Faces of Organic Cotton



Faces of Organic Cotton SysCom India





Faces of Organic Cotton

The "Faces of Organic Cotton" series introduces eleven personalities involved in organic cotton in the Nimar valley of India. Their stories, experiences, struggles and motivations are presented in their words. The series was born out of a collaboration between farmers and scientists working together as a team on organic cotton in the SysCom India project. Visiting researchers were struck by the conviction the local farmers felt for organic agriculture, the lengths they had gone to practice it, and how central it had become to their daily lives.

The SysCom program has been running since 2007 in India, Kenya, and Bolivia and was founded by the Research Institute of Organic Agriculture FiBL and local partners. The program aims to provide longterm data comparing organic and conventional farming systems in the tropics to local farmers, governments, and the international community. The teams organise farmer groups, workshops, and field trips to share the results of the trials.

Local partners play a critical role in organising, running, and disseminating the results of the trials and create an enabling environment for organic cotton producers. Remei India Ltd. practices fair trading of raw material with its registered organic farmers with purchase guarantee and premium. Through its local partner bioRe Association, the bioRe Foundation promotes sustainable improvement of the living conditions of cotton farmer communities.

Manjula Patel Organic cotton farmer

Manjula Patel is 40 years old. She and her husband Mansingh Narayan live in Satrati. They have participated in SysCom's on-farm research since 2015 and have been registered organic cotton farmers with Remei India Ltd. since 2013.



"My husband and I take all decisions

about the farm together."

"I have to sit a bit away from the door. You know, it is the village custom. I am a married lady and shouldn't be seen by people older than me. I shouldn't make eye contact. I would like to change that, but some things are hard to change. Customs make an integral part of our culture, but they also make life tough sometimes.

I was keen on getting a higher education as a young girl. I went to school for four years. I was always the best of my class, I am still proud of that. But when it was time to move on to highschool, my grandmother wouldn't allow it. And the school was far away. The boys were sent to school – not me. I went to the sewing centre in my village and later on I could train other women in sewing. That was until I got married. It wasn't always easy. Initially my husband had to work in a textile factory. It was tough work; operating the loud machineries, working all day long in the hot, stuffy factory halls.

Now we are managing the farm together. He inherited the land from his parents. My husband and I take all decisions about the farm and finances together. We supervise the field workers together, him the men and me the women workers. We are about to start harvesting the cotton. It is still hard work on the farm. But we decide ourselves how we want to work.

The farm is going well and we are able to send our kids to school and college. We are now also part of a farmer research program of the SysCom project. Together with the research team, we try out innovations in our fields, some of which we can adopt later on to further improve our organic cotton production. I want to continue learning, I want to learn embroidery and knitting. And I want to see things change. And they do, slowly but surely. It makes me happy to see the little girls in our village going to school. My conviction is that both men and women should be treated equally and be granted the same opportunities."



Mahendra Singh Mandloi Organic cotton farmer

Mahendra Singh Mandloi, 42 years old, and his daugther Janvi, 16 years old, live in Chhoti Kasrawad. Mahendra has participated in SysCom's on-farm research and has been a registered organic cotton farmer with Remei India Ltd. since 2021.



"I tried organic for a year – without telling anyone." "Organic farming changed more than just my way of farming. I want to take care of the beings that surround us. I wasn't like this before. When it gets very hot and dry, wild deer or other animals come and destroy the irrigation hose. Some farmers chase them away; others even put poison out there to get rid of them – when all the animals want is water. So I started putting buckets of water next to my field so that they can drink water there – little things like that. But with all these little things, organic agriculture has transformed my entire life.

And it's only been three years since I started with organic farming. Through a government program, I have learned the techniques, how to take care of the soil, how to prepare botanical extracts to protect the plants against pests. At first, I was quite sceptical about it, so I tried it on one acre of my land. Without telling anyone in my family about it. I didn't want to make them uneasy with me trying out crazy things that wouldn't work out – but it worked. At the end of this year, the harvest was good. I was making more money on the organic field compared to the other conventional fields, because I saved a lot of money on the inputs. I told my family about it, and since then, everybody supports organic.

On my seven acre farm, I am growing a wide range of crops like cotton, sorghum, and groundnut as well as medicinal plants and spices. Participating in the SysCom trails has definitely helped me a lot. Every year on some parts of my fields we try out new techniques together with the SysCom team. Exchanging with the experts brings a lot of benefits to my farming.

I am proud of what I have achieved in farming – but the light of my life is my family: my wife, our two daughters and one son. My oldest daughter studies very hard, she is the best in her class. Her favourite subject is math, she wants to study engineering or mathematics in college. I am very proud of her and believe she can achieve all of her dreams."



Vasudev Bajad Ginning and cotton purchase manager

Vasudev Bajad is 60 years old and lives in Kasrawad. He works at an organic cotton ginning and pressing facility of Remei India Ltd. since 27 years.



"I hope more people start to see that organic agriculture

needs to be our future."

"Ever wondered how the fruit of a cotton plant becomes your t-shirt? You are at the right place. Here is where the first steps happen. When the cotton arrives, the first thing we do is test for contamination with genetically modified cotton. Any contaminated batches are removed. Then we separate the different qualities. Not all cotton can meet the highest quality standards. Then we separate the cotton lint from the seeds in our ginnery, clean the lint and press it into bales. In the end, you get two bales of lint out of one ton of picked cotton. You would imagine lint bales to be fluffy and light but one bale weighs 165 kilograms and is as hard as a brick.

Originally, I am from Punjab. I worked at a ginnery there and my boss liked my work, so when a new ginnery here in Madhya Pradesh opened he recommended me as head of production. I took the opportunity and moved, more than 1,000 km from where I grew up. Initially I felt lonely here and wanted to go back. The language barrier was a problem for me, but I learned the local language with time, and I feel at home here now. We grew our family here, our friends are here, and I got some land of my own where I practice organic farming growing rice, wheat and maize.

When I moved here, I thought organic agriculture was an outdated and backward way of farming. But I learnt to love the land here, where the air is fresh and organic agriculture is strong. In contrast, in Punjab, the green revolution was very successful: production is high, the land is worked with tractors and farmers use all kinds of chemical inputs. But I feel the air is polluted, soils are degrading and the water levels are going down. I hope people start to see how organic agriculture is better for the environment, how it improves once degraded soils, how it is beneficial for insects and better for the human health. I hope more people start to see that organic needs to be our future."



Subhadra Fagna Weaver

Subhadra Fagna is 35 years old and lives in Mandleshwar. She works at the Aavran Handloom Society, which is a livelihood project of bioRe India Association.



"That's my favourite part:

learning new patterns."

"I am a weaver. It's more than a job. It is who I am. I love the artistic part of it. The colours, the precision, blending the threads together, to create a pattern. I learned weaving right after school in a special training centre, but I couldn't find a good job as a weaver so I worked on the fields. Twelve years ago, I found this job.

We only work with organic cotton and the colours are coming from natural dyes – you can feel it, and it's good for your skin, so I really enjoy what we are creating here. We use hand looms instead of big machines. You can tell the difference: the fabrics that we weave by hand are way more robust. And more costly, but I think people appreciate our products out there. Most of our scarfs, rugs or fabrics are sold in Delhi and Switzerland. At the beginning of Covid, bulk orders were going down, but now we are already more at ease.

I am happy here; it is a small place and our working atmosphere is really nice. My favourite part is learning new patterns. At the moment, my favorite design is gold and flowers. Normally we can weave about eight metres per day, but of course, the more complex a pattern is, the longer it takes. Art takes time.

At heart, I am an artist. When I was younger, I was also dancing a lot. It is a special traditional dance here from the region, the Nimar dance. It's a group dance and we performed a lot. I also passed this on to my two children. They have even performed in Europe! My husband supports them, just as he was supporting me when I was dancing and he gives me full freedom. I appreciate this a lot, it is not something you can take for granted.

Who knows, one day, I might be able to create my own small brand. With the support of my family, I could buy a handloom and start producing scarves at home. Because if you have a will, a strong desire in your heart to do something, you should go for it. No one can stop you."



Surendra Singh Mandloi Organic cotton farmer

Surendra Singh Mandloi is 65 years old and lives in Amlatha. His phosphorus processing technique was scientifically published by his son, Lokendra Singh Mandloi, and FiBL researchers. He is participating in SysCom's on-farm research since 2013 and is a member of the farmer advisory committee. He has been a registered organic cotton farmer with Remei India Ltd. since 1993.



"My initial idea was right; the researchers have

proven it."

"The plan has been all laid out. Everything set for the next research season. Right before the trials began, researchers came to talk to me. What I told them made them change their plan all over.

The researchers have been looking for new ways to supply the cotton plant with the nutrients it needs. This is not an easy thing in organic agriculture, where you feed the soil and the soil feeds your plants. It's the natural way. But some nutrients can get stuck in the soil. Phosphorus can be especially difficult; It is one of the key nutrients, and back then, you could really see that the cotton bolls of organic farmers were meagre because of the lack of phosphorus.

So one time when I added some phosphorus to my soil I mixed it beforehand with buttermilk. And it turned out that my plants were looking much better. When the researchers learned about my experience, they set up a new trial plan for the season. I learned that the acid parts of the buttermilk can dissolve some of the phosphorus in the soil so that the plants can reach it easily. So there were experiments running for some years on different farmers' fields to test the idea under a variety of conditions. Until the scientists and us, farmers were sure.

My initial idea was right. The researchers have proven and refined it to make it work for all farmers. It works with vinegar too, for example. It's important to develop solutions with local ingredients. You can do it yourself instead of paying a lot of money for synthetic inputs.

But there remain challenges. That was why I told my son when he studied agriculture that he should use his knowledge to help us farmers. And I am glad he did. Just like I had followed my father's advice after my studies to become a farmer and to serve the people by creating jobs and opportunities for those in need. Because we need to take care of things, we need to take care of our fellow human beings and of mother nature."



Lokendra Singh Mandloi Assistant project coordinator

Lokendra Singh Mandloi is 41 years old and lives in Amlatha. He contributed to the research published in the Synthesis Report of SysCom. He co-authored the leaflet series, "Preparation and Application of self-made organic pest control products". He and his father are participating in SysCom's on-farm research since 2013. Today he works in the extension service for farmers with Remei India Ltd.



"I believe in the future

of organic agriculture."

"When I submitted my bachelor 's thesis in agricultural science, my professor asked me: "What do you want to do in life? What will be your next step?" he, like everybody else, expected me to go and work for one of those big agricultural companies – but that wasn't for me. I told him, "I want to help farmers and work in organic agriculture". And that's what I did.

I went back home and joined the newly established research program SysCom. That was some 12 years back. I loved working in research, directly working on solutions for farmers' most pressing problems. In SysCom, researchers from abroad, just like students from Indian and European universities, come and work with our local research team. I also got to travel abroad and see organic agricultural innovations in South America, Africa, and Europe. I loved the exchange with people from all over the world, and we learned much from each other.

I love working in organic agriculture; it is very important to me. My grandfather started the work on organic agriculture, he sowed the seed for our family. My father carried this on, and his beliefs and experiences in organic agriculture inspire farmers and researchers alike. He has been the director of the farmers' association for over 15 years and his ideas have contributed to some major breakthroughs in our research. He has this very strong sense of interconnectedness between nature, humans, and the universe. I think that is where he gets his strength and inspiration.

I grew up helping on our farm, so I am also an organic farmer myself. I believe in the future of organic agriculture: all farmers and researchers need to join hands and find solutions that benefit humankind and mother nature."



Salita Bhaware Organic cotton farmer

Salita Bhaware is 32 years old and lives in Kakadkhodri. She and her husband, Jitendra Nankiya, have been registered organic cotton farmers with Remei India Ltd. since 2015.



"I will carry on – despite

the hardships."

"These days it's tough. The harvest, the house, the kid's school, the weather – everything seems to be hard on me these days.

On our two-acre farm, my husband and I are growing mostly organic cotton. It has been going fine, I wouldn't say great, but we were making a living. But lately, the harvest has been decreasing. While others seem to be doing fine, we are having bad luck. This year is specially bad for everyone. The rains have been scarce during the growing period and are coming now, when we are just about to start the cotton harvest. When it rains, the cotton bolls start rotting on the plant. It's hard to watch your income rotting away in the field.

We grow everything we need for our own food: soybean, chickpea, wheat, maize, vegetables, onions, okra, and chilli. What we don't eat ourselves, we sell at the local market. But cotton is still our main source of income. The plan is to save money to renovate our house. We have a leaking spot in the roof. We already save money towards a good education for our oldest son in the future. Our two sons go to a government school, but it hasn't been running properly ever since the pandemic started. The teachers don't show up.

With all this work, like farming, working for other people on their farms, taking care of the kids, cooking, and getting water, I sometimes feel tired and weak. It would be nice if life would take it easy on me sometimes. But I will carry on – despite these hardships.

But there are also nice things, you know. For the farm, I have high hopes in Remei India Ltd., the organisation that supports us and buys our organic cotton. And for me, maybe I can learn how to sew so that we can make some extra income through that. A festival is coming up, we will eat once a day only, sing with our neighbours and I get to dance. I'm looking forward to that. Now, would you like to stay for dinner? I will grill you some fresh corn from my field."



Monika Madhusudan Kanungo Head of laboratory

Monika Madhusudan Kanungo is 25 years old and lives in Khargone. She works in a laboratory of Remei India Ltd. since 2018 to ensure non-genetically modified seed production. She also assists in the soil testing lab for SysCom.



"It turned out to be the right choice."

"In this lab, we test if organic cotton comes from a genetically modified organism (GMO) or not. We test the leaves of the plant during the growing season. During harvest times, we test the cotton fibres directly. In organic farming, you are not allowed to use genetically modified seeds, and farmers know it. But all, really all the conventional farmers here use GMO cotton seeds. By accident, their seeds or genetic material can get into the neighboring fields of organic farmers. And as organic cotton has to be free from GMOs, this is actually quite a big problem for organic farmers. The cotton of each of the more than 3,000 organic cotton farmers in this region has to pass this test. So you can tell, it is quite a lot of work.

I am the head of the lab here. I grew to love this job. Initially, this wasn't really my dream job. I studied biotechnology and wanted to work in a lab, yes, but rather a medicinal lab doing blood testing. I hadn't thought about crops or cotton. But I wanted to live close to my family and this region is very rural, so there are not really a lot of lab jobs around. At that time BioRe was looking for someone, so I took the job. And it turned out to be the right choice. Cotton started fascinating me, the interactions of the seeds, soil, and environment.

I also got interested in organic farming. My grandparents were farmers and ever since they retired their land was not used any longer, as both of my parents have office jobs. The more I learned about organic farming, the more I wanted to try it myself. So I started my own small farm on the fields of my grandparents.

Now it has grown to be a family project; my grandparents give their advice, they still know a lot about farming, and I can bring in new knowhow about organic farming. And even my parents started helping on the fields and enjoy the food that I grow there. On these fields I also grow cotton – one hundred per cent organic with no contamination."



Ajodhya Bai Organic cotton farmer

Ajodhya Bai is 55 years old and lives in Kakwada. She has been a registered organic farmer with Remei India Ltd. since 2004.



"I take all major decisions for our family." "Right before I got married, I got these tattoos on my hands and face. People would get different tattoos depending on where they come from. That way, one could never get lost. But nowadays you don't do that any longer. A lot of things have changed.

I have been married to my husband for more than 30 years. I never went to school, neither did he. Those things were not important back then. Ever since my husband died, I am the oldest of our family. My children and grandchildren consult me for all major decisions that need to be taken – whether it be which crops we sow this season or whether we buy a new television. We are now a family of 20 in our home, including my husband's relatives and the families of my three sons. My two daughters live with their husbands.

I am too old to work on the fields anymore. But I still go there every day and check whether the crops are healthy. I am part of a woman's group preparing organic inputs. In farming, some are women's tasks, and some are men's. Women do sowing, weeding, and picking of cotton, whereas men work with animals to plough the soil.

Altogether we have 25 acres of land. We lost some land to a dam, but got compensation from the government and we could build irrigation facilities. That way, we can produce more crops also during the dry season. Half of the crops we use for our own consumption, the other half we sell. We send some of that money to my grandchildren who went to cities to study. I hope when they finish studying and get a good job, they can send money back home, so that we can renovate our house or even get a car.

I am glad that they study, as these things are important now. But I am also really proud that one of my grandsons will continue farming. Because we have been doing organic farming for the last 25 years. This is our home. Some things have not changed – and will not change."



Kamal Chand Namdev Organic cotton farmer

Kamal Chand Namdev is 65 years old and lives in Dogawa. He is participating in SysCom's on-farm research since 2014. He has been a registered organic cotton farmer with Remei India Ltd. since 2013.



"I had this dream of the farm

providing for me."

"Everyone told me to sell the farm, take the money and try my luck elsewhere. Anyway, it wouldn't work – me trying to run the farm.

After my father died when I was ten years old, my mother could not make ends meet and had to give me to my uncle. You might say he was providing me a home. That was in exchange for my work. I was working in his tea stall. Making snacks and tea, serving his customers. Those were long, tiring days. I struggled a lot.

But I had this dream. This dream of the farm providing for me, building a real home, growing my own big family. So, I kept the land, even tough I was too young by the time my father died, to already have learned the principles of farming. But when I married my wife, that was when things finally started to change for me. I got a lot of help on the farm from her father and brother-in-law. I started to learn from everyone: from my brother-in-law, neighbours, and the workers on the fields. I started to learn new ways of farming.

Fifteen years ago, I switched to organic farming. Nowadays, when conventional farmers visit my fields, they are so impressed, they become tempted to convert to organic farming. The yields of conventional fields with genetically modified cotton are going down here. So, farmers start looking for alternatives. Some become interested in organic farming, some want to drop cotton production, and others want to leave farming altogether. They always ask me what my secret to success in farming is. You might say it is the quality of my compost and manure. But I believe it is hard work and honesty. And faith – faith in gods, in their goodwill, and faith in myself.

But in some way, they were right, those people all those years ago telling me I can't do it by myself: I wouldn't have been able to run the farm on my own. Only with the support and love of my wife, her family, and finally our own kids were we able to make this dream come true."



Anita Chouhan Schoolgirl

Anita Chouhan is 7 years old. She attends one of the animation schools of bioRe India Association.

"Today was the first day of school, real school in the classroom. I am very excited about going back to school. We did not go there for a long time because of the coronavirus. Now school is always from 9 to 2 pm.

Our teacher is nice; he also came to our house when we could not go to school. He came every day and we would sit outside, and he would teach us some things. Sometimes Hindi, sometimes English, sometimes Geography. I like Geography.

After school, I go home and eat what my mother has prepared for me. My favourite food is chicken. My parents come home only later because they have to work. Sometimes they work in other people's fields.

We also have a field, so sometimes my parents work there. We grow cotton and soybeans.

We also have cows. I take care of the cows and take them for grazing when I come home after school. Then I do homework. I have one brother and one sister. They are older than me so they already go to another school. It is a bit farther away than my school. I can walk to my school. It is very short, and I always go with my friend. Her house is next to my house. Her name is Rojni."







Cotton farming in India

Common grounds and differences of conventional and organic farmers in Nimar valley

Family and farm structure

Conventional and organic cotton farmers have similar family and farm structures.

together.



6 family members per household on average Up to four generations are living

Main challenges

farming challenges.

Climate change

Conventional and organic cotton farmers face similar

Changing rainfall patterns are leading to droughts during the sowing period and heavy rainfalls during harvest, resulting in yield losses.



3 hectares of land on average

It is common to use oxen and buffaloes as well as tractors to farm the land.



Pests

Pests such as bollworms are major challenges for both conventional and organic farmers.

Conventional farmers

Now Production Input Easy Time

AR

The five most common terms farmers mention when asked about their motivation to farm conventionally.



20%

of the conventional farmers say that their farming practice has improved the soil quality.

>R K

Buy synthetic pesticides to fight off pests and

diseases.

Nearly all conventional farmers use genetically modified cotton seeds.



Simple crop rotations

Conventional farmers often have a lower diversity on their farms. They are not required to diversify their crop rotation, so farmers often grow cotton followed by wheat and in the next year cotton again.

Organic farmers



The five most common terms farmers mention when asked about their motivation to farm organically.



of the organic farmers say that their farming practice has improved the soil quality.



Produce home made plant mixtures to fight off pests and

diseases.

Genetically modified seeds are not allowed in organic farming.



Organic farmers often have higher diversity on their farms. They diversify their fields through crop rotations, growing different crops in the same field after cotton, for example chickpea, soybean and wheat, and through intercropping.

SysCom India Improving smallholder cotton production through collaborative research

Organic cotton production has many benefits for humans and the environment. At the same time, it is criticised because its yields are often lower than in conventional production.

To provide scientific evidence on the performance of organic and conventional cotton production, the long-term system comparison trial (SysCom) was established in 2007 in India by the Research Institute of Organic Agriculture FiBL in collaboration with the organic cotton trading and development organisations bioRe/Remei.bioRe/Remei work with some 3,000 small and medium size organic farmers to produce and trade organic cotton. In SysCom, not just the yield is assessed but also the impact of the different production systems on biodiversity, soil fertility, water usage, and farmers' income.

Every year, around 900 Indian cotton farmers visit the SysCom long-term trial in India to learn how organic and conventional farming methods differ. To help smallholder farmers improve their yield, the SysCom team works on optimising organic cotton production. Farmers set up trial fields on their farms, exchange knowledge at workshops and implement new cultivation techniques.

By working closely together with farmers, solutions are found and shared, to help farmers cope with pests, climate change, and income volatility.



Why organic cotton matters

Conventional cotton production is highly intensive: 5% of pesticides and 10% of all insecticides globally are used in conventional cotton, although it is only grown on 2.4% of the world's agricultural land, according to the Pesticide Action Network. Conventional cotton production is also highly reliant on genetically modified seeds: Almost 80% of the cotton production uses genetically modified seeds, according to the platform Transparenz Gentechnik. Since 2007, India has ranked second among cotton-producing countries. Genetically modified cotton, synthetic fertilisers, pesticides, and irrigation have led to yield improvements in the last few decades. However, this was achieved at the cost of environmental pollution and declining soil fertility.

On the other hand, organic cotton production is a resource-efficient production system. Producers do not use synthetic fertilisers, pesticides, or genetically modified seeds. It enables an environmentally friendly system safe for farmers and their families that reduces the dependence of smallholder farmers on expensive agrochemical inputs. In combination with fair trade, organic production can contribute to improving income and rural development.

In recent years, the global demand for organic cotton has increased; for example, the Swiss fashion label Coop Naturaline, the textile company Remei and other global players in the textile industry are supporting organic cotton to improve the sustainability of their value chains and satisfy the demands of customers.

India 2019/20 Organic cotton production



Organic farmers



Organic certified land





Share of global organic cotton production



2.0%

of India's cotton is organic

SysCom is supported by

Biovision: biovision.ch Liechtenstein Development Service LED: led.li Coop Sustainability Fund: actions-not-words.ch Swiss Agency for Development and Cooperation SDC: eda.admin.ch







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SysCom India Partners bioRe Foundation: biore-stiftung.ch/en Remei India Ltd: remei-india.com bioRe India Association: bioreassociation.org







About SysCom India

systems-comparison.fibl.org >Project Sites > India

Information and references

Subhadra Fagna works at: aavranhandlooms.com

Surendra Singh Mandloi's phosphorus processing technique is scientifically published in: mdpi.com/2071-1050/12/2/607

Lokendra Singh Mandloi contributed to the research published in the Synthesis Report: systems-comparison.fibl.org > Results > Synthesis.

He co-authored a leaflet series: systems-comparison.fibl.org

> Results > Publications > Leaflets and brochures > Preparation and Application of self-made organic pest control products

Monika Madhusudan Kanungo works in a Digital ELISA lab: remei-india.com > Research > Research and development

Anita Chouhan attends an animation school of bioRe India Association: biore-stiftung.ch > Projects > Eucation

The figures in "Why organic cotton matters" are taken from: textileexchange.org > Industry Tools > Market Reports > Organic Cotton Market Report

The infograph "Cotton farming in India" is based on a survey of 90 farmers in 27 villages of the Nimar Valley in India by SysCom in 2020/21

Thanks

The series "Faces of Organic Cotton" would not have been possible without the help of the SysCom India research team namely (from left to right): Ranjeeta Burman, Bhupendra Singh Sisodia, Dharmendra Patel, Ishwar Patidar, Kamlesh Sharma, Sawan Kushan, Manish SinghChouhan, and Sandhiya Jiiju.



Imprint

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