was known to the people of the middle East. In fact, Ethiopia derives its current name from a Greek word meaning burnt faces. As an aside, the former name for Ethiopia, Abyssinia, comes from a Yemeni word meaning country of mixed population.

Ethiopian Orthodox Christians are strict Trinitarians, engage in regular weekly worship, and have a largely married clergy. Martin Luther was aware that the Ethiopian church had married clergy and that it could trace its roots back to the days of the Apostles, all of which helped bolster his argument that celibacy was not a requirement for clergy. Communion is open to all members who are ritually pure and

who have fasted regularly. In practice, this means that only children and the elderly take communion, since everyone else presumes themselves to be impure, at least due to thoughts of sex. Ge'ez is the liturgical language of the church, at least since about 450 AD. Sermons are usually delivered in the vernacular and the Bible has been translated into the vernacular as well, starting in the 19th century.

Most Ethiopian Orthodox churches are round or oblong, with the altar in the center. Each church has a tabot, or ark, which is a replica of the tabot at the church of Our Lady Mary of Zion, which claims to have the original Ark of the Covenant carried by Moses. Since only the high priest of Our Lady Mary of Zion is ever allowed into the inner sanctum to see the ark, no independent verification has been made. Interestingly, the Ethiopian church consecrates the tabots not the sanctuaries. Men sit on one side of the church, women on the other. All worshipers remove their shoes upon entering the church. Male circumcision is almost universal among the Ethiopian Orthodox.

There has also long been a group of Ethiopian Jews living in the highlands, known as Beta Israel. A rabbinic decree from the 17th century declared that they were descendants of the lost tribe of Dan. After some politicking, the various chief rabbis in Israel agreed that they were actually Jewish, giving Menachem Begin political cover to allow Beta Israel to emigrate to Israel under the Law of Return. However, the integration of Beta Israel has been problematic for several reasons. For one, the Chief Rabbinate of Israel required ritual conversion in order to remove any doubt about their Jewishness. Former priests are not recognized as qualified by the Chief Rabbinate. And, most of Beta Israel came from the countryside, was illiterate at the time of their arrival, had few commercial skills, and spoke no Hebrew, the official language of Israel.

Ethiopia has been independent for several millennia, making it one of the oldest nations in the world. Tradition holds that its first emperor, Menelik I, was descended from the Biblical Queen of Sheba and King Solomon of Israel. From this mythical union, Ethiopian emperors have claimed the title Lion of Judah and you see the emblem of the lion on older structures and art. His descendants ruled Ethiopia in almost unbroken line until the deposition of Haile Selassie by the DERG in 1974. Over the millennia, Ethiopia has been larger and smaller, depending on the power of the rulers and their ability to dominate

other regions. In 1889, Menelik II reunified most of the old Ethiopian Empire. He was even able to defeat the Italian army in 1896 at the Battle of Adwa, which kept the Italians and other colonial powers out of Ethiopia. The only exception occurred from 1936-1941, when Italy managed to defeat then Emperor Haile Selassie. He returned in 1941 with the assistance of British troops, who drove the Italians out of north Africa. Hitler rode to the rescue of the Italians in Libya and Egypt, sending in the famous Afrika Korps under Erwin Rommel, but they ultimately succumbed to the British under General Montgomery. Under the Derg, Ethiopia aligned itself with the Soviet Union and adopted socialist policies. In the late 1980's, Ethiopia threw off the Derg and adopted a constitution calling for a return to civilian government, but the military did not acquiesce, instead installing Lt. Col. Mengistu Haile Mariam as president. Finally, in 1994, Ethiopia adopted a new constitution and held its first multiparty elections.

During the period of dominance by the military, the government engaged in a civil war with the region of Eritrea, which resulted in the achievement of independence by Eritrea in 1993. The loss of Eritrea made Ethiopia a completely land-locked state. Disputes over the border between the two nations continued until 2018, when newly elected prime minister Abiy Ahmed signed an accord with Eritrea. Abiy is personable and charismatic and his election has created a swell of optimism in Ethiopia and among the diaspora, which remits money to relatives at home.

Ethiopia's history extends far back beyond the time of King Solomon. The Great Rift Valley has produced some of the oldest hominin fossils in existence, including that of Lucy, an *Australopithecus afarensis*, dating back about 3.2 million years. She was discovered by a paleoanthropologist from the Cleveland Museum of Natural History in 1974. In 1992, another, more complete fossil dating back 4.4 million years was discovered. These fossils show small brains, about the size of that of a chimpanzee, and pelvises indicating an erect carriage. Lucy's is stored in the National Museum of Ethiopia in Addis Ababa. According to Wikipedia, visitors to the museum see a cast; according to the placards at the museum, visitors are seeing the actual skeleton.

The Ethiopian economy is based on agriculture. Much of the land is used for pastoral activities or farming. During my visit, as we drove around the countryside, we saw many modest flocks of sheep and goats being herded to market in preparation for Meskel, a holiday celebrating the discovery of the True Cross by Saint Helena. We even saw flocks of animals in Addis Ababa. There are some cattle as well. We saw many donkeys and some horses, used for pulling carts to market, riding, and cultivating fields. Cultivation practices remain primitive, with many farmers still using stick plows pulled by oxen or asses. Inputs are quite modest and relatively little irrigation occurs. Therefore, the yield is quite dependent on natural rainfall. The year we visited, Ethiopia had received sufficient rain, so the fields were lush with grain. Common crops include corn, sorghum, wheat, barley, and teff. Teff is an ancient grain that looks like overgrown grass gone to seed. The grains are tiny and are ground to make a flour used primarily for making injera, the spongy sourdough flat bread used by Ethiopians as an eating utensil. Common Ethiopian foods include goat, chicken, and lamb stews, stewed vegetables, and injera. The food has a lot of flavor, but is not peppery hot. Potatoes, yams, and pumpkin are popular, as are spinach and eggs.

Ethiopians also grow coffee commercially and for personal use. Travelling around the countryside, we often saw raw coffee berries sitting in the sun curing. Serving coffee, which in Ethiopia is served thick and strong with sugar and condensed milk (from a can, safe to eat), is a part of good hospitality, which also means the guest needs to drink it even when he wants to sleep later that evening! They also grow a plant called false banana, which belongs to the banana family but does not produce edible fruit. Ethiopians eat the soft core, prepared in several ways, and the root of the mature tree. Eating the root requires digging up the plant, which takes it out of production. Plants take about 5 years to grow to maturity, so farmers will typically have a rotation of plants to ensure availability each year. The root can feed a significant number of people, so the plants produce a lot of nutrition per input. One common way to serve false banana is by mashing and boiling the core or root, making it into a flat loaf, and steaming it in the false banana leaves. When served, it is sort of banana colored and has the consistency of soft Bit O' Honey. As to the taste, you know how plantains are less sweet and flavorful than bananas? Well, imagine one more step away from sweetness and flavor and you arrive at false banana.

Ethiopia has some industry, primarily textiles and cement. Industry produces some 15% of GDP and employs 5% of the population while agriculture produces some 42% of GDP and employs 85% of the population. The remainder of the economy is services. Because so many people are involved in subsistence farming, Ethiopian per capita income is among the lowest in the world. In 2018, the International Monetary Fund estimated annual per capita income at \$853 on a nominal basis. For comparison, the United States had a per capita income of \$62,606 on the same basis. Equatorial Guinea has the highest per capita income in Africa at \$10,453, close to the world-wide average of \$11,355. The currency is the Birr; one birr is worth about 3½ cents. All land is owned by the government, which has started issuing land use certificates for long-term leases, providing tenants with more stable rights of occupancy and the ability to borrow money for improvements, whether to buildings or for inputs to the land.

Back to cement. Driving around Addis and the Ethiopian countryside, we observed many unfinished buildings. Apparently work occurs when there is enough money to purchase inputs and stops when the money runs out, which can happen because the individual builder has no more money or because the nation runs out of foreign exchange and cannot purchase inputs denominated in hard currencies. We also heard from providers of food aid that the same trucks are used to haul food and cement, which are primarily single axle flat-bed trucks. The government controls the fleet of trucks and when it wants to haul cement, then nothing else is hauled, regardless of any contract you may have.

Because Ethiopia was experiencing flush times during our visit, we did not get to observe any actual distribution or preparation of product, which was okay, since we mostly went to talk about some packaging issues. Our host was Catholic Relief Services, which is a sub-contractor with the World Food Program, a United Nations agency that provides and coordinates relief around the globe. Through WFP, Catholic Relief Services obtains access to US-milled corn meal products. In order to pad out the time we spent in Ethiopia, CRS showed us a number of their other projects; I will report on three of them. CRS is the foreign charitable relief arm of the US Catholic Church; the work it does in Africa is amazing.

Catholic Relief Services showed us several water projects they are doing, including one outside Meki in a remote valley. CRS arranged for a 250 meter well to be dug in the valley in order to reach fresh water. A diesel engine pumps the water out of the ground and up the escarpment into a holding tank, which might hold 100 kl. Gravity then feeds the water back down into the valley to one of the villages that owns the well or to the village at the top of the escarpment that is the other owner of the well. To care for the well, CRS created what is known as a Washco, or water cooperative. Users pay for the water, usually around 1 cent for 4 gallons. The fees from selling the water pay for the diesel fuel and for upkeep of the system. This particular system, which is about 1 year old, supplies around 7,500 people, with more villages clamoring for access. There are several spigots at a communal spot in each village and also a kind of concrete laundry table. CRS also caused a shower and latrine to be built. The run-off from the shower, with its soap, runs to an earthen let or dam, which filters out the soap, allowing the water to pass through and irrigate banana or false banana plants, thus providing irrigation for food. Furthermore, somehow the feces from the latrine are treated to make them usable as fertilizer for the trees, producing more food and improving the sustainability of the project.

When CRS created the Washco, it gave training to the board members in basic bookkeeping, maintenance, management, and group dynamics. The oldest Washco is in Somaliland in eastern Ethiopia and has been in existence for over ten years. It has been able to expand its service area using its surplus funds, so this kind of water project seems to be sustainable. Most of the members of the Washco were men, but there is always a woman on the committee and she is always the treasurer, on the theory that women always have the burden of fetching water, so they will not misspend the money or abscond with it. The Washcos do not limit the amount of water a person can take. Some Washcos serve several villages and have scheduled times when the taps are turned on in each village since the pressure cannot handle constant use all along the system. It is common to see women and children with large 20 liter cans waiting at the tap heads for the water time. Sometimes the women walked, sometimes they rode donkeys pulling carts, and sometimes the donkeys pushed the cart. Oh wait, I am getting ahead of myself....

Prior to the construction of the well, the women in the village at the bottom of the escarpment had to climb the escarpment each day to a rain-fed pond to obtain water. This water was also used by animals, so it tended to be dirty and cause water-borne illnesses such as cholera and dysentery. Furthermore, the water in that area was high in fluoride, causing staining and browning of teeth, softening of bones, bow legs, and other problems. The rains would come in late spring and the pond might have water from June through November, or January in a really wet year. After that, the women might have to walk as far as 10-12 hours roundtrip just to obtain the water needed for that day. Through our guides, the villagers told stories of hyenas coming to the village during the day to carry off small children while the mothers were fetching water or farming and the fathers were away working or hunting. Because the women now spend less time fetching water, they have more time to cook, tend to their families, and perhaps even handicraft to make a little money.

Another project that Catholic Relief Services showed us in another village outside Meki was a donkey cooperative. CRS puts together a coop of around 30 women and gives them training in basic management, bookkeeping, record keeping, care and keeping of donkeys, group dynamics, and the carrying capacity of donkeys, which seems to be about two coconuts if two African swallows cooperate. Oh wait, that's from Monty Python. Sorry. Back to donkeys. After the training occurs, CRS gives ½ of a donkey and cart to the coop and lends the coop the remaining half. The coop deeds the donkey and cart to one of its members, who must allow the donkey to be leased by others outside the cooperative in order to make money to repay the loan. After the loan is repaid, the money earned from said lending is used to provide a second cart. A donkey for the second cart is provided by the first foal of the first donkey. Presumably, eventually all of the women who want donkeys and carts eventually get them. There may be a small fee to join the cooperative, perhaps 20-30 Birr, which is about \$1.00. One of the women is elected cashier; she keeps the cash in a locked box, but all of the board members can inspect the box.

Members of the cooperative can also take out loans from the coop. Sometimes loans are to pay for medicine or treatment or school expenses like uniforms. The coop has to assess the character of the applicant and the likelihood that she will repay the loan. One woman told us that she had managed to

borrow enough money to put her son through university. Talk about life-changing. Most of the coop members are probably illiterate.

The impetus for this project was an effort to improve the life of women. Women fetch all of the water, food, and firewood. Without a cart, women can carry about two 20-liter cans or two 25 kg bags, sometimes for 6-10 miles. Imagine carrying 110 lbs. of teff or barley for 10 miles. You can see how this would impact the health of the women, including occasionally causing abortions due to the strain if the woman was pregnant. With a cart, the women can carry far more over longer distances. If the load is relatively light, she can even ride, which significantly eases her burden. With the cart, she can also move quicker, thus reducing the time she spends in transit and increasing the amount of time and energy she has available to tend to her family, her farm, or to handicrafting.

Ecological sustainability also creates projects for CRS. We were shown a coop that reforested some tired, worn out pasture land that had been overgrazed. At the onset of the project, the land was dusty and covered with enormous run-off gulleys – think Oklahoma during the dust bowl. CRS paid the villagers to dig drainage ditches, to plant a few acacia trees, and to keep their animals off of the land. Altogether, the reserve covers about 700 hectares, or about 1,700 acres. After two to three years, vegetation had returned to the land; it seems the seeds had remained, and the area is now quite green. Wild animals have even returned, including warthogs, antelopes, birds, and hyenas (okay, maybe not so desirable). Villagers notice a definite reduction in dust on windy days and say that the area feels cooler than it did formerly. Some even claim that they receive more rain. Perhaps yes, perhaps no. No study has been made of this habitat to confirm that claim.

Ethiopia is a fascinating land to visit – very different from North America or Europe or even from Russia and its former satellites. Since very few westerners are granted visas to live in Ethiopia and relatively few westerners visit Ethiopia, you really feel like you are somewhere exotic. The basic nature of services outside Addis Ababa enhances that feeling. If you need your injera fix and the restaurants in Nashville no longer suffice, then apply for a visa, buy your ticket, and leave in a jet plane for a true adventure.

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