



Bell Society

Impact Report 2022

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Message from JICA

As Japanese Government's Official Development Assistance (ODA) implementing agency, Japan International Cooperation Agency (JICA) implements various projects with developing country governments. Indonesia is one of Japan's important partner countries and 2023 will mark the 65th anniversary of the establishment of diplomatic relations between Japan and Indonesia.

This report was prepared as part of JICA's project NINJA in Indonesia in 2022. Project NINJA, which stands for Next Innovation with Japan, is JICA's accelerator programme to support start-ups that solve social problems in the seed phase.

Bell Society was one of three companies selected for project NINJA from more than 250 applicants. Their biomaterials-based business, developed from university research, is creating not only commercial value but also social impact that contributes to the achievement of the Sustainable Development Goals (SDGs).

We hope that this report will deepen readers' understanding of the Bell Society and encourage more partners to create and expand social impact together.

Founder's Message

Bell Society is founded by wanderers and adventurers. Before the days of Bell Society, we traveled a lot to remote places as biologists – going on scientific expeditions and exploring the beauty of nature. But what we learned from our expeditions was: the problem of waste. Even in the deepest jungles we found plastic that comes from shores, carried away by wind and animals. Clothing, sandals, packaging; they circulate on our planet for a long time. They are not degradable, and the first plastic that was created is still around us.

Bell Society (PT. Kurva Lonceng Khatulistiwa) was founded in 2020. What began as a

research project has now expanded into a business that serve hundreds of users and brands all over the world.

Our vision is to advocate sustainable living and industry through high impact sustainable material for everyday needs. We provide biomaterial at affordable prices, and we promote the implementation of biomaterial through collaboration and education. By partnering with coffee farmers, we absorb their harvest waste and convert it into environmentally responsible consumer material.

With this impact report, we want to provide transparency for our partners and future partners. We thank JICA and ANGIN for aiding us in creating our first impact report, and we look to the future with plans for improvements and new heights of impact.

Arka Irfani & Semeru Gita Lestari

Founders, CEO & COO of Bell Society



The Journey

About Bell Society

Bell Society (PT. Kurva Lonceng Khatulistiwa) as a company is founded in 2020. However, it began as a research project initiated in 2018 – mainly focusing on converting organic waste into paper. With the growing trends and needs for sustainable materials, we developed our research further and finally established ourselves as a company.

We are an innovative biomaterial company looking to provide sustainable alternatives to traditional materials. Beginning with leather alternative, we strive to develop more varieties of biomaterials.



In our endeavor, we partner with research institutions, farmers, and brands to improve our materials and expand our impact. We believe in the power of research – creating biomaterials and developing the most sustainable production method for them. In the process of producing and deploying our biomaterials, we strive to empower local communities that we partner with. Ultimately, we work towards a better planet for future generations to live in.

Our Mission

- Convert waste into affordable eco-friendly biomaterial for everyday needs.
- Promote sustainable material through education and collaboration.
- Absorb waste from farmers and increase their income through material development and production.

Our Vision

Leading the industry in making biomaterial more inclusive and affordable for everyday use.

Core Values



Scientific Based



Community Inclusion



Planet First

The problem of leather

Demand for leather material grows by almost 7% every year. The production of natural leather comes with environmental concerns related with cattle farming. To address its problems – as well as to meet

the high demands that natural cowhides cannot scale – synthetic leather is developed. But synthetic leather is mostly made from plastic, thus this so-called solution comes with its own problems.

Natural Leather : The Problem with Cattle Farming



Deforestation



Land Degradation



Cow Methane Emissions

Synthetic Leather : The Problem with Plastics



Microplastics



Landfill Waste



Resource Depletion

On top of that, processes for both natural and synthetic leather have these negative excesses as well.



Water Pollution



Air Pollution



Energy Consumption

While the problems of leather and unsustainable material are vast, here are **the three most relevant problems that Bell Society is addressing** through the development and deployment of our biomaterials.



The main problem with synthetic leather is non-biodegradability – which causes waste to take up space in landfills for a long time.



Second to oil, the textile and clothing industry is the largest polluter in the world. Both natural and synthetic leather production release toxins and chemicals into the air and water.



Leather production uses an excessive amount of land and water. For every 1 sqm of natural leather, hundreds of sqm of land are required.

Why biomaterial matters?

Biomaterial is an alternative to unsustainable material – such as leather. Biomaterials are mostly derived from organic and natural resources.

They are engineered to have lower environmental impact throughout their life cycle, from production to disposal. Biomaterials can offer comparable or even superior performance to traditional materials while being more environmentally friendly through these solutions.

Biodegradability

Biomaterials are designed to naturally break down and decompose in the environment over a shorter period of time compared to unsustainable materials. Hence, biomaterials avoid accumulation and pollution that arise with non-biodegradable materials.

Waste Absorption

Biomaterials are often converted from organic waste. Thus not only do they minimize producing more material waste, they also absorb existing waste – including agricultural, food, forest, and municipal waste.

Indonesia's Biomaterial Resource : Coffee Waste

Indonesia is the **3rd largest coffee producer** in the world.

774,600 tons

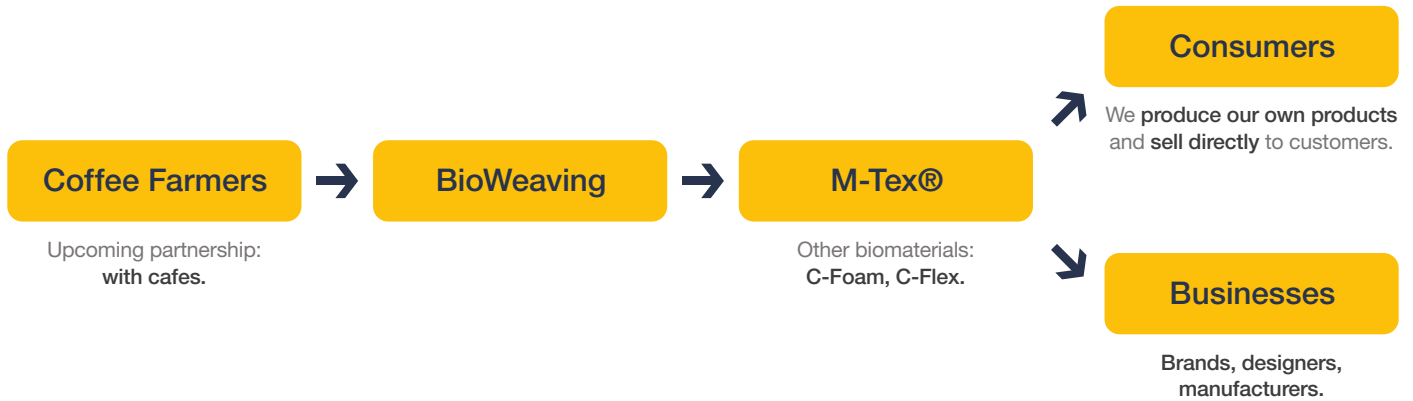
of coffee beans produced every year – accumulating coffee skin waste with every bean.



The Solution

Bell Society converts waste into biomaterial by researching and developing our own sustainable production process. Our current leading product is M-TeX®, a leather alternative made from coffee skin

waste. From coffee farmers that provide us with resource, to end products of everyday fashion items, **we operate an end-to-end journey from waste to fashion.**



The Materials

Other than M-TeX®, we also produce C-Foam and C-Flex – and we strive to develop more biomaterials as alternatives to unsustainable materials.



The Products

We produce a selection of everyday fashion items, available for sale on our website and other social media channels. We have both in-house products and collaborations with brands in our catalog.



Card holder



Shoes



Bags



Key Milestones

We began our journey in 2020.

And over the last two years, we celebrated several significant milestones.

2020

- Research focus on M-TeX®.
- Produce M-TeX® size **25 x 25 cmsq.**



- Production capacity: **20 msq/month.**



- Waste absorption: **1.08 tonnes.**

2021

- Produce M-TeX® size **1 x 1 msq.**
- Build **our first workshop with 110 msq** of M-TeX® production capacity per month.



- Waste absorption: **6.51 tonnes.**
- Receive funding from Research Ministry (BRIN) to complete our research.
- **PETA Vegan** Approved Certification.
- Collaborate with Istituto Di Moda Burgo Indonesia, joining **Milan Emerging Talents 2021.**



2022 Recap

2022 has been a year of growth for us at Bell Society. A lot of things happened and here are some highlights.

15 Brand Collaborations

In 2022, we proudly established partnerships with 15 renowned brands: Brodo, Pijak Bumi, Gio Cardin, Noesa, Ramahija, UMA Design, Kozi Coffee, Kiwari Coffee, Adhi Nugraha, Ginding Leather, Radja Leather, Rove Gift, Bluesville, Omah Jati, Moda Burgo Institut, and ESMOD Fashion School, along with Apa Kabar: Semesta Punya Jiwa and Java.

Our successful collaborations with Gio Cardin, Noesa, Java, Moda Burgo, and Apa Kabar have enabled us to sell a range of premium products to the global market. These include shoes, wallets, jackets, and fashion accessories, which have garnered great success in Hong Kong, Taiwan, and Japan.

New Production Facility

In February 2022, we finished building our new production facility – which enabled us to convert 500 kg of waste every month. As we begin operation, we saw increase of coffee waste converted. In 2021 we converted 1 ton and in 2022 we achieved 7 tonnes of conversion. This new production facility has production capacity of 300 sqm of M-TeX® per month.



Selected as one of JICA NINJA Accelerator 2022 Cohorts

NINJA (Next Innovation with Japan) accelerator program 2022 powered by JICA (Japan International Cooperation Agency) partnered with ANGIN, is a highly selective initiative aims to support and equip impactful Indonesian startups to face curated investor lists, expand partnership opportunities, and achieve financial support. Bell Society was selected as one of the 3 selected Indonesian startups as NINJA Accelerator 2022 Cohorts among 256 applicants.



Exhibition Collaborations Beyond Fashion

In 2022, we extended the possibility of our materials beyond fashion. We joined design and architecture exhibitions, showcasing our utilities beyond fashion. For the International Contemporary Art & Design (ICAD) Exhibition 2022, we collaborated with Trianzani Sulshi, an architect from Aliri Design Studio. We created an art installation titled “Bio Tensed”.

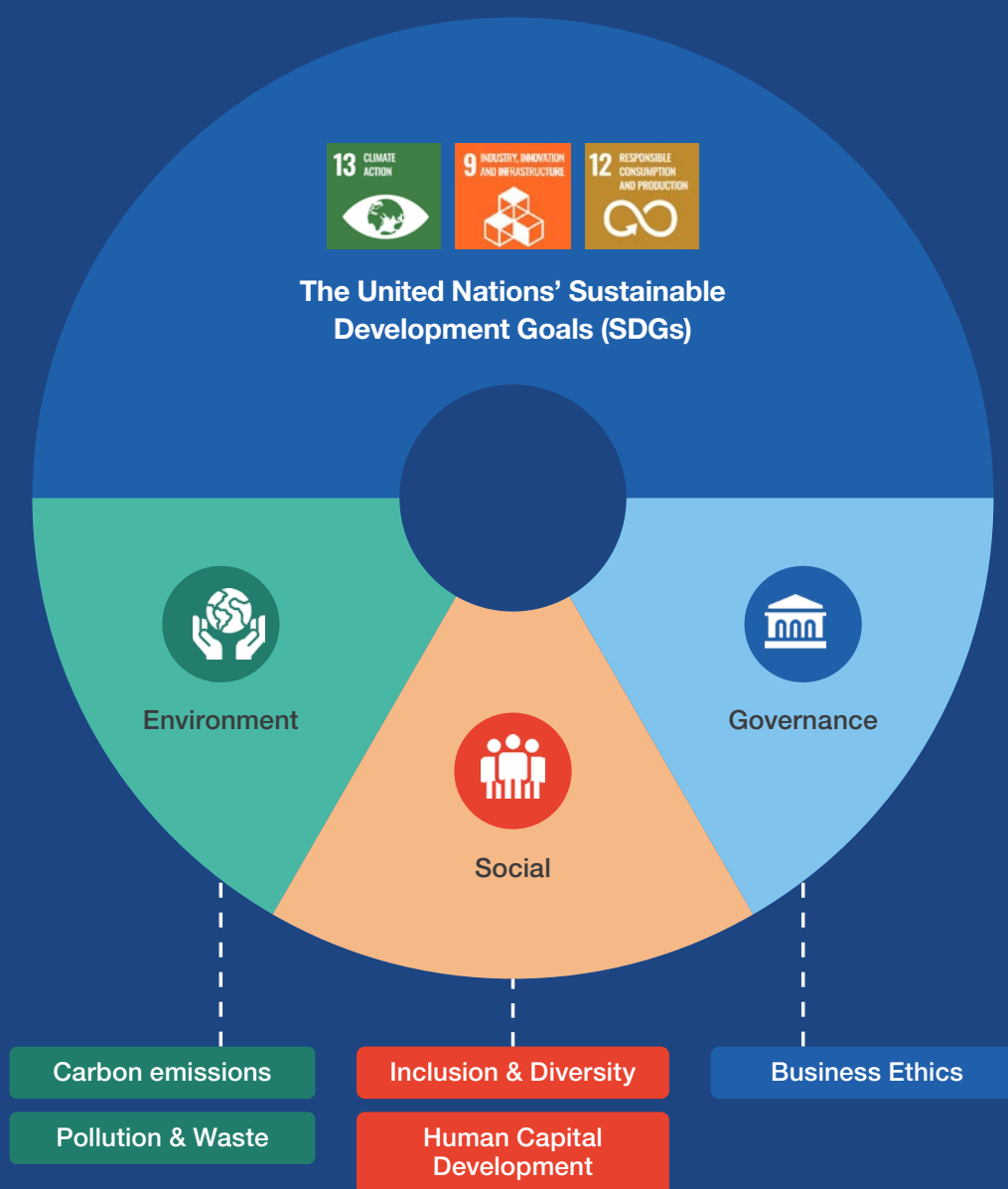
We also participated in the “Building with Nature” Exhibition by Erasmus Huis Jakarta – an exhibition that portrays the possibilities of natural building to create a sustainable living environment in the future. The exhibition ran from 5th of July until 27th of August 2022 in the exhibition hall of Erasmus Huis, Jakarta.

Impact & ESG

The following section discloses our impact progress and sustainability efforts to improve business practices related to environmental, social, and governance (ESG) topics.

Our efforts are aimed at driving positive change not only for our company, but also for the environment and all stakeholders involved.

Impact Summary



The problems of unsustainable materials are extensive, arising at every stage of production. Taking the case of leather as example, environmental damages begin at the very early stage of resource collection. Natural leather necessitates cattle farming, which in itself triggers deforestation for farm lands. The processing phase of leather tanning then releases toxic chromium into air and water. Finally, the waste that comes from end products fill up landfills – causing accumulation and further pollution.

The production of everyday material will continue to see increase in this modern day economy. Thus, **Bell Society believes in embracing consumers' demands while exploring more sustainable alternatives to material production**, assessing environmental impact at every stage of production. In this endeavor, we align our efforts with Sustainable Development Goals (SDGs) as our commitment to impactful and meaningful work. Furthermore, we also believe in best practice in our own premises for a holistic impact approach.

Impact Target



Bell Society aims to provide biomaterial for a better planet. We develop sustainable production methods to replace high-energy and heavy-waste processes. Starting from production of leather alternative, we are giving access to farmers, designers, brands, and manufacturers to build impact through alternative biomaterials.

Primary Impact Target

The Planet & Our Environment

Bell Society produces M-Tex® – an alternative product to leather and synthetic leather. By converting coffee skin waste into leather-like biomaterial, we are working to reduce wastes. We replace conventional leather and synthetic leather processes with sustainable production technology to mitigate excessive energy use and minimize pollution.

Secondary Impact Target

Businesses & People

In the end-to-end process of producing and distributing our products, we are partnering with businesses and people. We see this as a chance to empower them – as well as giving access to join a more sustainable production ecosystem.

Coffee Farmers



Indonesia produces 729,000 tonnes of coffee beans per year. With every bean, there is coffee skin waste left unutilized. We purchase this waste from coffee farmers – benefiting their income in the process of absorbing waste into M-Tex®. Ultimately, we offer incentive to farmers to collect wastes and dispose of them responsibly.

Fashion Brands



We collaborate with brands to explore the possibilities of using M-Tex® as everyday products. Using our material allows higher selling price, increasing brands' profit margin by 400%. This is due to the added value of sustainability – which ultimately brings international interest to the brands that partner with us.

Manufacturers



We are in early stages of partnering with manufacturers. We believe that this can deploy our biomaterial on a large scale – as we push the potential to be introduced to more brands. Through partnerships with manufacturers, we aim to create an inclusive and sustainable ecosystem. Currently, our manufacturer have one active brand using our material.

Impact Framework

Bell Society is an innovative biomaterial company, focusing on creating sustainable biomaterial alternatives.

We explore the possibilities that come from our society's organic waste and we innovate processing methods that give value to what may be considered waste. Ultimately, we aim to bring positive environmental and economic impact through our efforts.

We incorporate the United Nations' Sustainable Development Goals (SDGs) into our impact framework – to shape, steer, and communicate our vision of sustainable living and industry through high impact sustainable materials.

Goals

Targets

Bell Society's Initiatives



Inclusive and sustainable industrialization.

Upgrade infrastructure and retrofit industries to become sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes.

Enhance scientific research, upgrade technological capabilities, encourage innovation and research.

We are dedicated to researching high quality biomaterials and developing sustainable production methods with efficient production capacity.

We use coffee waste as sustainable resource – involving coffee farmers in the process with fair trade measures and trainings. Thus, we strive for inclusivity of agricultural workers as resource supplier in industrial processes.





Goals

Targets

Bell Society's Initiatives



Reduce global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.

Achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.

Substantially reduce waste generation through prevention, reduction, recycling and reuse.

We absorb coffee production waste and convert it into biomaterials. This implementation of responsible resource consumption also tackles the problem of food waste.

We always strive to increase our monthly production rate – which aligns with our waste conversion increase. We use no toxic chemicals in our production, and our biomaterial end-product can degrade in only 4 weeks.



Integrate climate change measures into our company policy.

Promote mechanisms for raising capacity for effective climate change-related planning and management.

We observe the sustainability mindset at every stage of our company's work. From using waste as resource, to minimizing land, water, and animal use during production, to ensuring the biodegradability of our products.

We pursue the broadening of our impact by collaborating with various parties and meaningful programs. This expands our reach while promoting sustainability to our partners; farmers, designers, cafes, brands, and manufacturers – as well as to our consumers and supplier in industrial processes.

Impact in Numbers

Primary Metrics

26.5
tonnes

Of total organic waste converted into biomaterial. Having 191% increase from 2021 to 2022.

148.9
tonnes

CO2 prevented to be produced in landfills in 2022.

96%

Less water used compare to animal leather production.

0.3%

Land used compare to animal leather production.

0

Animal lives & toxins used in production.

4 weeks of biodegradability

For comparison, animal leather : 1 year & plastic synthetic leather : 1,000+ years.

Secondary Metrics

Internal Production Numbers

246%

Increase of M-Tex® production capacity in 2022.

USD **100k**

Bell Society revenue in 2022.

946 msq

M-Tex® produced in 2022. For comparison, in 2021 we produced 273 msq.

Businesses & People

4

Coffee plantations partnering with Bell Society.

15

Local brands collaborating with Bell Society in sustainable production.

4

Brands reaching the global market after collaboration with Bell Society.

5%

Incremental increase of coffee farmers income annually.

7

Coffee shop partnerships with Bell Society.

400%

Average increase of profit margin of brands that collaborate with Bell Society.

Impact Deep Dive: Businesses

Bell Society converts coffee production waste into sustainable biomaterials, tackling the coffee harvest waste problem while building impact inclusivity for coffee farmers as our main resource supplier.

The environmental detriment of material production starts at the stage of resource procurement. We opt for coffee waste as our base resource, taking the opportunity of Indonesia's massive volume of coffee production. In the process, we strive to bring positive economic impact to coffee farmers as suppliers.

Coffee Farmers

Bell Society sources their waste from coffee plantations around the Bandung area in West Java. We collect their waste and buy it from them – the price differs with each farm, depending on quality. They are not responsible for transportation costs. We handle transportation and convert the waste at our own production site.

We partner with farms that use less pesticide and those with organic certification. Before we collect their waste, we give them training on how to store the material – we provide them with the necessary specs if they choose to dry their waste. This way we can ensure the quality of the material, while providing an education initiative.

2

New coffee plantation partners in 2022.

5%

Incremental increase of coffee farmers income annually.

18.9 tonnes

Coffee waste absorbed in 2022.

2

Communities trained to produce M-TeX® in 2022 (total of 28 participants).

Partnering with Bell Society has been a **positive experience for us.**

I am Aleh, the owner of Gunung Tilu Coffee Plantation, and I am proud to say that we have been partnering with Bell Society since 2020. Our coffee plantation has been certified organic, which is a testament to the rigorous supply chain management process and quality controls that we follow. We are committed to maintaining the organic standards and producing the best coffee product possible, from tree to cup.

With the help of Bell Society, we are now able to turn our coffee skin waste into something useful, which has been a great relief for us. Bell Society absorbs our waste regularly, once every 2 months during coffee harvest period (March-July). Our harvest capacity per harvest time is about 5-6 tonnes of cherry coffee – 2.5-3 tonnes of which are in the form of coffee skin waste.

Previously, we had to pile up the leftover coffee skin waste, which not only created a bad smell but also took up a lot of our plantation land. Thanks to Bell Society, we no longer have to worry about that, and we have been able to generate extra income by selling our waste to them. As Bell Society absorbs 500 kg/month of coffee waste, we earn extra income of Rp 500,000/month.

More than that, Bell Society gave us the opportunity to participate in trade shows in Europe and Dubai to showcase West Java's specialty coffee and its by-products, including M-Tex® as a leather alternative. Overall, partnering with Bell Society has been a positive experience for us, both financially and environmentally. We look forward to continuing our collaboration.

Pak Aleh
Owner of Gunung Tilu Coffee Plantation

Our partnerships with coffee farms is facilitated by :



Impact Partners

Bell Society partners with research institutes, local governments, and leading fashion players. Through these key partnerships, we are able to extend our network and take our impact to new heights.



Badan Riset dan Inovasi Nasional The National Research and Innovation Agency

Through March 2020–Oct 2021, Bell Society received research funding from BRIN through the SSI (Indonesian Innovation Startup) program. This program helps technology-based start-up companies to develop their product and business into a profitable and sustainable enterprise, assisting through incubation and funding programs.

With this fund, Bell Society was able to complete M-Tex® research production – increasing M-Tex® size from 25 x 25 cm² to 1 x 1 m². This research fund also enabled us to have a proper workshop, a bioreactor, and a coloring process SOP, ultimately helping us develop high-quality sustainable production. As our production increased, we were able to absorb more waste. Thus, as this partnership helped grow our business, it ultimately enabled us to deliver more impact.



ESMOD Fashion Design and Business School

ESMOD Jakarta is a fashion design school located in Jakarta, Indonesia. It is a branch of ESMOD International Fashion School, which was founded in Paris, France in 1841 and is known as the first fashion design school in the world.

ESMOD Jakarta actively connects Bell Society with key players in the fashion industry through participation in numerous fashion events, fashion shows and competitions. We have had the opportunity to talk about our materials in several Creative Talk series with ESMOD, discussing and introducing sustainable materials to the students. In addition, our materials were also used in clothing collections for the ESMOD Creative Collection 2022 fashion show. We are also actively making events and competition with ESMOD to further boost the usage of our material.

Dinas Perindustrian & Perdagangan Jawa Barat The West Java Province Office of Industry & Commerce



At Bell Society, we believe in the power of collaboration to create high-quality materials that exceed expectations. Thus, we are proud to partner with the West Java Office of Industry and Commerce to develop and enhance our materials. By utilizing their top-notch facility, we ensure that our products meet the highest standards of quality. From embossing to testing, we benefit from their cutting-edge services to deliver the best possible results.

But our partnership goes beyond production. We also work closely with them to expand our reach and find new opportunities. Their expertise in international trade and connections to coffee farms have been invaluable in helping us identify new markets and expand our business. Through this partnership, we are able to introduce our innovative materials to a wider audience and create new opportunities for growth.

ESG Overview



We understand that there are critical factors of Environmental, Social, and Governance (ESG) that have an impact on our business and the communities we operate in. In this report, while provide an overview of our ESG performance, please note that **our deep dive highlights specifically on social dimension.**



Environment



Social



Governance

Current Initiatives

- We reduce waste through our production.
- We develop a production method that minimizes land and water use, as well as using zero toxic chemicals.

- We engage coffee farmers as our main resource supplier with fair trade and training.
- We attract, hire and retain diverse company talent and ensure inclusivity.

- Founders' compensation are reasonable & aligned with the interests of shareholders.
- Regular & comprehensive disclosure of financial and also non-financial information.

Ways we will explore to increase our impact even further

- To explore more biomaterials as alternatives to materials other than leather; such as plastic.

- To expand our reach to more coffee farmers and engage in more training and education initiatives.

- To conduct training on ethics, anti-harassment and create a mechanism for employees to raise issues to management safely.

ESG Deep Dive: Social

While the heart of our business operation is to convert waste into sustainable biomaterials and to build environmental impact, we also strive to have the best conduct in social metrics. Thus, we implement fair practices both towards partners and our in-house employees.

29%

of our employees
are women.

15%

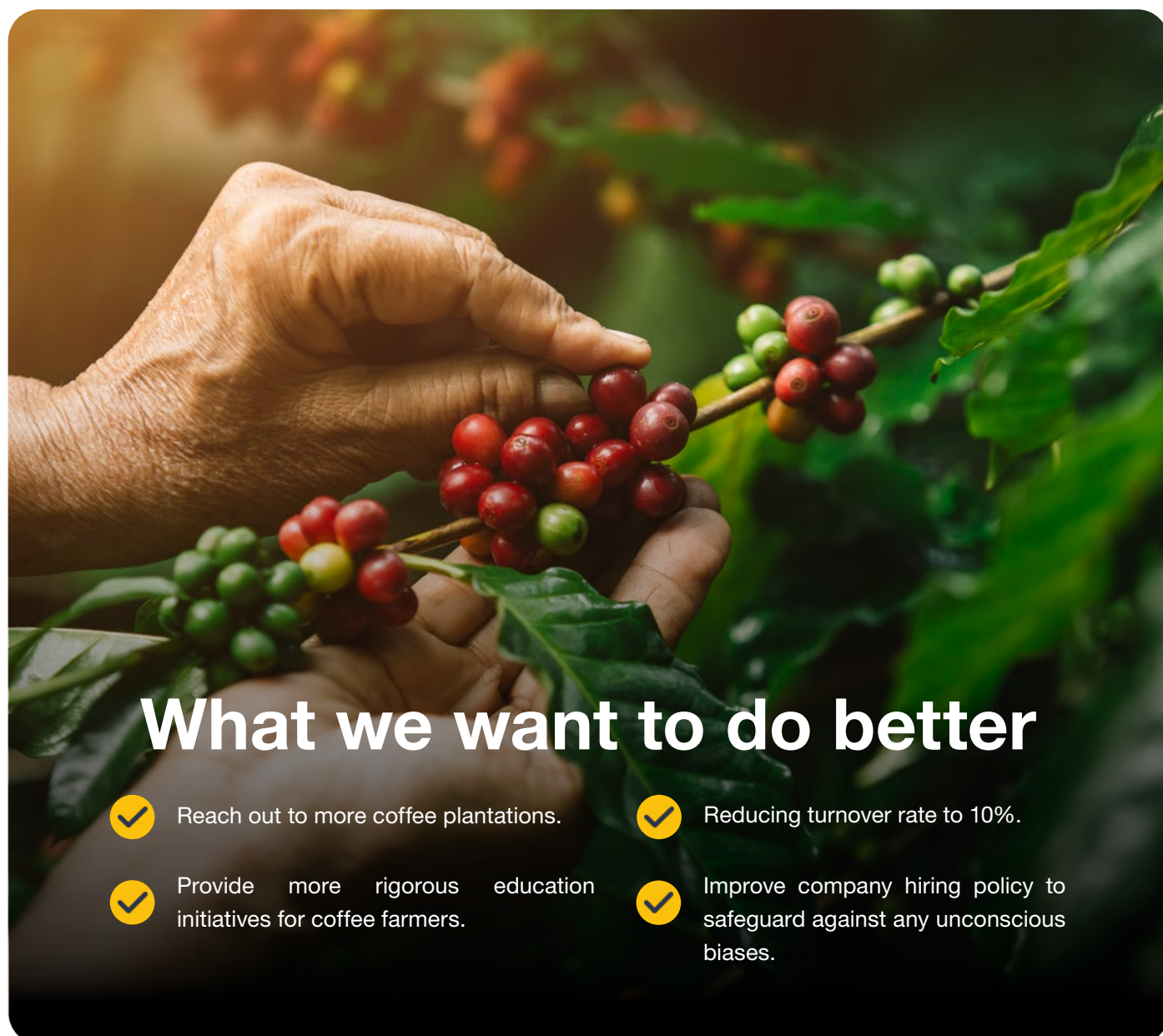
employee
turnover rate.



We ensure fair trade with our coffee farmer partners.



We provide training for coffee farmers to upkeep coffee skin quality.



What we want to do better



Reach out to more coffee plantations.



Reducing turnover rate to 10%.



Provide more rigorous education initiatives for coffee farmers.



Improve company hiring policy to safeguard against any unconscious biases.



The Certification

In 2021, Bell Society received certification as a **PETA-Approved Vegan** company.



A survey on textiles and sustainability that sampled over 11,000 consumers worldwide revealed that people today—particularly millennials and Gen Zers—are very aware of the ways in which the textile industry exploits and kills millions of animals and causes environmental destruction on a devastating scale. They are seeking transparency and want to be able to identify vegan products at a glance while shopping.

Getting certified means that Bell Society as a company have the privilege to use the PETA-Approved Vegan logo – helping consumers make socially conscious purchases that align with their values.

In order to obtain this certification, it is necessary to provide evidence that the materials used in our production processes are free of animal by-products. Fortunately, our partner in the coffee plantation is certified as an organic plantation, which ensures that no pesticides or other animal-based materials are used in their production.

This certification has been invaluable in demonstrating to our clients and buyers that we are committed to using only the highest quality, ethically-sourced materials. By working with partners who share our values and standards, we are able to consistently provide our customers with exceptional products that meet their needs and exceed their expectations.

Moving Forward: Future Certifications

We believe that certifications are not simply a matter of recognition, but more importantly they show our commitment to impact. Thus, we are currently in the process of getting the below certifications.

USDA Biopreferred (in review)

B-Corp (in planning)

What's Next?

What's next for Bell Society?

In 2023, we strive to build and expand our impact through meaningful collaborations, innovative research, and improved production.

We are thrilled to announce our partnership with Java, a promising brand from Taiwan that has already exceeded their Kickstarter campaign goal of raising over USD 12,000 within just 15 days. Our next objective is to enter the Japanese market and establish partnerships with leading brands in the region to showcase the quality and flexibility of our materials. To reinforce our commitment to sustainability and assure customers that we produce sustainable materials, we are striving to obtain B-Corp and USDA Biopreferred certifications in addition to our current certification.



We are also expanding our production capacity by establishing new production sites in Anyer and Kalimantan, aiming to increase production from 200 msq to 1,000 msq per month this year. Our ultimate goal is to make our production method applicable to coffee farms in various locations by 2024.

Furthermore, we are excited to announce that we will launch new materials suitable for the furniture and building industries, expanding our material library beyond our popular M-Text® product.

We are dedicated to ongoing research and development and believe that collaboration is crucial to achieving our goals. We are always looking to reach more coffee plantations and coffee shops to supply their waste for us to convert – inviting them to join in sustainable production and consumption. We also aim to attract global brand partnerships with our increasing production rate, believing that this will accelerate the importance of sustainable materials on a global scale. We hope that this impact report will help us achieve these objectives.



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