MAGIC OF MILLETS Collaborator Recipe Book



About This Book

In May of 2023, UBC Ph.D. student Saori Ogura created the Growing Millet Together Network, which seeks to document and present different cultivation practices and agricultural knowledge through photos, videos, and stories. This initiative aims to encourage and inspire marginalized millet farmers to share their voices across boundaries and promote millet to people who may not yet understand its importance. Collaborators from Zimbabwe, Kenya, India, Japan, and Canada have shared and learned from one another's experiences through this network, and this book is a collection of that knowledge.

In this book you will find recipes which are either directly from or inspired by the millet dishes shared by each collaborator, as well as what millet cultivation means to them and their community. We hope that through these words and pictures you are able to expand your perspective on the connection between food, agriculture, and biocultural diversity.

You are encouraged to respond to anything that inspires you about this exhibit and activity. Ask questions, give comments, or share your own recipes and experiences related to the connection between food and culture!

From everyone in the Growing Millet Together Network, we hope you enjoy the book!





British Columbia is very prone to wildfires and droughts in the summer, which is the reason I'm interested in learning how to grow millets in this environement. This is more of a hobby to me, I also have a day job. I'm really looking forward to sharing our experience and learning from each other!



My foxtail millet has finally created seed heads!



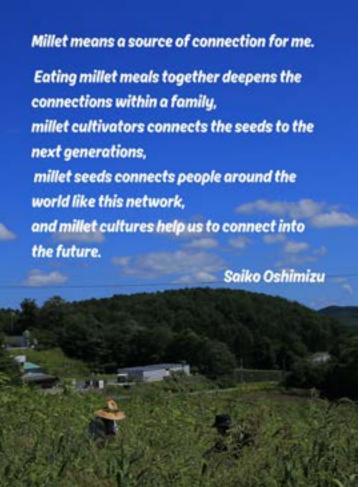


So far the birds seem uninterested in the millet as they are focusing their attention in the sunflowers I plant for them every year.

Saiko Oshimizu



Hello, I am Saiko. I live in Karumai town, Iwate prefecture, Japan. My husband and I run a local family-owned inn named Oshimizu Ryokan. We love developing millet recipes for our guests. We also help the Odakawa Farm document their millet cultivation.





Check out the Oshimizu Ryokan Online!





My husband Hiro cooked sorghum and meat mixed with hamburg as well as sliced carrots stir-fried with Japanese barnyard millet. Amaranths, barnyard millets, foxtail millet, and proso millet are boiled together. We add millet dressing to the salad before we serve it.

Sorghum Omelette







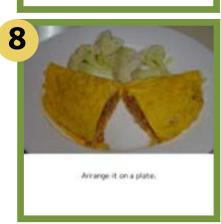
















Millet Dressing













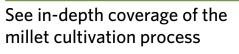


Katsuo Odakawa



I am Katsuo Odakawa of Odakawa Farms, located in Karumai, Iwate prefecture, Japan. I have been cultivating millet with local farmers for the past 35 years. I have continued cultivating millet especially for children who are suffering from allergy issues.

Visit the Odakawa Farm's Official Youtube Channel!





Documentation of proso millet cultivation at Odakawa Farm In Karumai.









Toru Sakawa



Millet is a great crop for permaculture. It's a symbol of diversity, and we can learn from traditional culture too. So it gives us hope for a sustainable future.



Hello, my name is Toru Sakawa. I live in Iwate prefecture in northern Japan. Our prefecture is very famous for growing millet. I have practiced permaculture for more than 30 years. In the first stage, we tried to acheive a self-sufficiency lifestyle, and now we extend that and share our products with lots of people. We grow rice, millet, wheat, soybeans, vegetables, roots, chickens, and pigs. Millet is very important for our food life because it is a symbol of diversity and sustainability.





Foxtail Millet Fondue



Ingredients
Foxtail millet
Water
Soy milk
Salt
Miso paste

Recipe by Toru Sakawa





millet to water is 1:2).



milk, and pinch of salt.







You can use this as a dip or fondue. In the photo, we put it on stir-fried artichoke.



We ate it as a side dish in this wonderful millet feast!

Masako Uchimura



Hi everyone, my name is Masako. I'm living in Shiiba Village, Japan. Shiiba Village is surrounded by mountains. There's a lot of rain and beautiful rivers. My husband and I moved here about 5 years ago. I am a mother of two small children. Usually, I work as a village supporter. These days, I am organizing a group for outdoor childcare. I like eating and cooking millet. We have some native species in this village, and we have been growing them the past 5 years. It's been getting harder for me to do farm work while raising children, and also wild animals come to our field and eat the crops. But still, I'll try my best!



I have faith in millet. Personally, millet helped me during my pregnancy and continues to help me while raising children. Millet is like a Superman who has saved humanity for thousands of years - I really like millet as a being, living their life with strength.



The lady in this picture is the oldest lady in our community. She shares her stories in her old days and teaches me the wisdom of ancestors.

Kibi Dango



This is called *kibi-dago-chimaki* in Japanese; sorghum dumpling wrapped with a magnolia leaf. This is a traditional food in my community in Shiiba.

Ingredients
Glutinous millet 50g Rice flour 50g Water Kinako (soybean powder) 3 tbsp Castor sugar 13 grams Salt

Recipe adapted from kurashiru.com



Put the millet and 100 ml of water in a heat-resistant bowl, cover and microwave for 5 minutes. Let steam for 10 minutes.



Using a mortar and pestle or mixing bowl, grind the millet until it is sticky.



Pour the rice flour and 60 ml boiling water into a heatresistant bowl, mix it, cover and microwave for 1 minute. Mix it again, cover and microwave for 1 more minute.



Mix the rice flour and millet together with a mortar and pestle or mixing bowl until combined and sticky. Mix in 10g castor sugar and a pinch of salt.



Seperate the mixture into 12 roughly even balls. Lay the soybean powder and sugar out on a large baking sheet. Roll the balls in the toppings until they are completely covered.



Put three at a time on bamboo skewers and serve.



Masaru Shiiba



Small grains cultivation is a source of life across generations. In Japan, people have eaten small grains for a long time. They are highly nutritious. They make our body strong and make us healthy. Today, because of the consumption of unhealthy foods, dementia occurs faster as people eat all kinds of food. This is also the case with cancer. Now our food culture has been westernized, but we must eat small grains to allow our body to be stronger. We should live strong, just like small grains.

Hello, my name is Masaru Shiiba. I've been doing traditional slash-and-burn shifting cultivation in order to grow millet, and I am now the only one doing the traditional shifting cultivation in Japan. The reason why I grow millet through shifting cultivation is, the product, nutritional value, energy, and the taste are different through this practice. This has been passed down from our ancestors and I believe that this practice is suited to us humans. Among millet that I grow, *hie* (Japanese millet/barnyard millet) has such great vitality. I continue growing it because I am impressed by the vitality of it, which also acts on human fertility.



We use a burner to light the field. Dried branches are used as kindling.



We give a prayer to the mountain and fire deities before the burning.

Ogura, S. and S. J. Forewell. 2023. Responsibility as humans: meaning of traditional small grains cultivation in Japan. Ecology and Society 28: 27.

Hie-Zuushii



1 Wash the barnyard millet lightly to remove husks.

2 Sauté the bite-sized pieces of meat in oil until browned. Add barnyard millet to the prepared broth, simmer gently for about 2 hours on low heat while skimming off any impurities. Salt is the recommended seasoning.

Porridge with boar fat and Japanese millet, called *Hie-zuushii*, a traditional meal in Shiiba Village. The wild boar was hunted by a local hunter.

- Once the wild boar meat is cooked, add rice and water, then simmer. Add chopped chives or other greens of your choice towards the end.
- When it boils, add cleaned millet and gently cook over medium heat, stirring, until the millet softens (this may take about 2 hours). You can add more water during this process.
- Add salt to taste. Garnish with chopped chives and serve hot!







Kachyo Lepcha



This is Kachyo Lepcha here from Sikkim. Finger millet is an important group of minor millets grown in India. It is a staple food crop in some parts of southern India and hilly regions of the country. It is grown as a cereal crop for monsoon season in Sikkim and the northeastern Himalayan region of India. From a cultural perspective, millet is traditionally connected with Lepcha community from birth to death in different forms. From the millet we get lots of health benefits, and millet grains are used in preparation like cake, liquor, pudding and *khuri* etc.

Mong millet after harvesting.







Tools for millet cultivation (left to right): Halo, Tukchu, and Sangkong.







Khuri

Millet flour

Millet play an important role in the Lepcha community of Sikkim as well in North Eastern Himalayan region o India

From the millet many thing you ma prepare;

Like Khuri, mong kho, khabz mongzoovok and Chi etc.

However, this recipe is only for KHURI

n the given below picture is a millet flour







Ingredients for KHUR

- A cup of millet flour
 - Two egg
 - Cheese
- Any vegetable like spinach
 - A cup of water
- You may add spices too



Prepared by Premit

Lepcha Homestay , Lingthem Village Upper Dzongu North Sikkim



Kachyo Lepcha

How to prepare khuri

First, fried any vegetable like Spinach leaf mixed with cheese and also add other spices, once ready then, you prepare a cup of millet flour, add two eggs and then mixed with a cup of water, mixed properly then it become think and sticky, after that you can cooked sparsely at Pan.

Once ready then cooked vegetable (the first one) sparsely put in it then rolled it.



Final shape of khuri

he first picture is a KHUNI (millet roll) with mint ickle-(mixed of mint, tomato, chilly and salt)

econd picture is Mongkhu (millet Pancake) with int pickle.

ancake recipe; Millet flour mixed with eggs id butter)







Why millet is planting famous among the indigenous community in lepcha: it's a ancestors way of life and we have been proudly carrying their legacy with dignity and respect, millet alcohol has been sacred for lepcha community since a child is born.



I too have been motivated and inspired by my mother Amu, she still continues cultivating the millet even when birds eat everything and when I start complaining about it, she just responds "let them eat, there is hardly anything in the forest."



Tshering lhamu Lepcha is holding local varieties of millet that she cultivated.



During cultivation it's a very important period for women to come together. They get a chance to share their day to day stories, challenges and success stories, they even share jokes and have fun. These things hardly exist in today's world, where everyone is busy with social media.



In Dzongu, we have started promoting our homestay and village tourism where we promote our food, culture and tradition, and we promote our indigenous cuisine made of millet and other small grains.



Our lepcha priests and priestess used this *chi*-which is the word for millet alcohol in the lepcha language-when there is a marriage between two couples the priests and priestess used this chi and and when a person passes away we used chi. In simple terms, without chi, we cannot have or start any rituals in the lepcha community.

Isabel Mutiga



I am Isabel from Kenya and I wish to highlight briefly why millet is important to me. First and foremost is that millet is a drought-resistant crop that can grow in all climatic conditions including the harsh heat with less rainfall. It has pest and disease resistance with lots of varieties that takes less time to mature as compared to other grains and food crops that are grown in Kenya. More importantly, its nutrition values are incredible, especially the iron content where millet presents high amounts as compared to other grain cereals. Additionally, millet has a great diversity in the number of delicious and healthy meals prepared from it, that is beneficial to members in a community including its porridge which is best for weaning a baby.





Bulrush Millet Porridge





A harvest of bulrush millet.

Ingredients
Bulrush millet flour
Sugar
Water

1 1/3 cup 2 tbsp 4 1/3 cup

Recipe adapted from Kenyan Food Recipes by FAO

Put 3 1/3 cups of water in a pot and bring to a boil.

In a seperate bowl, add 1 cup of water to bulrush millet flour. Stir to a smooth, light consistency.

Add the mixture to the boiling water while stirring to prevent lumps. Stir until themixture starts to boil.

Add sugar after 5 minutes and continue stirring.

Cook for 13 minutes and then remove from heat. Serve warm.

Emmanuel Hove





Millets traditionally play an important role in family and community sacred rituals, ceremonies and events.



This is Emmanuel Hove from Mazvihwa, Zimbabwe (Southern Africa). Millets are an essential part of every Zimbabwean's history and life. Zimbabwe's economy is agro-based. In the country's dry regions like Mazvihwa, drought-resistant millets are the sources of livelihoods and income. Growing up in a royal family, millets become part and parcel of my spiritual, cultural and health life. A royal son is treated to *rapoko* porridge every morning from day of birth up to 6 months. Graduating into manhood, traditional beer and *maheu* brewed from millets become part and parcel of the sacred ceremony.

Millets are sugar free and they kept my father alive and healthy for 90 years. I also cherish the healing and medicinal impact of millets. My mother, a traditional healer, uses millets in treating various ailments like fire burns, pneumonia, diabetes etc.





Sadza

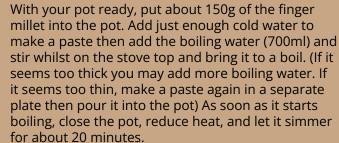


My family meal: *rapoko* and sorghum *sadza*. We have dried traditional veggies with peanut butter, also dried beef with peanut butter. We also have *matohwe* fruit aside (African apples), as well as cooked dry and peeled roundnuts.

Ingredients
Rapoko (finger millet) 350g
Boiling Water 700m
Serve with your side dish of choice!

Recipe adapted from Rumbie on zimbokitchen.com









After 20 minutes, add the remaining finger millet a bit at a time, mixing well after each addition. Close the pot and let it simmer again for 5 minutes and your *sadza* is ready.



Curtis Björk



I'm especially looking forward to learning from traditional methods and experienced growers. I might be growing my millet in the coldest climate among the members of the group, so my experience might be different from most.

Why millet? Like many people in my community, I want to reduce my demand for the products of industrial agriculture. So I want to find the best self-sufficiency crops for my home garden. And if I can share what I've learned with others in my community, then maybe we all can live a bit more independently and sustainably. Millet is very promising as an easily grown, nutritious, and delicious home-grown grain for Canadian gardeners.





One of my two main plantings of 'Hell's Canyon' millet. I planted these in early June, from seedlings that I started indoors in March.

Organic Millet Spread



Wash the foxtail millet 5-6 times until the water runs clear. Soak the millet in 3 cups of water for at least an hour. Strain the millet and place it in a deep pot with 2.5 cups of water and a pinch of salt. Bring to a boil, then set heat to low and simmer, covering with a lid. Let simmer for about 15 minutes, then turn heat off and let stand for 5 minutes. Fluff with fork and serve.

Ingredients
Sweet potato
Tomato
Foxtail millet
Cabbage
Beef

Preheat oven to 425°F. Chop the sweet potatoes into bite-sized chunks and drizzle with olive oil. Sprinkle on your seasonings of choice and place on a baking sheet. Bake for 25 minutes or until the edges become brown.

Chop the cabbage and beef into bite-sized pieces.

Marinate the beef in your favorite sauce for 1 hour.

Stir-fry beef in a pan for 3-4 minutes, adding in cabbage just before it's cooked through.

Cut a tomato thickly and serve alongside the sweet potatoes, cabbage, beef, and millet. This recipe is very loose, so feel free to add your own spin on it!



The following is a news article printed by Daily Tohoku, a local Karumai newspaper and written by reporter Shouhei Sato on Sunday, May 19th. The translations were done by Saiko Oshimizu.

We want to shed light on millet, which has been cultivated in many parts of the world since BC, and preserve it for the future as a locally-rooted crop. Ms. Saori Ogura, a researcher at a university in Canada, conducted fieldwork in Karumai town and other production areas in Japan from 2020 to 2023, and wrote a treatise on farmers who continue to cultivate while respecting the environment and the significance of passing on their practices to the next generation. She emphasizes that millets are one of the keys to solving the food crisis and health problems in this age of various natural disasters and uncertain future prospects. An exhibit will be on display at the university's museum starting on the 22nd of this month, introducing the region and its millet dishes, including Karumai.

Ms. Saori Ogura is from Tokyo, Japan. After graduating from a graduate school in the U.S., she visited the state of Sikkim in the foothills of the Himalayas in India in 2011 and stayed for a year in a village inhabited by the indigenous Lepcha people. In a remote area where there are no paved roads and food cannot be transported by car, I was intrigued by the way of life of people who are self- sufficient while continuing to grow traditional millets. Upon further investigation, we learned that the surrounding farming villages used to produce a wide variety of millets, but since the 1950s, they have been replaced by a single crop (spices) with higher monetary value.



Later, when disease caused a bad harvest, the local economy, which depended on the single crop, was severely weakened. We should reevaluate the wisdom of mankind, which has survived many famines while growing millets, which are known to be adaptable to climate change. The experience of studying in Sikkim led Ms. Saori to visit production areas around the world, including Zimbabwe and Kenya, where she continued her energetic research.

Her research has been published in academic journals.

Ms. Ogura is currently enrolled in the Faculty of Medicine (Ph.D. program) at the University of British Columbia, Canada. The results of the research conducted in Japan at three production sites since 2020 were summarized in a paper titled "The Significance of Millet Cultivation as Traditional Work" and published in an international academic journal in January of this year.

For Iwate Prefecture, the survey focused on Karumai Town and Towa in the city of Hanamaki, noting that "Iwate Prefecture produces the largest amount of millets in Japan and has a long history of cultivation in the colder climate of the lower-mountainous regions. She also visited Shiiba Village in Miyazaki Prefecture, which cultivates its crops using the traditional slash-and-burn method. All of the producers were eager to preserve the local millet cultivation technique by using pesticidefree and other natural farming methods that reduce the burden on the environment. We interviewed the farmers to find out why they attempted to preserve the millet through such labor-intensive tasks as threshing small grains. In Karumai, the group visited Odakawa Farm to experience sowing, harvesting, and threshing. When she saw Mr. Katsuo Odakawa, the representative of the company, working with more than 100 contract farmers to mechanize production and processing, she said, "I felt the passion they have for making this a sustainable local industry while delivering highly nutritious and healthy millets to the rest of the country. Mr. Odakawa also told us that when he was a child, his family raised horses, and he lived in a traditional Nanbu Magariya-style farmhouse (connected to the horse's barn), and that the millet seeds were eaten by people, while the leaves and stems were used to feed the horses. I was impressed by the fact that millets have taken root in the lifestyle and culture of the horse-raising region and have long been a staple part of their diet.

Connecting production areas through social media.

Farmers in various regions continue to cultivate millets with great dedication. However, nationwide production has consistently continued to decline. Even in mountainous regions such as Karumai, farmers are facing challenges such as aging farmers with a lack of successors.

Ms. Ogura feels that there is a sense of impending crisis, saying, "The cultivation methods and wisdom of living in harmony with nature passed down from our ancestors will shortly disappear unless we pass them on to the next generation." In addition to the millet farmers at the three sites surveyed, family members and local youth were interviewed, and the video footage was attached to the paper. Based on the content of the report, she pointed out that "millets have long been associated with the image of a poor crop, but nowadays their appeal has risen somewhat, and they are favored by people of all ages as a healthy food with excellent functionality.

Despite the decline in millet farming, Ms. Ogura remains enthusiastic, saying, "In the future, I would like to make use of the results of my research and play a role in connecting young people who are interested in millets to the production centers."

Last spring, in collaboration with university faculty members, she launched a project to exchange information with people around the world who continue to produce millets by connecting them through social media. As part of a project, starting on the 22nd of this month, a photo exhibition will be held at the university's Beaty Biodiversity Museum in Vancouver until January of next year to raise awareness about the appeal of millets. Along with photos taken by Ms. Ogura and others of production areas around the world, the diverse millet dishes published on this SNS are conveyed through illustrations and recipes. From the town of Karumai, Oshimizu Ryokan will also cooperate in the preparation and cooking and will introduce recipes that can be easily achieved using sorghum. Ms. Ogura also visited the town on April 18, and expressed her gratitude to Mr. Odakawa for his cooperation in her research so far. In preparation for the photo exhibition, she stressed that she hopes many people will become familiar with millets.



The video of Ms. Ogura's interviews with domestic producers is available on YouTube through this QR code.

Shouhei Sato also wrote a column about Saori's work and it's impact on the Iwate farming community called "Connecting Millets to the Future" on Friday, May 31st.



We want the millets, that have sustained human life since ancient times, to not just continue but thrive in the future. The article was published on the 19th, covering Ms. Saori Ogura, who researches millets from the viewpoint of its coexistence with nature and society. Ms. Ogura interviewed people involved in the millet production areas of Iwate and Miyazaki prefectures and asked them what they thought about continuing such labor-intensive work such as threshing. The video was shown on the web, and it was impressive to see several farmers talking about the traditional work passed down from their ancestors and their shared sense of the mission to not let the native seeds die out.

The farmers of Karumai town had respect and gratitude for their predecessors who overcame famine in the Edo period by cultivating millets. At a time when the future is uncertain due to a series of abnormal weather events, it is also important to consider the significance of growing a variety of crops from the perspective of guaranteeing food safety.

In the past, millets tended to have the image of being a simple grain for the lower classes, but recently, with the rise in health consciousness, there is a movement among the younger generation to take an interest in them as a food with excellent functionality. Also, buy millets products from Karumai producers, as they are diverse in their usage, such as the type that can be mixed with rice and cooked or used in cereals.

In this age of changing perceptions, I would like to savor the taste of millets, which are being reevaluated.



Hiroko Takaya-Pascal



Why millet? Planting millet connects people together and I've met so many amazing people. With the ever-changing environment and weather I was lucky to meet Saori and start planting millet for food security and sustainability. Just as the ancient grain, myself and friends learn to slow down to process millet and enjoy such a nutritious grain. I will keep growing millet with trial and error to save seeds to keep planting millet.



Hello, my name is Hiroko. I am a mother of two teenaged boys, a gardener, a beekeper, and a basket-weaver. I really enjoy planting food to grow, harvest, process, and eat with family and friends while I learn to sustain my own food.





100-Mile Millet Meal



The 100-Mile Diet, popularized by J.B. MacKinnon's book of the same name, is a way of eating where one only consumes that which is grown or produced within 100 miles of one's home. It is a way of reducing your carbon footprint and supporting local farmers. It can also have health benefits by restricting the amount of processed foods you eat.

Ingredients
Millet
Nettle
Salmon
Spices of your choice

Wash the millet 5-6 times until the water runs clear. Soak the millet in 3 cups of water for at least an hour. Strain the millet and place it in a deep pot with 2.5 cups of water and a pinch of salt. Bring to a boil, then set heat to low and simmer, covering with a lid. Let simmer for about 15 minutes, then turn heat off and let stand for 5 minutes. Fluff with fork and serve.

Preheat oven to 400°F. Arrange salmon fillets on a baking sheet and season with salt and pepper. Mix together olive oil, minced garlic, parsley, and lemon juice in a small bowl. Coat salmon in the dressing. Bake for 12-15 minutes or until salmon is flaky when pulled apart with fork.

Boil the nettles for 1-2 minutes until wilting and stingers are tamed. Strain and cut off the larger stems.

This recipe is very loose, so feel free to add your own spin on it! The important aspect of this recipe is that the ingredients should be produced no more than 100 miles from where you eat it. You can find locally-sourced ingredients from farmers markets and organic produce stores.



Why millet? The benefits of millet to food security, agribiodiversity and culture far exceeds what we know about these food plants. In the face of climate change, conservation of their genetic diversity is critical. Through global stories of millet stewardship we are growing and adapting from the ground up.



Saori and Tara with newly transplanted foxtail millet.





Kai, Dane, and Derek harvesting millet from the UBC Botanical Garden.

The millet booth at the UBC Botanical Garden.







Saori and Derek at the UBC Botanical Garden.

Peanut Butter Chocolate Millet Balls

Ingredients

Neutral/coconut oil 1/2 tsp
Uncooked millet 1/2 cup
Peanut butter (or tahini) 2/3 cup
Powdered sugar 1/4 cup
Flour 2 tbsp
Vanilla extract 2 tsp
Chocolate chips 1/2 cup

In a medium bowl, mix peanut butter, sugar, flour, and vanilla into a stiff dough.

In a small pan, heat the oil over medium.

Toast the millet until it smells toasted and

looks golden, ~5 minutes. Set aside to cool.

Stir in the toasted millet. If needed, add a bit more flour (think playdough texture).



Use a cookie scoop to make even sized balls about the size of a walnut. Roll them and place them on a plate or pan that can fit in your fridge.

Put in the fridge to cool and set up. While they cool, melt the chocolate. Let the chocolate cool slightly, then drizzle or dollop on top of each ball. Put in the fridge to set up – they can be kept in the fridge or freezer in an airtight container. Best when cold.





Saori Ogura is a PhD Student in Rehabilitation Sciences at the University of British Columbia (UBC), Canada. Collaborating with Indigenous and local communities in the Eastern Himalaya, Zimbabwe, Kenya, Canada, and Japan, her passion is to revitalize nutritious and climate-resilient small grains, which controbutes to the well-being of people and the land, food security and improving community resilience. As an artist, she uses arts-based methods, incorperating photography, drawings, and documentary films into her research. She is a UBC Public Scholar and a Student Fellow for Climate & Nature Emergency, as well as a certified forest medical trainer from Japan. She was the recipient of the 2017 Nikon Salon Miki Jun Inspiration Award for her photojournalism project documenting her time living in Sikkim and Candra de la contra la con Darjeeling in India's Eastern Himalaya.



For more information on Saori's work, please visit her website.