

# ABCP NEWSLETTER

Red Rock, Texas

African Blackwood Conservation Project

Annual Report No. 19—Fall 2018

## ABCP Tree Planting in 2018

During 2018 the ABCP sponsored planting projects at nine schools in the vicinity of Moshi and Arusha, distributing over 10,000 seedlings from the Moshi Mpingo Plot at Mijongweni, of which about half were indigenous species and half were *Dalbergia melanoxylon*. These trees were distributed to schools and community groups where they will receive oversight and long-term care. As has been the objective of the ABCP since its founding over 20 years ago, the combination of providing mpingo along with local species gives both short-term and long-term benefit to the communities where they are planted. The local species provide for the daily needs of the people, such as timber, fuelwood and food, as well as important medicinal remedies, which are important in a country with a shortage of hospitals and clinics. The mpingo trees planted will have long-term benefit by becoming a source of income for future generations and a valuable resource for Tanzanian carvers.

Conservation education has always been an associated activity for the ABCP in its community outreach. In many of the schools where we work, conservation studies are part of the curriculum and students directly participate in tree planting activities. Some of these students have gone on to become strong voices for environmental conservation within their local communities, helping to educate the populace on the importance of instituting long-term programs to preserve their native species and to protect their land and valuable watersheds. (See listing of local tree species planted by the ABCP on page 6.)

## Buffet Crampon - Leading French Woodwind Instrument Manufacturer – Funds ABCP



Fabienne Varin, Group Purchasing Manager for Buffet Crampon, inspects African blackwood seedlings at the Moshi Mpingo Plot.

In the summer of 2017 the ABCP was contacted by Michael Jousserand, Research and Development Engineer for Buffet Crampon. He proposed the possibility of a collaboration between Buffet Crampon and the ABCP for the purpose of supporting its work in the planting of African blackwood. In July Michael, along with two associates, visited the ABCP nursery and tree planting sites in Tanzania, where Dismas and Cyril showed them the Moshi Mpingo plot, explaining the process of germinating seeds and planting seedlings. In December the executive management of the company approved funding for the coming year's work of ABCP mpingo planting.

Buffet Crampon manufactures saxophones, oboes, flutes, English horns, and bassoons, but is best known for its clarinets, most of which are fashioned from *Dalbergia melanoxylon*, considered the material of choice for the instrument due to its density, dimensional stability, and machinability.

The company was founded in Paris in 1825 and has since been a leader in excellence of acoustic design and technological innovation. It continues to lead the industry today with the manufacture of its Greenline clarinets and oboes made of recycled blackwood. This material has the same acoustic properties as the harvested wood, remains stable in all playing environments and is not prone to cracking. It is becoming accepted as a viable alternative to African blackwood and is therefore reducing harvesting demands for the species. The ABCP extends its appreciation to Buffet Crampon for its important support and its commitment to the responsible use of precious natural resources such as *Dalbergia melanoxylon*.

Below: Buffet Crampon's Michael Jousserand, representing the Confederation of European Music Industries, attended the 2017 CITES meeting of the Plants Committee in Geneva, where he conferred with international delegates to find a way forward in crafting reasonable and responsible trade regulations for exotic wood species such as mpingo that are used within the music industry.



## Mpingo Planting at Tanzania Police Training School – Moshi

In 2012 the ABCP supplied mpingo seedlings to personnel of the Tanzania Police Training School/CCP (formerly named Moshi Police Academy), who were cooperating with a national initiative calling for the planting of one million trees in each of Tanzania's 30 regions. In September Elizabeth and Cyril visited one of two CCP sites to survey the mpingo trees that had been earlier planted, and they estimated that there were about 250 mpingo trees alive and thriving. Many were already of seed-bearing age and had adapted well despite the area having had several periods of less than normal rainfall. Below, Cyril inspects the mature pods of a six year old mpingo tree planted by the ABCP.



Officer Msemo gives Elizabeth a tour of the CCP mpingo plantation.



## Mtakuja Primary School Initiates Mpingo Planting Project on School Grounds



Mtakuja Primary, a government school located in Chekereni Ward, south of Moshi, instituted an mpingo planting program this year, clearing land and digging holes on the area allocated for mpingo. In April, Dismas and Elizabeth delivered 1500 mpingo to the school site. Teachers and students were instructed in the proper long-term care of the tree and assisted in planting and watering the tree seedlings.



## Mabilioni Plants 1700 Mpingo Seedlings

In 2015 Michael and Cyril Chuwa traveled to Same District to deliver tree seedlings to a Roots and Shoots graduation ceremony held at The Good Shepherd seminary school. This year the ABCP received a request for an additional 1700 mpingo seedlings, which were delivered in April.

Same has an ideal habitat for mpingo, which tolerates a moderately dry climate, using its extensive root system to tap subsurface water. This results in a slow rate of growth, which is a primary factor in producing the dense and durable wood that is so prized by its users. The ABCP mpingo trees were planted on the seminary grounds with the objective of slowly establishing a plantation area for future generations.



Above: Michael Chuwa delivers tree seedlings to the Good Shepherd seminary school in Same District.

Above left: Students dig holes at regular spacings for mpingo seedlings on Mtakuja school grounds.

Below left: Dismas and Elizabeth distribute mpingo seedlings to students and teacher for the establishment of a new mpingo site.





Sister Maria Goreth (left) and Sister Malley (right) welcome Cyril Chuwa to St. Teresa of Avila Secondary School.

### St. Teresa of Avila Secondary School

St. Theresa of Avila Secondary School has been working with the ABCP since 2015, concentrating particularly on the planting of mpingo seedlings on the school grounds. In June the ABCP Tanzania staff transported 1,000 mpingo seedlings to the school located in Mwanza, a community 30 miles south-east of Moshi. Cyril Chuwa was welcomed by Sr. Maria Goreth and Sr. Malley, an environmental teacher at the school.

St. Teresa's was founded in 2006 as an all girls' school by the Grail Sisters of Tanzania, who have established both primary and secondary schools with the objective of providing "quality education to enable female students to explore opportunities for leadership at all levels." The secondary school curriculum is designed to prepare the students for college. The Grail leadership is committed to providing community services at multiple levels, and also run dispensaries, bookshops and vocational training programs.

An important part of their outreach through the years has been a commitment to the environment, including conserva-

tion training and programs for students, along with community activism. To this end they sponsor outreach programs to make local residents aware of natural resource degradation in the area and how they can take steps to reclaim and improve the land. Because of these concerns they operate a tree nursery to supply indigenous species to the local residents that are useful for domestic needs and environmental remediation.

In order to affect long term change, Grail members also take an active political role, attending government meetings and presenting ideas on how to overcome drought and pollution in Tanzania and lobbying for the establishment of programs for environmental protection and preservation.

The ABCP extends its gratitude to the St. Teresa staff and students for their diligent work in protecting the environment, their allocation of land for African blackwood and the oversight and concern they have shown in seeing to the proper care of the trees they have planted in order to assist in the ongoing efforts to ensure its continuance within its native land.



Sister Malley escorts Cyril through mpingo orchard to show the progress of the tree seedlings that have been planted since 2015.

**Right - St. Teresa students gather in the shade of a Madagascar almond tree (*Terminalia mantaly*) on the school grounds.**

**Below - Science lab at St. Theresa's. Technology and science are an important part of the school's curriculum in order to prepare their students for college.**







Ezra John (2<sup>nd</sup> from left), Village Chairman of Kimashuku, and villagers learn about the work of the ABCP from Dismas.

### Kimashuku Primary School

Kimashuku Primary is a government school located in Hai District west of Moshi. This year the school and local village decided to cooperate in initiating a mpingo planting program and were provided with seedlings from the ABCP nursery to plant in a specially allocated area on the school grounds.

Ezra John is the village chairman of Kimashuku, and also a broadcaster for *Sauti ja Injili*, a radio station operated by the Evangelical Lutheran Church of Tanzania. He helped organize the tree planting work and also interviewed the ABCP staff

about its history of involvement with tree planting projects, and its goals and future ambitions. Dismas and Elizabeth described to him and other town leaders how ABCP plantation projects are organized, the challenges of the work and long range targets hoped to be achieved in the future. They demonstrated site preparation, tree placement and discussed long term care of the planted trees. Both villagers and schoolchildren participated, cooperating in site preparation and planting.

**Margret (Chuwa) Masanja gives mpingo to beaming student.**



### Trees, the Rain Cycle and the Biotic Pump – A New Approach to Global Warming?

One of the most elusive of the earth sciences is that of the atmosphere – the knowledge of how its molecular components, moisture content and continuous pressure changes affect weather patterns, temperature and climate. Many scientists readily admit there are large unanswered questions as to exactly how it interacts with the surface of the earth. It is, however, a science with profound effect on the current debate about global warming, which ascribes the earth's rising temperatures to the accumulation of greenhouse gases attributed to industrial expansion in the modern era. However, despite greenhouse gases having become the underlying 'culprit' in current thinking, there is also an alternate theory that is now gaining notice, one pointing to other atmospheric factors that may be an important key to the maintenance of earth's temperatures at a constant level.

Called the 'Biotic Pump' theory, it was introduced by Russian physicists, Anastassia Makarieva and Victor Gorshkov, in 2007. Douglas Sheil of the Norwegian University of Life Sciences has also collaborated in this work. Although it has long been thought that tropical forests are so verdant because they receive high amounts of rainfall, the opposite may be true, the density of a forest as it stands may continually *attract* atmospheric moisture, and by doing so have the added affect of dissipating large amounts of heat trapped in the atmosphere. These scientists suggest that areas with the largest contiguous remaining forests, the Amazon and Central Africa, may act as a 'pump' that continually induces a horizontal flow of water vapor inland from the ocean. This is initiated by the natural evaporation and condensation cycle of forests which lowers the atmospheric pressure above the trees, thus setting up a horizontal induction zone which sucks in atmospheric moisture from the higher pressure areas over the ocean. This dynamic can produce consistent rainfall over forested land. If the forested area is contiguous, oceanic moisture is able to reach many hundreds of miles inland, to the center of continents. A byproduct of this circulation is that it reduces atmospheric temperatures (i.e., global warming), and may eliminate some of the factors that cause tropical storms and hurricanes. The south Atlantic, the area between these two tropical forests, is notable for its lack of hurricanes.

Rates of global deforestation sharply increased in the 1850s and since 1947 alone an estimated half of the earth's tropical forests have been destroyed. If the biotic pump theory be proven true, it has major implications for policy decisions because it points to yet another vital component (in addition to the reduction of pollutants causing greenhouse gases) for the maintenance of earth temperatures – and strongly indicates that the protection of our remaining forests and reestablishment of forests in key areas of the world may be vital necessities in temperature regulation and protection of the biosphere.

## Nyerere Secondary School



Mr. Emanuel Mwampungo, environmental teacher, shows Cyril mpingo trees from the ABCP nursery planted during prior years.

Nyerere Secondary School has cooperated with the ABCP since 2014, helping to expand its ongoing program of outreach into the area surrounding Moshi. It is a government school located in Lembeni Village about 25 miles southeast of Moshi. Because of its commitment to environmental education it has dedicated a planting site on school grounds for an mpingo plantation. This year the ABCP delivered 1,000 mpingo and 1,500 indigenous seedlings to the school, some of which will be planted at Nyerere and some distributed to families in the wider community for ecosystem restoration and to make available species that will be of use to area farmers and residents.

Since mpingo is the national tree of Tanzania, many people are interested in planting it, but at present very few nurseries carry the species. The seeds have a short shelf life and can be difficult to germinate. Over twenty years ago, Sebastian Chuwa, co-founder of the ABCP, conducted experiments to establish successful protocols for germination, replanting and

long-term care that help to ensure survival of the replanted seedlings. Mpingo artists of northern Tanzania take advantage of the tourist trade by producing carvings of elegant design and beauty, as shown below. Their livelihood needs depend on the tree, which is becoming increasingly scarce.



Below: Nyerere student with seedling of African blackwood to be replanted on school grounds.



## AFRICAN BLACKWOOD CONSERVATION PROJECT



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Please make check or money order payable to **ABCP**.

Thank you for your support.



### Indigenous and Introduced Species Planted by the ABCP

Below is a listing and uses of some of the species other than mpingo that are supplied by the ABCP nursery.

***Rauvolfia caffra*** – Planted for soil stabilization around streams. Wood is used for fuel, timber, drums. Bark used to treat rheumatism, pneumonia, and colic and as dressing for wounds. Latex contains alkaloids that can treat digestive upset, high blood pressure, malaria, insomnia and hypertension. ***Khaya nyasica*** (Red mahogany) – Is a valuable timber for furniture, paneling and veneer. Large logs have been used traditionally to make dugout canoes. Used as shade and ornamental tree. Medicinal use of bark infusion treats colds. ***Croton macrostachyus*** – Planted for erosion control, intercropping and soil enrichment. Wood used for firewood, heavy-duty flooring, poles and tool handles. Plays important role in primary health care, with its bark, root, fruit, leaves and seeds used as herbal medicine for at least 61 human and 20 animal ailments. Treats infectious diseases, malaria, pneumonia, skin disease, typhoid, epilepsy, bleeding, cancer and others.

***Terminalia mantaly*** – A drought-resistant tree often used in reforestation projects. Desirable as a shade and ornamental tree because of its attractive spreading canopy. Bark and wood are used for treating dysentery and diarrhea, and as a source of dyes, stains, inks and tannins. ***Markhamia lutea*** – Used for erosion control and mulch. Lush foliage and yellow trumpet flowers make it a beautiful ornamental. Its hard and durable wood is used for carpentry and cabinetry. Medicinally used for backache, as a skin emollient and for rheumatic and respiratory problems.

***Azadirachta indica*** (Neem tree) – Highly drought-resistant tree of importance for use in anti-desertification projects. It is well known for its medicinal uses in treating a wide range of diseases like viral and bacterial infections, skin diseases, blood toxicity and liver ailments. Is also used as a fertilizer and for pest control. ***Albizia schimperiana*** – Nitrogen-fixing tree used for soil remediation. Provides firewood, charcoal and timber for construction. ***Acrocapus fraxinifolius*** – A fast growing tree which is used for shade on coffee plantations and to reforest badly degraded areas. Attractive flowers and young leaves are scarlet red. Wood is strong and durable, used as a substitute for walnut and ash. ***Persea Americana*** (Avocado) – Imported tree native to Central and South American which has become sought after as a food source and a shade tree.

**African Blackwood Conservation Project**  
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So that  
 the song  
 of the  
 Tree of Music  
 will not go  
 silent...