



# Win Win WAR Thailand

A Life Changing Journey

September  
2022







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# Foreword

Back in 2018, the Win Win WAR program was started with an intention to raise public awareness on social enterprise as a mechanism which deploys business practices to generate social and environmental benefits in a long-lasting way. We chose a reality TV show format as a tool to reach out to wide audience nationwide, while making sure that our social entrepreneur contestants get real-life advices to prepare them to be Willing-Able-Ready for their operations as suggested in the word “WAR” in the program title.

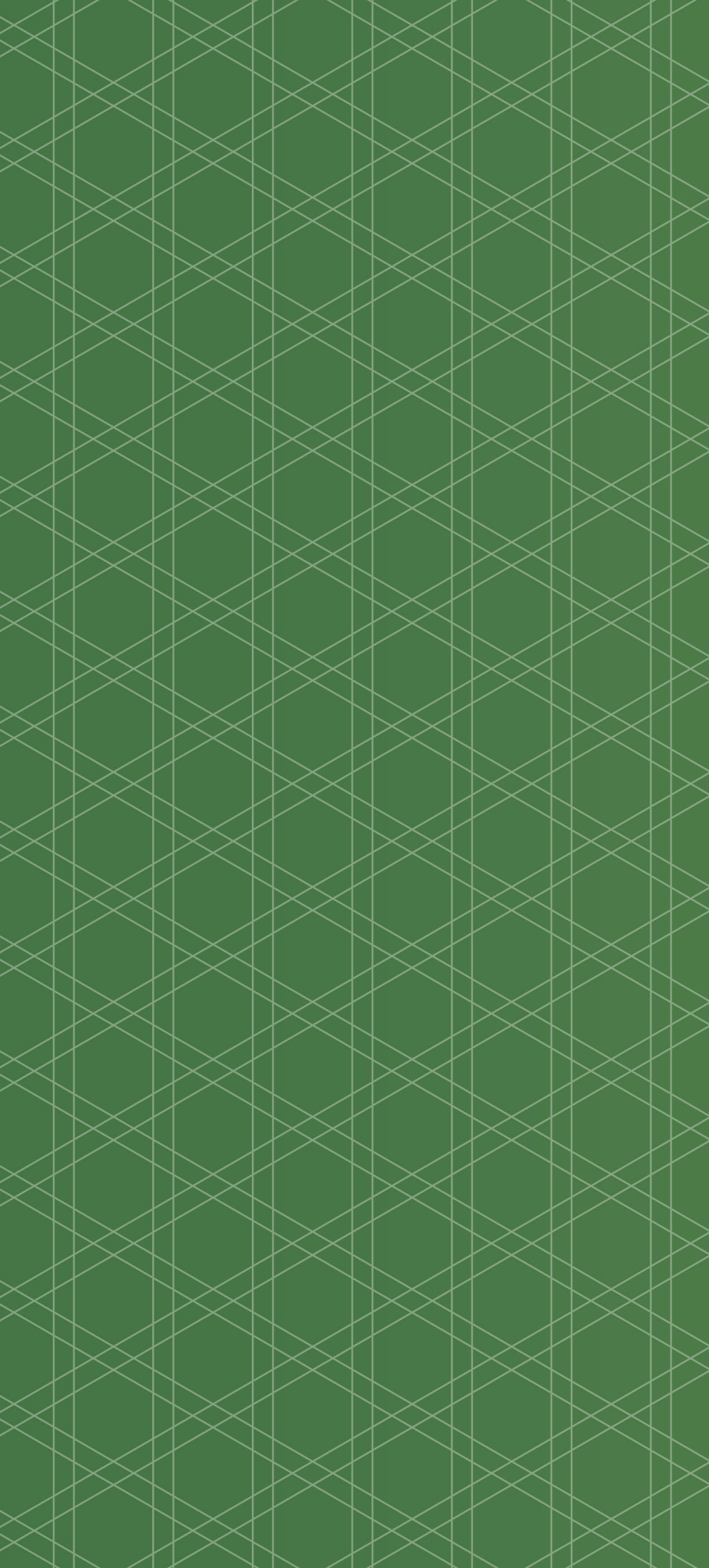
During the past 4 years, Win Win WAR program has contributed to the progress of social entrepreneurs who have entered our network, while gaining recognition as a high-quality TV show as evidenced by the Golden Television Award for “Best Game Show”, as well as White TV Award for “Outstanding Educational or Technology Promotion Program”. This accomplishment could not have been possible without strong and continuous support from our program sponsors, notably Bangkok Bank, Saha Phatana Inter-Holding, Thai Beverage PLC, Tri Petch Isuzu -- as well as the judges who dedicated their time and knowledge to advise our contestants, both during the show as well as behind the scene. I am also thankful to the partnership from Heliconia H Group who has worked seamlessly with C asean team in crafting appealing show format to cater digestible messages on social enterprises to the public audience. Most of all, I congratulate all the contestants for their courage to take up a challenge to start their businesses in a win-win fashion.

This publication highlights the life-changing journey of selected contestants who have entered Win Win WAR program and have used it to further their social enterprise ambitions. I hope you will get some inspiration from their real-life journeys.

Happy Reading.

**Thapana Sirivadhanabhakdi**  
**Chairman**  
**C asean**







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# The Evolution of Win Win WAR

It was in 2018 that Win Win WAR was first broadcasted on television. Through a series of competitions, the show sets out to find the best social entrepreneurs who are committed to creating the business of their dreams and sustainably supporting the community. This is the concept of 'social enterprise' or 'business for sharing'.

The name Win Win WAR reflects the meaning of the show very well. The first Win represents business' success in terms of financial viability and commercial competitiveness, while the second win is about making impacts and sharing benefits with the community; two wins are better than one! The word "WAR" in the title actually stands for Willing, Able and Ready, to ensure that the selected contestants will be able to cope with challenges in their operations. These are the basic pieces of the jigsaw that translate the concept of social enterprise into reality.

From several hundreds of online applicants, one hundred contestants are selected to be on the show, with three stages of competition: audition, market test and market launch. Along this journey, they would receive small grants to turn their ideas into prototypes, while those already with products could use the money to improve them. Coaching by experts is available along each step of the way. The eventual winner of this show would be awarded THB 2 million in prize money as a stepping stone on the way to achieving their goal.

This book is a collection of stories that illustrate the journey of ideas from conception to reality. The stories show how the participants' lives have changed and how, thanks to Win Win WAR. Their community's wellbeing has been improved through the expansion of social enterprises.









# Associate Professor Dr. Kritika Kongsompong

## The most impressive moment

Dr. Kritika was impressed to see the variety of contestants' initial business ideas turned into business innovation that benefited the community, generated sustainable business profit, and gave opportunities to all. These factors met the show's objectives and highlighted perfect solutions where everyone wins. Innovations, such as turning plastic waste into oil, putting out fires using drones, and generating water from the air, could all help the community while generating business profit.

## The benefits of Win Win WAR for Thailand

In Dr. Kritika's opinion, entertainment business is an influential part of our modern life. Behaviors can be shaped through this industry. In this context, Win Win WAR was an innovation in itself as it was the first game show that turned raw business ideas into reality and tangible operations that made differences in people's life.

Win Win WAR was the sort of innovation much needed in Thailand. It reflected the quality of being Thai, especially our value of helping each other. This made the show outstanding. Dr. Kritika hoped that many great things would be highlighted and generated through this reality show going into the future.

## Advice given to contestants

With her strong academic background, Dr. Kritika had come across many successful case studies. Having been on the show as judge for four years, she had been introduced to many new theories and concepts. For example, community willpower in projects like Banana Land where a combination of banana and local ways of living could turn a simple paddy field into tourist attraction.

Dr. Kritika helped turn business ideas into practical projects by combining her knowledge with the ideas of the contestants. Theory could then be applied in real life and modified to fit local contexts.







# Jeremiah Pitakwong

## The most impressive moment

He found it hard to say which single moment stood out, but the overall determination, generosity and will of the contestants was impressive for him. Many participants came to the show with only modest ideas but they turned them into truly impressive social enterprise projects and businesses.

Jeremiah recalled a story he had just came across about a father who set up a small business that would help his son as well as generate income for him in the future. Despite not having large future growth prospects, this endeavor was very meaningful and extremely important from the father's perspective.

## The benefits of Win Win WAR for Thailand

'Giving', not 'winning' is what Jeremiah answered. As a judge who has been presenting for all four seasons of the show, he said he is constantly encouraged by the attitude of those taking part; "When doing business from a different perspective, giving is the first part of the equation. To be able to give more, businesses need to be successful. The more they want to give, the more successful the business has to be." These sentiments are, of course, represented by the first and second wins in the name of the show. Jeremiah hopes to see such concepts become core values of big corporations some day: that they will always consider the second win – giving.

## Advice given to contestants

To make sure that the second win will be possible, Jeremiah played tough and took business part very seriously. "I am here to judge proof of concept", he said. He asked many questions about business strategy, with special focus on market competition.

He also emphasized that his strong stance on business feasibility came from his experience as a Managing Director for a renowned publishing house in Thailand. With his journalist background, he knows a strong business when he sees one. He therefore thought it vital that contestants were asked difficult questions in order to consider all weaknesses and risks involved in their projects.







# Tongjai Thanachanan

## The most impressive moment

Behind the scenes, Tongjai met new friends along the Win Win WAR journey, notably Kitikorn Penrote, the renowned reality TV show producer, and Jeremiah Pitakwong, an accomplished journalist and publisher, who went from being colleagues to friends. These friendships have resulted into a strong team that has collaborated on several other new initiatives together.

Beyond the friendships with working team, Tongjai has formed mentoring relationships with final contestants on each show, which still continue even after the show has finished.

Among the finalists throughout the past 3 years, Tongjai recalls the incredible willpower of so many contestants on the show, such as Komron's inspiring story against the odds and the story of a father who set up a business to care for his autistic son.

## The benefits of Win Win WAR for Thailand

In her view, this show benefitted many different groups in Thailand, especially social enterprise practitioners, showing the world that their ideas can be turned into reality. The show equipped them with business advices as well as ways to amplify their social impacts. Tongjai also remarked that she was happy to see many of these businesses continuing to grow strongly until today.

Beyond the progress of each social business, the network effect of gathering social entrepreneurs together helps to create knowledge sharing and lift up their spirits to better face challenges. Ultimately, she hopes that the contestants' stories and ideas will inspire more social enterprise startups across the country.

## Advice given to contestants

Combining her 2 decades of professional experience as strategic consultant as well as her hands-on involvement in the launch of social enterprise network across Thailand, Tongjai focused her questions and advices on social impact creation by the contestants. She emphasized on the social enterprise concept, using business mechanism to solve social issues. Her advices evolved around clarity of business plans to create differentiation as well as engagement with the communities to act on solutions. Measurability of impacts were also her key attention as she strongly believes that "what gets measured, get done".





# Siam Able Innovation

Siam Able Innovation, a manufacturer of prosthetics for the disabled, was the first winner of Win Win WAR, and helped create job opportunities and income for disabled people and their networks. First launched in 2017, this brilliant company earned THB 7 million in 2021. The work of the company has helped over 200 disabled people achieve a better quality of life.

The story behind the success of Siam Able Innovation is a unique one. Founder of the company, Komron Manoewwan, looks back to the year 2015 when he was fresh out of college with a degree in electrical engineering from King Mongkut's Institute of Technology Ladkrabang. He was sadly the victim of a horrific accident and sustained a severe physical disability. After the accident, he realized that he would never be able to walk again and would only be able to move around whilst sat in a wheelchair. But this disability did not stop him.





## A new chapter

He was bed-bound for eight months but maintained his positive attitude. With an engineering background and an upbeat attitude, Komron conducted his own research into various different types of wheelchair. On Win Win WAR, he remarked, “Thank goodness my brain and my potential are still here”. Komron designed his first wheelchair using the knowledge learned while hospitalized. But he wanted to learn more about mobility and how he could contribute his skills and knowledge so he dedicated his time to the Suphanburi Disabled Foundation as a volunteer. His job was to fix and restore broken and damaged wheelchairs, which provided him with a huge opportunity to be exposed to different types of motor, wheelchair and mobility vehicle. Against this backdrop, when the opportunity arose Komron did not hesitate to apply to be on the first season of Win Win WAR.

## Bringing his experience into product design

Komron knew of some of the barriers wheelchair users face in society. Hoists and lifts are often needed inside, and even if you have a car, moving from indoors to outdoors is not easy. There are many ‘hidden’ issues disabled people have to deal with every day, so by applying his experience to the design of prototypes for a wheelchair, an outdoor scooter and a hoist, Komron got his entry into the final round.



*The prototype wheelchair which helped Komron expand his business idea.*



Komron said the THB 2 million award will be used as a seed fund to start up his business with the hope of giving disabled and elderly people access to such equipment at an affordable price. As Thailand is an ageing society, Komron knew the value of his designs not only for disabled people but also for mobility-impaired elderly people.

## Benefits beyond competition

Winning the competition provided more benefits than just financial compensation. The program equipped the winner with advice from experts in terms of marketing, business registration and connections to industry networks, thus giving greater marketing opportunities and inspiring confidence in producing at scale. From the outset, when he first entered the competition, Komron's immediate ambition was his own recuperation and mobility, but the prospect of running his own business and making money has shown how dreams can grow. Win Win WAR has taken him further down the road that he ever expected and he is now able to share his wealth of knowledge and experience with other people. To facilitate this, Komron has set up a learning center so that those interested can come and spend some time learning how to fix equipment. They should be empowered to manage their own care by making mobility more affordable and alleviating financial pressure, as well as seeing the option for high quality alternatives, Komron said.







***A speaker at a social enterprise seminar inspiring others to consider start-up businesses of their own, echoing the meaning of Win Win WAR's second 'Win'. The seminar was organized by Social Enterprise Promotion Office.***

Fast forward to today, Siam Able Innovation is a pioneering Thai brand and at the top of people's minds, with over 200 clients per year. Siam Able Innovation will continue to follow its mission to make high quality equipment accessible for all. Komron is currently adept at making prototypes, but in order to scale up he hopes his product is certified by the Medical Council of Thailand, which will mean mass production to support hospital needs can begin. This will enable Komron to gain much-deserved income too. It is through this model that he expects the company to continue to grow its presence in Thailand.



# Waste Revolution Coalition in Suphanburi

Based in Suphanburi, the Waste Revolution coalition makes plastic recycling possible using state of the art machinery that turns plastic into oil through a pyrolysis process. This process is able to produce 1,250 liters of diesel per week, which will be used by local farmers to power things like water pumping and combine harvesters. In Thailand, oil is of crucial importance to farmers as their industry is considered the backbone of the country. The oil is sold to them at a reduced price of THB 20 per liter, helping them keep their head above water, especially during these times of high inflation. It also helps reduce CO2 emissions and combats climate change.

As winners, the group received THB 2 million and chose to invest in an extruder, which is a tool used in high-volume manufacturing processes where a polymer material, enriched with desired additives, is melted and formed in a continuous process. Thus, production capacity increases from 250 liters a week to 1,320 liters a week produced from 600 Kg. of plastic waste.

This group was the champion of the second season of the Win Win WAR television program, which opened a lot of eyes to the importance of plastic waste recycling. Its impact gave greater benefits in terms of future sustainability and environmental conservation than ever expected.









## Getting to the heart of the matter

Getting a community to separate their waste at the source, such as food waste, recyclable waste and organic waste, is at the heart of the problem. Many people do not recycle here, but Peerada Patithas, the founder of this group, recognized the issue and came up with a community recycling mechanism.

Peerada previously worked as an IT officer. When she returned to her hometown to retire, she chose to follow King Rama 9th self-sufficiency philosophy with the intention of contributing positive things to her area.



*Piles of cleaned and sorted plastic waste that were sold to the coalition group by the local community.*



*The pyrolysis system that will turn plastic waste into both diesel and benzene.*





She started with a simple observation that waste separation at source is still low because people do not realize the benefit that they can get and the value or wealth that can be generated from their waste. With the clear understanding that something had to change, the founder decided to take the matter into her own hands and pioneer a different recycling platform, pilot testing it in Song Phi Nong district in Suphanburi, her hometown.

The technique of pyrolysis is the thermal splitting of plastic material at high temperatures without oxygen. It produces gases and liquids known as pyro fuels or plastic pyrolysis oils and leaves a strong build-up of carbon, dark diesel and benzene, and is seen as a viable solution to the disposal of plastic.

Aiming to inject a recycling habit into everybody's daily life, her recycling program is divided into three phases: 1) Knowledge Enhancement: teach people how to separate waste correctly including type of waste, cleaning methods and benefits; 2) Awareness Raising: community-based campaigning to let everyone know that their community takes this matter seriously and that they must work together to create a cumulative impact; and 3) Plastic Selling: communities can then sell the separated plastic waste to the Suphanburi Coalition Group at the cost of THB 50 per kilogram. This will undoubtedly generate income for households in the community as THB 40-50 per time is a good incentive. Benefits could be given in many forms ranging from cleaning products, eggs and instant noodles to organic fertilizers, depending on the local context. Though a small amount, the value of THB 50 generated by plastic waste will activate lasting change in people's behavior, making communities realize that plastic waste has value and subsequently generates income.

## Think globally, act locally

The good news for local people is they can earn extra income or other benefits by selling plastic waste to the group. The advantage for the local municipality is that as the body that usually manages waste, the separating of recyclable materials at source cuts landfill volume down from 25 tons to just four tons per month. This will increase the lifespan of the landfill and help the environment.

Besides recycling, the group has gone to great lengths to set up a learning center with the clear goal of sharing knowledge and experience. This plastic recycling program was implemented as a pilot project in Song Phi Nong, which is one of over 921 districts in Thailand. Sharing this knowledge with hope for model replication in local governments across the country will generate greater impact for Thailand, especially as a developing country that generates large amounts of plastic refuse, sadly ranking at number 6 according to United Nations Environment Program.

## The Catalyst

With over 28 million tons of plastic waste thrown away in Thailand<sup>1</sup> every year, and over 350 million tons globally<sup>2</sup>, the group are achieving many firsts. Firstly, the group's actions serve as a catalyst to make people see the value of waste, thus taking separation of waste at source more seriously. Secondly, the group has designed the selling and buying mechanism to be accessible and successful. Thirdly, success in generating income from waste separation and recycling is a new source of income.

The achievements above constitute a whole loop of sustainability that is a stepping stone towards circular and more efficient economy in the long term. Having been able to amplify their message on Win Win WAR season 2, the model has now been adopted in 12 sub-districts in eight districts, benefitting more than 10,000 local people.

<sup>1</sup> OECD.org. (n.d.). Marine plastics pollution THAILAND. Retrieved August 10, 2022, from <https://www.oecd.org/ocean/topics/ocean-pollution/marine-plastics-pollution-Thailand.pdf>

<sup>2</sup> OECD.org. (2022, February 22). Plastic pollution is growing relentlessly as waste management and recycling fall short, says OECD. Retrieved August 10, 2022, from <https://www.oecd.org/newsroom/plastic-pollution-is-growing-relentlessly-as-waste-management-and-recycling-fall-short.htm>







# Buddy Home Care

The Buddy Home Care team welcomes aboard 19 new scholarship students from the Karen ethnic minority, their organization standing as a symbol of hope, opportunity and commitment to health and income security. They are ready to take on this prominent national challenge in the coming decades, changing the lives of elderly and materially deprived people across Thailand.



*Some of the 19 trainees who have embarked on their new journey.*

Training of necessary skills will be provided to these scholars who are underprivileged minorities to enable them to provide care to specially selected elderly, possible thanks to a THB 2 million seed fund awarded to Buddy Home Care as winners of the Win Win WAR program.



## In the midst of crisis

Founded in 2012 as a non-profit foundation based in Chiang Mai, it was initially funded by sponsorships and donations and is now funded mainly by subscriptions. Three people pioneered the project: Janewit Wisojksongkram and Narathip Thepmongkol were old school friends and Oraphan Mongkolpanasatit background was in social work. Oraphan was born and raised in Chiang Mai in the Karen minority. The three teamed up to launch Buddy Home Care in the hope of providing care to wealthier elderly people while offering life-changing opportunities to trainees from the Karen minority, who were selected as staff for the foundation.

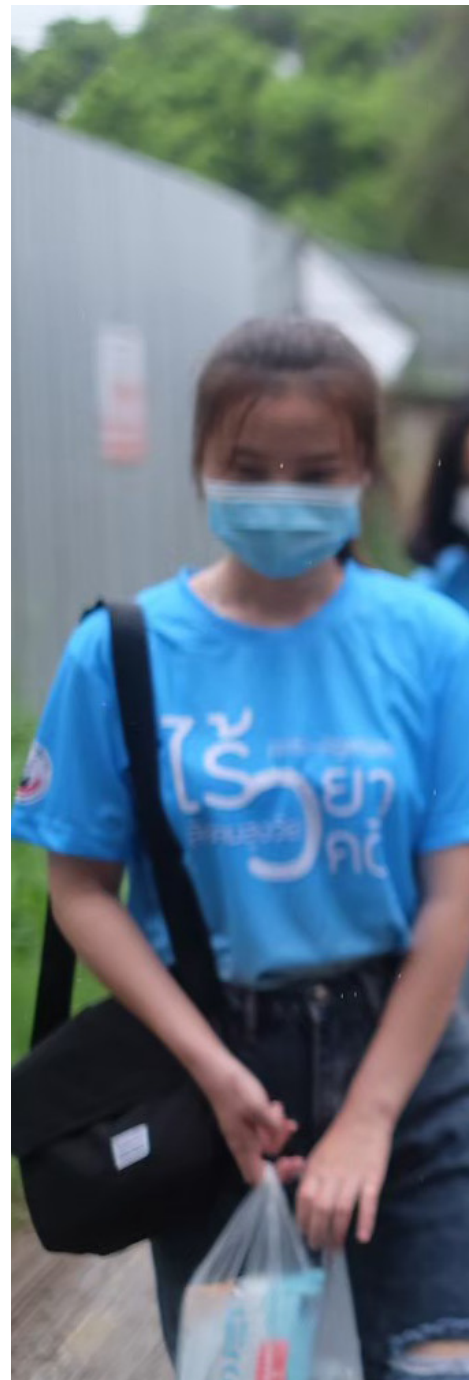
Business went well and received good feedback at first. But over time, the number of subscriptions started to decline along with demand for services, as care fees take up a large portion of family income. Indeed, under the previous model the finances of the project were edging towards crisis, with alarm bells ringing over liquidity and its knock-on disruption of operations.



***'The Three Musketeers' Janewit Wisojksongkram, Narathip Thepmongkol and Oraphan Mongkolpanasatit***

As one of the pioneers to spearhead the project this far, Janewit said that they spotted the issues in the business model and identified appropriate solutions to keep the business running. The group realized that they needed a change, especially in terms of financial sustainability, to generate income and growth for long term survival without relying so much on donations.

One of the team members, Narathip, joined an SE workshop in Vietnam a few years ago where she was introduced to the concept of social enterprise. She saw that the idea of social enterprise might be the solution that would help balance community welfare and business interests: businesses make profit, and profits can be reinvested back into the community. The team remarked that they saw how the program and social enterprise made changes to Komron's life after he won Win Win WAR season 1, which propelled them to pursue the same path. Thus, the team decided to submit an application for season 3.











**Some trainees looking after elderly people at the home.**

## Treading a new path

As predicted, Buddy Home Care was the winner of Win Win WAR season 3, and provides high quality care for wealthier older people for a monthly subscription fee. It also provides training and job opportunities for less privileged people, mostly from the Karen minority. They will work as full-time live-in carers for older patients, giving peace of mind to their families in other provinces.

They also give pro bono care to poorer citizens in Karen hill tribes and nearby communities. For example, the trainees will perform basic health check-ups like blood-pressure and blood-glucose tests. They support older people in their daily life activities, such as bathing, grooming, cleaning and safety checks. These services are easily accessible and improve older people's health and emotional wellbeing.

In combination with the telemedicine mobile app, this novel approach unanimously won the hearts of the Win Win WAR judges. Such an approach reflects their embracing of technology to address and enhance understanding of real social issues. It also bridges inequality gaps and fosters life security.

These trainees have to go through a screening process where their attitudes towards care, their professional profile and their mental state are all carefully checked. Additionally, the foundation has partnered with the Faculty of Nursing at Chiang Mai University to provide a year's training and the necessary skills to become an assistant nurse. If candidates show solid performance, commitment and strong passion, Buddy Home Care will give them scholarships to study for three more years to obtain a degree in Nursing and then return to work with the company.

## Survival of the bravest

In addition, they will foster a sense of security and life coaching through their training, which includes financial literacy, a life skill that should not be overlooked by tomorrow's professionals. A member of the Karen hilltribe and founder of Buddy Home Care, Oraphan used to live in great poverty but received the opportunity to study and work outside. This program has made real differences to the lives of those most at risk from factors that can limit young people's ability to compete in the job market; drug addiction, teenage motherhood, lack of education and so on. It shows that the group understands clearly the challenges that the Karen minorities face while also appreciating the opportunities that have been given to them, which inspire them to extend such opportunities to others.

THB 2 million has been used to transform operation from a donation model to a business model for long term financial sustainability, high quality service and good long term training and job security for disadvantaged people. Buddy Home Care has developed their own app that makes health tracking and reporting easier; for example, live-in carers can consult an advisor if necessary. The availability of data which immediately shows trends and abnormalities is invaluable and, in many cases, helps prevent problems developing. Such efforts also complement the work of local healthcare practitioners outside of Buddy Home Care by sharing the data and enabling prompt responses and more efficient work staff allocation.

## The ongoing ageing of our society

Buddy Home Care center has lived up to its promise in currently providing health and job security to 600 elderly people and 26 trainees. All 19 scholars are on their way to becoming professional; a life-long opportunity that many had never dreamt of. Buddy Home Care also serves as a learning center, opening the door to share experience of model replication in other areas of Thai society. Indeed, this training model is relevant to the ageing context of many neighboring countries.

Considering the pace at which Buddy Home Care is growing, they hope to expand their model into different locations, especially big cities where there's a significant need for healthcare support and where community-based homecare structures are already available, such as Bangkok, Lopburi and Khon Kaen. Investing in a mobile app to boost the management and expansion of the model is also a key plan. This helps them match the right care with the right targeted customers and should result in more clients and revenue. The app also has features that arrange health screenings, design individual healthcare programs and support follow-up appointments. They would also like to license their innovation to relevant organizations, which could form another income channel.



# Banana Land

Banana Land, one of the finalists of Win Win WAR's first season, is a social enterprise designed to generate income and job opportunities for the local community of Loei, while also functioning as a culturally rich tourist destination that boasts a multitude of handmade goods from the community. From a massive hay castle to an online farming experience, there is no doubt that Banana Land is a one-of-a-kind enterprise. Banana Land's success is driven by Lakana Sanboongkor, an ambitious woman with a contagious smile and overwhelming positive energy. From a young age, Lakana was taught by her father to always give back to the community – a mindset that remains instilled in her to this day. This drove her to volunteer extensively in her hometown, which became the main inspiration behind her first business endeavor, Banana Family.

Having spent time working as a volunteer, Lakana quickly discovered a persistent problem in her community: parents often neglected their children as they spent most of their time working to support their families. As a solution, Lakana founded Banana Family, a social enterprise that manufactures healthy snacks made from bananas. This aimed to provide job opportunities for the local children, which would help them generate additional income for their families. The plan was simple: they would produce snacks from bananas and export them to people in the city. With this idea and business model, Lakana entered Win Win WAR with the hope of winning the THB 2 million prize money to fund the expansion of her business.







## A new perspective

Upon participating in Win Win WAR, something completely unexpected occurred: Lakana's entire perspective began to shift. Jeremiah's simple question, "Do you want to turn your hometown into an industrial town?" sparked a sudden realization in her. She recognized that she was capable of creating a larger impact on her community in a way that would mutually benefit everyone. Thus, Banana Land was born. Instead of solely manufacturing snacks, her plot of land would now be used as a 'local sharing space', where community members could use the land, exchange ideas and produce goods under their own brand. To avoid direct competition among the locals, each brand would produce different items. Lakana stresses the importance of creating high quality and ethically-produced goods, where prices are not pushed down in order for the locals to receive a fair revenue for their products. Banana Land acted as an incubating ground for these businesses, with Lakana providing not only the space, but also the advice and expertise. Through Banana Land, Lakana discovered that she could achieve a greater social impact, as well as preserve the local environment, culture, and traditions.



*Banana Land's success is driven by Khun Lakana Sanboongkor, an ambitious woman with a contagious smile and overwhelming positive energy.*



***From creating job opportunities to increasing incomes to promoting Loei's unique cultures and traditions, Banana Land's impact on the local community is undeniably substantial.***

## Every problem has a solution

Just like any other business, Banana Land faced multiple obstacles. Initially, many of the local villagers were hesitant in being part of Banana Land – they did not believe in Lakana's vision so refused to sell their products. However, Lakana did not let this affect her morale. She showcased her ambition and continued to persevere, which eventually proved worthwhile as the locals came to realize what Banana Land was capable of and began cooperating. Fast forward to this day, and the local community has had numerous opportunities to add value to their products, allowing them to generate higher streams of revenue and income to support their families. But most importantly, they are able to work in a happy and stress-free environment.

Apart from difficulties working with the local community, Banana Land was also affected by the COVID-19 pandemic, where a lack of tourists meant that revenue decreased. As a response to the crisis, Banana Land launched an online farming experience. This unique idea became extremely successful: THB 130,000 was generated daily and plots of land were sold out in a matter of days.

When issues arise, Lakana finds herself always remaining optimistic – she emphasizes the importance of finding opportunities even in adversity, and that every problem has a solution.

## A Bigger Future

From creating job opportunities to increasing incomes to promoting Loei's unique cultures and traditions, Banana Land's impact on the local community is undeniably substantial. However, this is far from the end. Lakana has envisioned a greater future ahead, not only for Banana Land but also for the youth of Thailand. To develop the younger generation's entrepreneurial skills and their knowledge about social entrepreneurship, she has developed an SE for youth program. This experiential learning activity aims to provide children in the community with opportunities to try out social entrepreneurship, to make mistakes and learn from them, and to generate income.

Lakana leaves a final piece of advice for aspiring young social entrepreneurs: start by taking action towards your goals and always remember to remain optimistic and motivated.







# Pure Natural Plant Straw

Plastic straws cause unexpectedly immense effects to the environment. These daily single-use plastic items are small and light that they are easily blown out and end up in the ocean littering the shorelines, killing marine life and threatening the ecosystem. Moreover, they break in smaller particles, also known as microplastics—harmful chemicals that can infiltrate into the water, soil, air, animals, plants and humans.

Realizing this devastating impact of plastic pollution and the future ban on single-use plastics in Thailand, Supakorn Burinjati, an engineer who was working in an automatic waste segregation machine manufacturing, began researching for organic alternatives to plastic straws. In an early stage, Supakorn opted for rice stubble as rice cultivation is a major part in Thailand's agriculture for both household consumption and export, ranking the world's 2<sup>nd</sup> rice exporting country. The rice stubble is the lower part of rice stems which are usually cut and left in the ground after harvest. To maximize the value of those crop residues while integrating food engineering technology, chemical engineering, electrical engineering, mechanical engineering and information technology, the residues from harvest are not disposed but are developed into pure ecological and natural straws.

Farmers, undoubtedly, play a key role in this supply chain. The first Win starts when Supakorn purchased a considerable number of leftover stalks from farmers nationwide. The effort gradually encourages farmers and generates their new source of income after the harvest season. For a greater impact for environmental sustainability, declining stubble burning rate is the second Win. Burning of stubble to prepare the land for next cultivation creates tremendous air pollution because it emits greenhouse gases and pollutants in the air that contribute to the global warming and harmful effects on human body functions and systems. The upcycling of natural residues, thus, do not only provide economic incentives to the main suppliers but also prevent the planet from environmental degradation.



## Challenges in the Market Stage

Supakorn was successful in the laboratory scale in innovating the natural straws from rice stubble. The straws are best known for its environmentally-friendly production and durable usage meanwhile being biodegradable. Despite the undoubted qualities and contributions to social and environmental goals, the mass production for a larger consumption scale requires a seed fund and a marketing strategy. Advised by the team judge in Win Win WAR, firstly, a right consumer target must be identified. Price of the rice stubble straw is higher than the average market price of the plastic straws. So, selective cafés, upscale eateries and environmentally responsible hotels whose customers could afford were recommended to be the target business groups to ensure the market need and financial sustainability.

Establishing a social enterprise gave Supakorn a further step in gearing toward his business goals. The Angkul Social Enterprise Company Limited was founded with an aim to be a Thailand's leader in natural straw production technology that are safe for humans, animals and environment. His determined missions include to generate extra incomes for farmers, reduce air pollution and PM 2.5 particles, promote organic farming and produce degradable animal feed.







## Never Stop Exploring

The rice harvest season in the north from October to December and the south from January to April have limited the production of rice stubble straw in certain periods of the year. On the other hand, the manufacturing requires vast amounts of material to secure the cost efficiency and meet the volume of the market need. Furthermore, the logistic costs from the suppliers and management were relatively high. Supakorn then explored other potential plants to effectively reduce the costs.

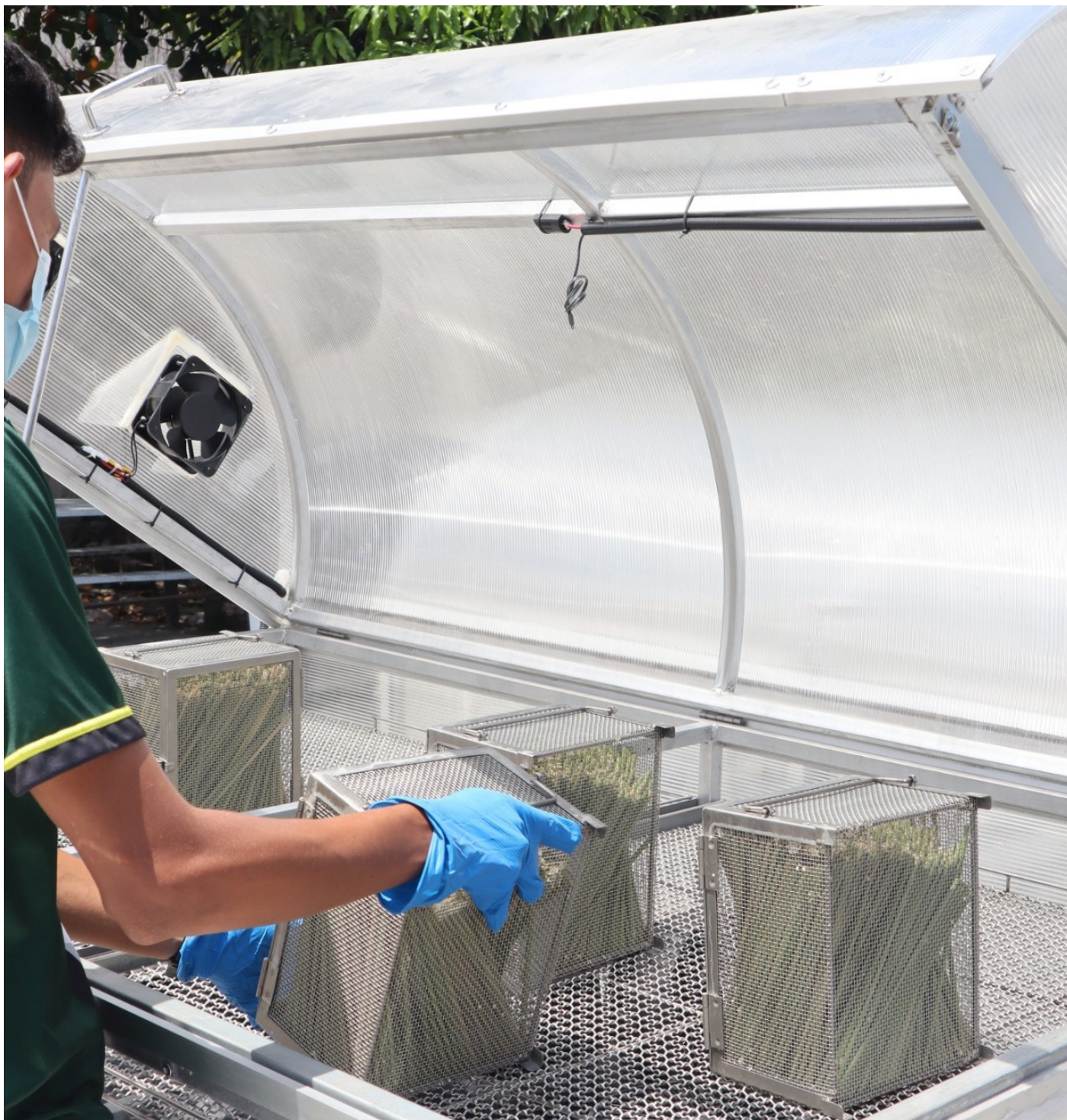
Thailand is rich in biodiversity and is considered the cradle of fertility, on land and below water. Different geographical characteristics in different regions offer varieties of natural resources. He traveled to every region and finally found the alternative in the Deep Southern province of Narathiwat, “Krajood” or the saltmarsh bulrush, an exotic vegetation that grows widely in the peat swamp where is home to diverse land and aquatic animals, as well as many important local plants in the south region. Krajood also helps prevent the forest fire and is promoted as a plantation model for sustainable development<sup>3</sup>. Local communities are encouraged to plant and take care of the nursery farm. The plants are now for household use and for sale, especially the fine stems are carefully selected for basketry. Supakorn, consequently, found krajood in a bigger size is perfect for functional drinking straws.

After purchasing and transporting in storage boxes, krajood stems are cleansed, ozonated, sun basked, then cut for the perfect desirable size. To ensure the cleanliness and disinfection, before they are baked, inspected and ready for packaging. The unique characters of krajood straws are a 100% natural product, halal certified, durable and capable of being used in hot and cold beverage in 3 days, 12 months on shelf life, hygienic and safe for consumers, animals and environment, giving mild chlorophyll aroma, disposable in wet garbage, used to plant trees, and, finally, helping prevent the peat swamp fire.

In 2020, Angkul Social Enterprise was awarded the 2<sup>nd</sup> runner-up in Thailand’s National Innovation Award in the society and environment section for the pure natural plant straw. His determination to achieve carbon neutrality in production and his keen journey to environmental, economic and social sustainability hit a milestone. Every successful step along the journey is not just an individual’s achievement but it is rather a footprint and inspiration for all practitioners who aim for sharing for a better world.

<sup>3</sup> Thailand Environment Institute (TEI). (2021, June 4). Krajood under threat: United Nations Development Programme. UNDP. Retrieved August 1, 2022, from <https://www.undp.org/thailand/stories/krajood-under-threat>







# Plant Factory

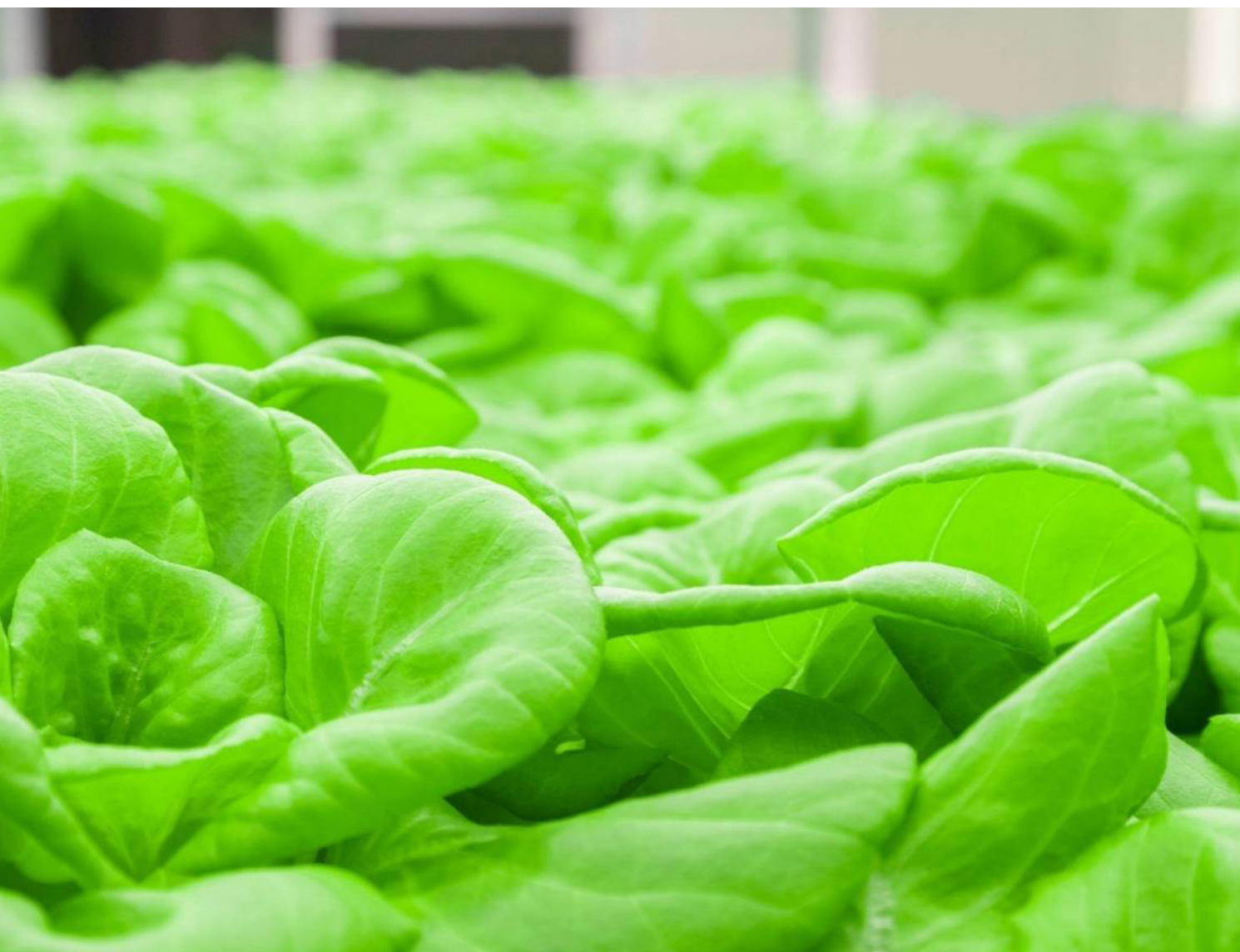
“Imagination is more important than knowledge.”

This timeless quote by Albert Einstein captures the key essence of the storyline behind the journey of Krisana Tamvimol, a computer engineer who turned to be a vertical farmer, a student who turned a class assignment to an innovation. His journey started 8 years back in Chiang Mai, Thailand.

Krisana had an opportunity to participate in a science, technology and innovation policy management program that envisioned to develop young entrepreneurs and business leaders who can initiate to new S-curve target industries in Thailand<sup>4</sup>. Students were given multiple modules, plus overseas experiences in a technology-driven and innovation-oriented country for them to explore and examine the possibilities for Thailand. The most challenging part for Krisana was yet a post-workshop research. He was assigned to propose new innovative industry model that contributed to the country’s GDP and was in high demand workforce.

<sup>4</sup> True digital park. (2020, February 27). 10 Thai S-Curve Industries. True Digital Park. Retrieved August 5, 2022, from <https://www.truedigitalpark.com/en/insights/articles/15/10-thai-s-curve-industries>.







## Pain points identify solutions

The northern province of Chiang Mai is in a highland region where agriculture provides the majority of the province's total GDP. To an unexpected surprise, Krisana found that the agricultural produce in his hometown were heavily contaminated with chemicals and pesticide. Also, from his observation, an immense number of people of Chiang Mai had suffered from and died of cancers. This shocking truth brought him to the research proposal to find solutions for a safe, non-chemical and affordable farming. The case studies of smart greenhouse from Japan during the fieldtrip was primary idea and key for further step in Thailand. His proposal was finally agreed by the Ministry of Science and Technology for the research grant.

His engineering background helped him a lot in calculation, planning and experiment design. However, the passage to solutions would be complete without hypothesis, belief, and, indeed, imagination.

His agricultural technology is called a "Plant Factory", an indoor vertical system that provides the steady production of high-quality vegetables all year round by artificially controlling the cultivation environment, for example, water, air, light, temperature, humidity, carbon dioxide concentration, and culture solution.

After the prototype, another source of funding is crucial to develop to the real market. At first, Krisana started the fundraising by establishing a startup and pitching. He was selected as finalists in Win Win WAR season 2 with his strong ambition to introduce the plant factory and its significant role as smart technology for sustainable agriculture, and in the hope that people can consume fresh, clean and uncontaminated plants at reasonable market price.

## From research prototype to commercial prototype

The biggest strength of the vertical plant factory is that it requires only a compact plot of land. The greenhouse of 200 sq.m. (50 sq. wah) but its produce is equal to those of organic plants in up to 4 acres. With this unique quality, urban farming become a possible option for people living in the city. Krisana aims for the business-to-customer (B2C) model only to assure the end consumers of freshness and guarantee full nutrition before reaching to their hands. Importantly, as the population in urban area is relatively growing and climate change is a major cause of making more crops difficult to grow, this indoor vertical farming will undoubtedly help to tackle this challenge according to higher yields, cost-efficiency and limited land use.



***Plant Factory with Artificial Lighting (PFAL), an indoor vertical farming system which aids the steady production of high-quality vegetables all year round by artificially controlling the cultivation environment using IoT.***

However, cultivated in a 100% closed greenhouse with intensive controlling system, all vegetables from the plant factory are of medical grade that can be eaten without being washed or cleaned.

With almost a decade of effort, Krisana has proved that his research and development has transitioned the traditional agriculture model to precision and smart farming through innovative biotechnology to increase a year-round crop yield and ensure environmental sustainability. Lastly, from problem solving in the class, Krisana is now driving the country's future economy to the right track by growing the value-based new S-curve industry in agriculture and biotechnology.

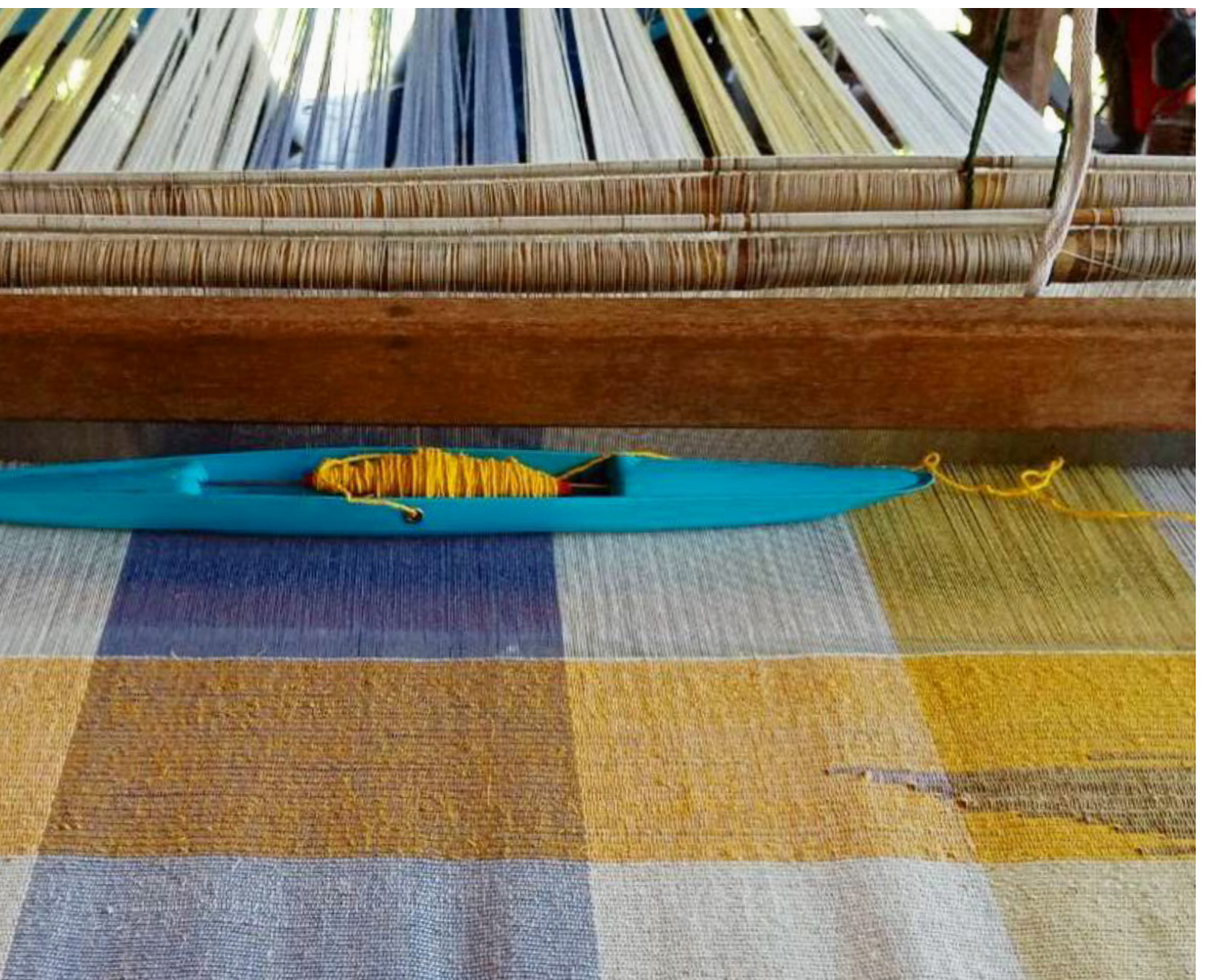


# Don Manee

Don Rae community, Ratchaburi, is home to a Tai Yuan ethnic group where the majority of locals are weavers and still preserve its cultural heritage by inheriting the traditional weaving techniques originally from the northern Thailand since the early Rattanakosin period. Like other Tai Yuan communities in the northern and central regions of Thailand, the woven textiles of Don Rae hold its own unique style and characteristics by distinctive color preference, patterns and thread density. Apart from local agriculture, the traditional woven textiles, hence, create jobs and become an important source of revenues for the community.

Born to a Tai Yuan weaver's family, Anupal Maneejun found out there is a limitation to upgrade the traditional woven textiles and not many selling and distribution channels after household production. At the first stage, Anupal started by the idea of developing products from the traditional hand-woven fabrics by the support from people with disabilities in the community. The traditional fine textiles actually require dedicated weaving skilled labor and physical perseverance. So, individuals with limited physical capabilities and skills could create less dedicate pieces than those who practiced in their fullest potential. The big turning point was when she met a one-eye weaver who faced extremely poor eyesight that she could not do well resulting in imperfect unsellable work. The situation went even worse when the lady decided to quit weaving and sell the family's old loom in the hope that the sales of the wooden machine would help her sustain her living. Anupal realized difficulties all the disabled encountered. Still, she had a firm commitment to preserving the ethnic cultural heritage while wanting to secure the group's economic well-being.









**Staff hitting the banana fibers.**

## From waste to value

Anupal finally developed a new product line using less complicated weaving technique under the brand “Don Manee” by allowing the locals with impaired physical abilities to be in the core production team. She shifted from traditional materials to alternative natural fibers.

Ratchaburi is among the fifth largest banana plantation of the country. At the same time, the plant’s leftovers after harvest and transport to market is another big critical environmental issue. The crop residue burning sets a familiar scene as same as in other agricultural regions. It tremendously releases various air pollutants and causes damage to other micro-organisms. The environment, animals and people get direct harmful effects.

As such, with science and technology background, Anupal conducted laboratory experiments to develop banana fibers into weaving threads. With several failure and success, she could turn the banana fibers to primary weaving materials and the main source of livelihood of her special skilled labor group. They could support their family, carry on the heritage, as well as safeguard the environment from degradation and harmful threats by human.

Moreover, to affirm the zero-waste production, waste water from banana thread production is formulated to banana herbal oil extract, a new spin-off by-product to relieve migraine headache and treat impingement syndrome.

Starting from a modest beginning, Anupal and her community are proud of their heritage and confident of their innovative endeavors to help the people and, at the same time, protect the planet for future generation. The Win Win WAR program is a venue that they could freely tell their sophisticated journey and advocate other individuals and communities to address the concerns for cultural heritage assets, inclusive well-being of the people and responsibility for the environment.





*Products from woven banana fibers.*

## The Next Steps

The incredible durability of banana fibers can create multiple kind of goods for personal and household use. Anupal is in the process of developing leather alternatives for furniture and bulletproof vest, not to only reduce agricultural residues and tackle the air pollution challenges, but also to make a commitment to achieving net-zero carbon emission from livestock industry. The journey of “Don Manee” brings about many phenomenal wins for a better community. The journey that never stop but continues to set a footprint for the sustainable world.





# Reality from Real Life

From its beginning, Win Win WAR Thailand Season 1 received an award in 2019 at the 33<sup>rd</sup> Golden Television Awards for 'Best Game Show'. And in 2021, Win Win WAR Thailand Season 2 received an award for 'Outstanding Educational or Technology Promotion Program' at the 2nd White TV Awards. The show takes real life stories and presents them to the audience in a way that gives people hope and shows how a combination of business and social entrepreneurship can improve our society.

Social enterprise is certainly gaining momentum. Through the COVID-19 pandemic time, Win Win WAR program had adapted itself to online edition, and had gathered more than 24 million viewers in 10 countries across the ASEAN region. Throughout the past 3 Seasons, many participants received once-in-a-lifetime opportunities and were able to take advantage of the Win Win WAR platform to give new opportunities to others.

We hope that the collection of stories from Win Win WAR pioneers in this publication can give inspiration and valuable insights to those who are just starting out.







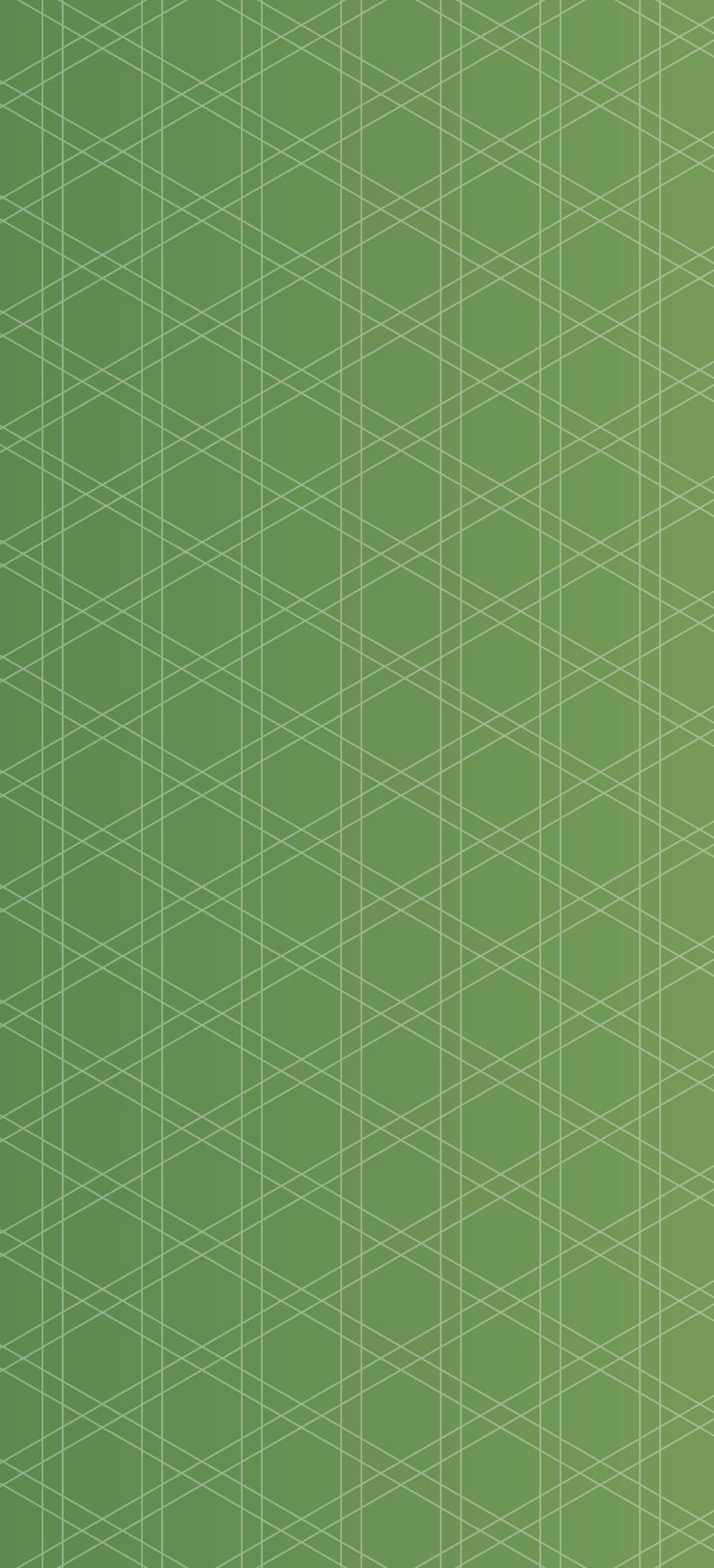




## About C asean

C asean is a not-for-profit organization established in 2013. Our vision is “Collaboration for the better of ASEAN's connectivity.” C asean strives to be a hub for ASEAN entrepreneurs and ASEAN future generations focusing on business, arts and culture. In the business arena, we aim to promote sustainable development practices across all segments of the economy, ranging from large corporations to entrepreneurs and youth. Through our various activities, we also play a part in leadership & talent development for the region while fostering integration of business leaders into wider regional ASEAN network. Equally important, C asean serves as a platform for ASEAN art and cultural dialogues, as we believe that art is an essential tool to blend our heritages and create a special bond of harmonious friendship as well as a distinctive ASEAN identity.







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# Credit & Acknowledgements

**Executive Editor:**

Ratiporn Koomsup

**Content Development & Write-up:**

Sansana Malaiaison

Pasita Marukee

Panata Kiatanant

**Content Support:**

Nanthatchaphon Jiravijchasakul

**Artwork:**

Thiti Lerdkittikulyothin

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*Firstly, thank you to the finalists for sharing their inspiring stories and giving the team the opportunity to visit the sites and listen to the stories directly. Thank you to the judges, not just for giving their time for interview, but for so openly expressing how they feel. Finally, thank you to the contestants and communities for showing their strength and character in making ambitious dreams into social enterprise realities.*

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10th Floor, CW Tower,  
90 Ratchadapisek Road,  
Huai Khwang, Bangkok 10310 Thailand



+66 (0) 2785 9999



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