



Cultivating Lush Forests Together with the Local Communities to Support the Production of High-Quality Instruments

- Tone Forest Activities and Timber Resource Initiatives -

According to Global Forest Resources Assessment 2020 (FRA 2020) of the Food and Agriculture Organization of the United Nations (FAO), approximately 30%, or 4,060 million hectares, of the area of land on the earth's surface was covered by forests in 2020. Deforestation has slowed in comparison to the 1990s, when 7.8 million hectares of forest was vanishing every year, as only 4.7 million hectares was lost each year in the 2010s. However, this slowed pace does not change the fact that a significant amount of forest is depleted each year.

Yamaha uses a diverse range of timber resources for its musical instruments, speakers, and soundproof rooms. As such, we are charged with the important mission of developing frameworks for sustainable timber procurement that are friendly toward the environment and biodiversity.

In this feature, we will take a look at one of Yamaha's initiatives for accomplishing this goal: the Tone Forest activities we are advancing together with local communities and academic institutions to achieve sustainability for timber resources.



Tone Forest Activities

Promotion of Sustainable Forestry Together with Local Communities

Large amounts of wood are used to produce musical instruments, such as pianos and string, percussion, wind instruments, and even digital instruments, as well as products like speakers and soundproof rooms. Each type of wood has different acoustic properties, meaning that they all produce unique tones and reverberations. These sound characteristics are a crucial part of the appeal of Yamaha products. High-quality timber with a pleasing exterior, lacking the cracks and knots common in, and that is easy to process or boasts superior acoustic qualities is valuable for use in musical instruments. Such high-quality timber is suited to musical instrument production, and Yamaha chooses the type of timber based on the desired application. It is not uncommon for us to even choose scarce timber resources, which can only be found in small quantities. In recent years, we have seen a decline in the volumes and quality of timber resources, creating concern for the future sustainability of these

resources. In order to address these concerns, it is important to go a step further than prior efforts for cultivating and preserving forests to advance initiatives that have economic development benefits. Based on this realization, Yamaha has embarked on a new project to promote sustainable forest utilization. Under the moniker of Tone Forest activities, we are working together with local communities to create a forestry system for producing high-quality timber in what we refer to as Tone Forests. Our focus in these efforts is not limited to just forest preservation and timber resource production volumes. Rather, we take a comprehensive view toward creating local employment opportunities and contributing to social development. These Tone Forest activities are advanced together with government agencies and academic institutions and with emphasis placed on the three perspectives of forest preservation, timber use, and local economic development.

Tone Forest Activities in Tanzania – African Blackwood

African blackwood (*Dalbergia melanoxylon*) is an important material used for woodwind instruments. Its purplish-black colored heartwood features a refined appearance and superior physical properties that make it ideal for use in such instruments. However, quantities of this resource are diminishing as it generally takes more than 70 years for a natural African blackwood tree to grow to a harvestable size, and these trees only inhabit a very limited scope of areas centered on East Africa. Another factor behind this downward trend in resource stocks is the low level of use efficiency seen up to the completion of instruments. In fiscal 2016, Yamaha began surveys of the African blackwood, looking at matters such as ecology, resource stocks, and forest management status. Based on the results of these surveys, we teamed up with Japan International Cooperation Agency (JICA) in a

private-sector partnership project to develop a cyclical value chain comprised of forest preservation, musical instrument production, and community development. Furthermore, we began working together with local NGOs and community members in fiscal 2018 to conduct regular African blackwood tree planting activities. Over the five-year period of this project, approximately 12,000 seedlings were planted across 6.5 hectares. In addition, we helped introduce tree planting and propagation techniques into local communities. We have also been moving forward research on a new African blackwood business model that will allow for fast-growing trees to be used to produce and harvest resources over a shorter cycle. This research is anticipated to lead to the creation of new business models that swiftly resolve the issues faced by local communities.



African blackwood seedling (left) and mature tree (right)



Forest survey conducted together with community members



Seedlings being raised in a village (photograph provided by Mpingo Conservation Development Initiative)



Environmental education initiative for local elementary school students (photograph provided by Mpingo Conservation Development Initiative)

Tone Forest Activities in Hokkaido – Sakhalin Spruce

Yamaha has used Sakhalin spruce (*Picea glehnii*) timber produced in Hokkaido Prefecture to manufacture the soundboards and central parts that are indispensable to the rich tones of grand pianos. In recent years, the stock of natural Sakhalin spruce timber has been shrinking, forcing us to turn to imported spruce timber for pianos soundboards. Nevertheless, this does not change the fact that Sakhalin spruce is a prominent species among the trees of Hokkaido that has been planted in a wide range of areas due to its ability to adapt to the surrounding environment and its high tolerance to diseases and pests. In response to these trends, Kitami Mokuzai Co., Ltd., a Hokkaido-based company that manufactures Yamaha's piano soundboards, signed an agreement to establish a Tone Forest of Hokkaido Okhotsk in cooperation with the Okhotsk General Subprefectural Bureau and the town of Engaru, Monbetsu-gun, Hokkaido Prefecture in 2016. Under this agreement, these organizations have been working together to foster sustainable forests and expand the demand for Sakhalin spruce plantation timber.



Survey of Sakhalin spruce plantation

Moreover, based on this agreement we are cooperating in research on appropriate forest management, planting, and other forestry activities for the Sakhalin spruce plantations owned by the Okhotsk General Subprefectural Bureau, by the town of Engaru, and by Kitami Mokuzai. The agreement also extends to a wide range of other activities including events held together with communities. In addition, a comprehensive partnership agreement was concluded with Hokkaido Prefecture in 2021. This agreement entails joint research with research institutions to promote the sustainable cultivation and use of forests across the prefecture as well as the development of next-generation human resources, the popularization of music culture, and the advancement of environmental preservation initiatives. Through its Tone Forest activities in Hokkaido Prefecture, Yamaha is committed to once again achieving a sustainable supply of Sakhalin spruce together with communities while transmitting Okhotsk's culture of forestry to future generations in order to create excitement and cultural inspiration.



Employees of Kitami Mokuzai and members of their families taking part in tree planting event (2021)

Academic Approach through Collaboration with Kyoto University

The sustainability of timber resources is a core element of Yamaha's Tone Forest activities. Achieving this sustainability will require that Yamaha utilize the timber-related techniques and insight it has accumulated while also taking advantage of wide-ranging forest research insight. To this end, Yamaha concluded a three-year comprehensive research agreement with Kyoto University in 2018. This agreement signaled the start of research cooperation aimed at enhancing the sustainability of forest resources with the goal of constructing an interconnected socio-ecological system that allows for diverse timber resources for use in musical instruments to be produced within the communities of the respective countries of origin. This research project is focused on African blackwood in Tanzania, and we anticipate that these research activities will contribute to increased efficiency in the use of scarce timber resources while also developing systematic forest cultivation technologies and creating local employment opportunities. Our agreement with Kyoto University was renewed in 2021, extending the period of this agreement by six years, up until 2027. The past three years of our joint efforts have

thus been deemed to be phase 1, a period during which we constructed the foundations for ongoing collaboration, while the next six years will be positioned as phase 2, a time for building upon our research and broadening its scope. During phase 2, we will expand scope of this research to also examine other important tree species such as Sakhalin spruce and Indian rosewood (*Dalbergia latifolia*). We will also ramp up efforts to advance cutting-edge research projects and incorporate the results into society.



The Yamaha Group's Timber Resource Initiatives

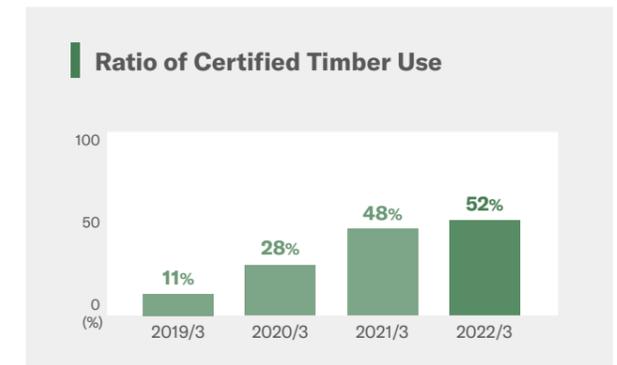
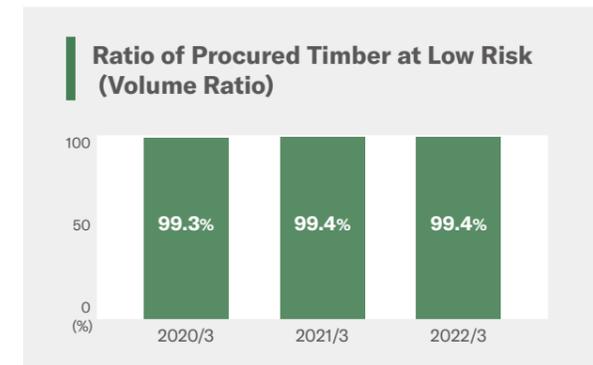
In addition to its Tone Forest activities, the Yamaha Group is advancing comprehensive timber resource initiatives to ensure that it can continue to use precious timber resources in a sustainable

manner on into the future. These initiatives encompass everything from the procurement of timber resources to the manufacture of products using these resources.

Timber Due Diligence – Sustainable Timber Use

Illegal logging is one of the causes behind the depletion of forests. Such illegal logging often arises out of a combination of circumstances in local communities that give them no choice but to rely on reckless clearcutting and illegal harvesters who take advantage of this vulnerability. The Yamaha Group has established a due diligence system to prevent the procurement of timber from illegal sources and promotes a strict confirmation process for the legality of timber harvesting through site visits and surveys of documents for procurement sources. In addition, we seek to help address the local social and economic issues that give rise to illegal logging by promoting

increased use of certified timber produced in sustainable forests. Through these initiatives, we confirmed that 99.4% (volume ratio) of procured timber was low risk in fiscal 2022 while raising the ratio of certified timber use to 52.0% (volume ratio), successfully accomplishing the target of the prior medium-term management plan, which was launched in April 2019. Under Make Waves 2.0, the new medium-term management plan commenced in April 2022, we have set the target of procuring 75% of timber from sustainable sources, underscoring our even more aggressive stance toward the sustainability of timber.



Future Policies and Initiatives

Sustainability awareness continues to grow, meaning that companies will be pressed to develop value chains for supporting the environment and society of the future. The use of sustainable timber will continue to be a central tenet of

Yamaha's business activities. We are thus committed to developing frameworks for supporting the ongoing use of precious timber resources in order to ensure that the society of the future can enjoy both lush forests and appealing musical instruments.

