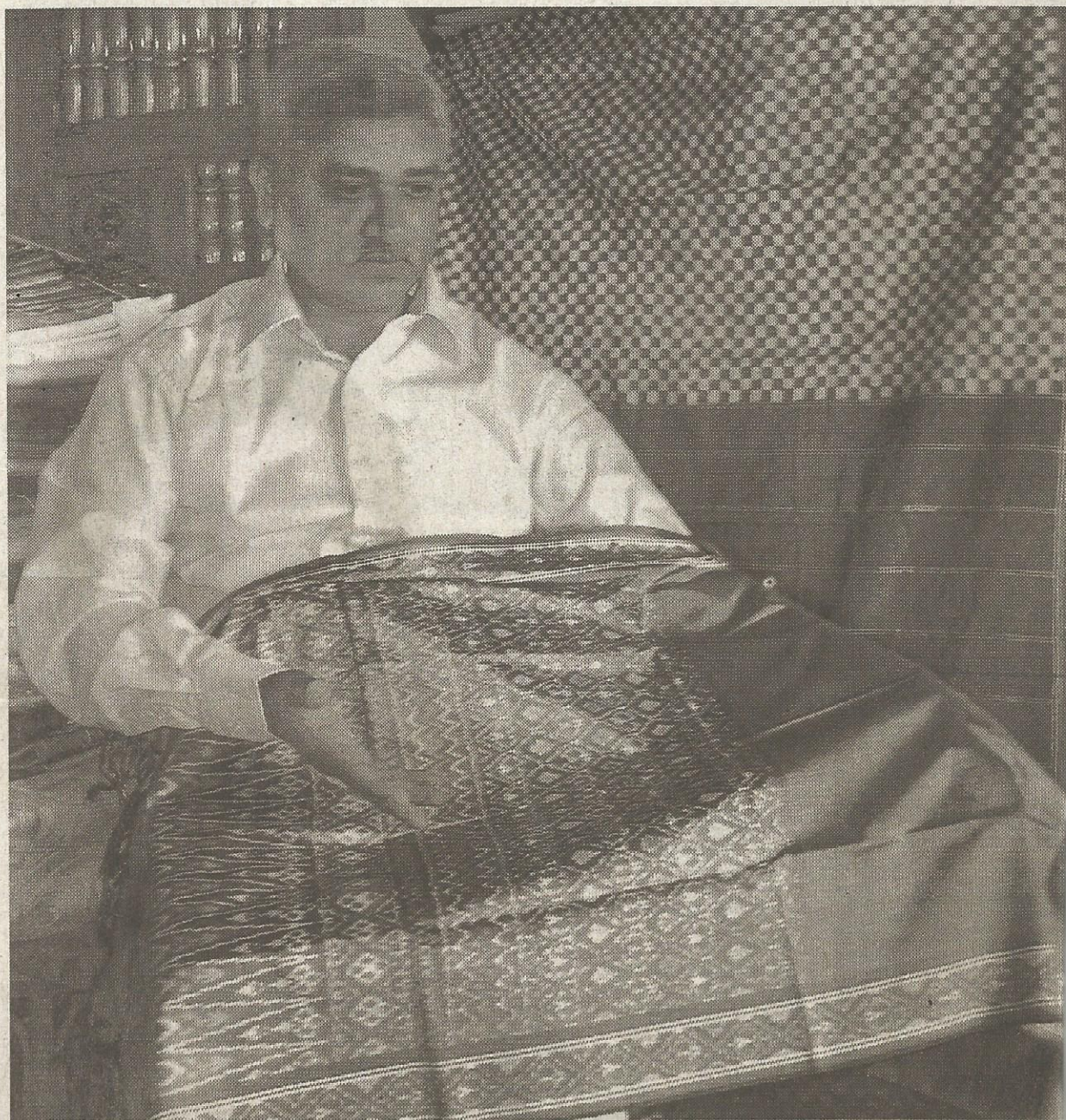




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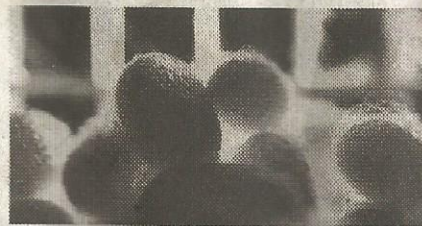




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produce yarns from cocoons after the worm bursts out takes to flight or its new wings. The wait is worth it as I can produce silk without murder on my fingers:

—KUSUMA RAJAI AH



Being eco-friendly is definitely one of the biggest fashion statements of the season. But how many of us are aware that a silk saree is worn at the price of the lives of 50,000 silk worms? **Varsha Bansal** has a chat with **Kusuma Rajaiah**, procurement officer in APCO, who has managed to make silk without harming silkworms

# Silk for the eco-friendly ilk

Well, spinning was the most major problem I came across. But currently I have weavers in places like Nalgonda and Anantapur who are working that side of the production process. My intention was to provide the public with a fine product

—KUSUMA RAJAI AH



BACK in early 1990's, Janaki Venkatraman, the wife of former President, R Venkatraman visited Hyderabad. When she was shown the shimmery, beautiful silk sarees in the city she requested to be shown an eco-friendly fabric, one that didn't involve killing silkworms. This is when the fire was ignited in Kusuma Rajaiah's mind, and he began to research and develop an eco-friendly version of the luxe fabric, giving birth to Ahimsa silk. The process was successful in 1991 for the first time in the world, and after prolonged research, ahimsa silk was made marketable in 2001.

Also known as peace silk, this form of silk was a dream of the Mahatma. "The name has been inspired by Gandhian principles. Ahimsa means non-violence, which was one of his prominent ideals.

It was his message to the silk industry to produce silk without killing worms. I am happy to have fulfilled this one little thing," says Rajaiah. When asked about the problems he faced in the course of his research, Rajaiah added, "Well, spinning was the most major problem I came across. But currently I

Rajaiah currently exports Ahimsa silk to Australia and several European countries

have weavers in places like Nalgonda and Anantapur who are working that side of the production process. My intention was to provide the public with a fine product."

When asked about the difference between regular silk and Ahimsa silk, Rajaiah, very enthusiastically explains, "Regular silk is made by placing the cocoons in hot water, which kills the worms inside and doesn't give them a chance to turn into a butterfly.

I produce yarns from cocoons after the worm bursts out takes to flight on its new wings. The wait is worth it as I can produce silk without murder on my fingers." This eco-friendly, animal saver silk may lack the shine of regular silk, but it is a lot more comfortable, wrinkle-free and drapes better. And, like Rajaiah says, you won't have murder on your fingers!

vel ?

it's ubiquity is



We believe the online campaign will have a major impact as more



# Handicrafts corporation to promote 'ahimsa silk'

BY A STAFF REPORTER  
reporters@gomantaktimes.com

**PANJIM:** The Goa Handicraft and Rural Small Scale Industries Corporation (GHRSSIDC) is now mulling to take upon itself the promotion of Ahimsa silk that is non-violent and eco friendly. On Gandhi Jayanti October 2, which is also celebrated as World Ahimsa Day,

in association with "Vasco Watch" newspaper," stated Salgaonkar.

The event will include celebrated designer, Wendell Rodricks, Verma D'Mello and others, besides, students from the Goa College of Art, Goa College of Home Science and Polytechnic Goa. "We had circulated this fabric to

these students and have told them to make any product out of it," informed Nikhil Dessai, MD of GHRSSIDC.

He also mentioned that this exhibition is a means to test the response for this fabric in the state. "We will definitely encourage artistes to come up with the products," added Desai.

## SMOOTH AS SILK

### Peace of silk

the corporation will host an exhibition till October 4 at ESG Art Gallery, Panjim to display the products.

Speaking at the press briefing, Sameer Salgaonkar, Chairman of GHRSSIDC revealed that the exhibition would feature various products made out of Ahimsa silk by Goan designers along with the students of varied colleges of Goa. "This is a 'Peace of Silk' event that would be inaugurated by Chief Minister, Digmabar Kamat on October 2 at 10.30 am. It is organised

Ahimsa which means 'Non-violence' is used to describe fabric because it is manufactured in a process where silkworms are not killed. The technique was devised by Kusuma Rajaiah, a technocrat in handloom technology and with 25 years experience in this industry.

In the production of regular silk, the cocoons are immersed in boiling water to kill the worms and spool the silk yarn. With ahimsa silk, however, cocoons are left alone for

seven to 10 days. Once the worms mature, they are allowed to pierce the cocoons and fly away as moths. Only then does the manufacture of peace silk begin. Each cocoon is checked individually to ensure that the moth has escaped before the silk thread is spun.

Ahimsa silk is promoted as having the popular properties of regular silk. Even though it is slightly less lustrous, it is even softer to the touch. Currently, it remains a niche product due to its higher price range.



**BUZZ**  
ALBUM

THE NAVHIND TIMES  
SATURDAY OCTOBER 3, 2009

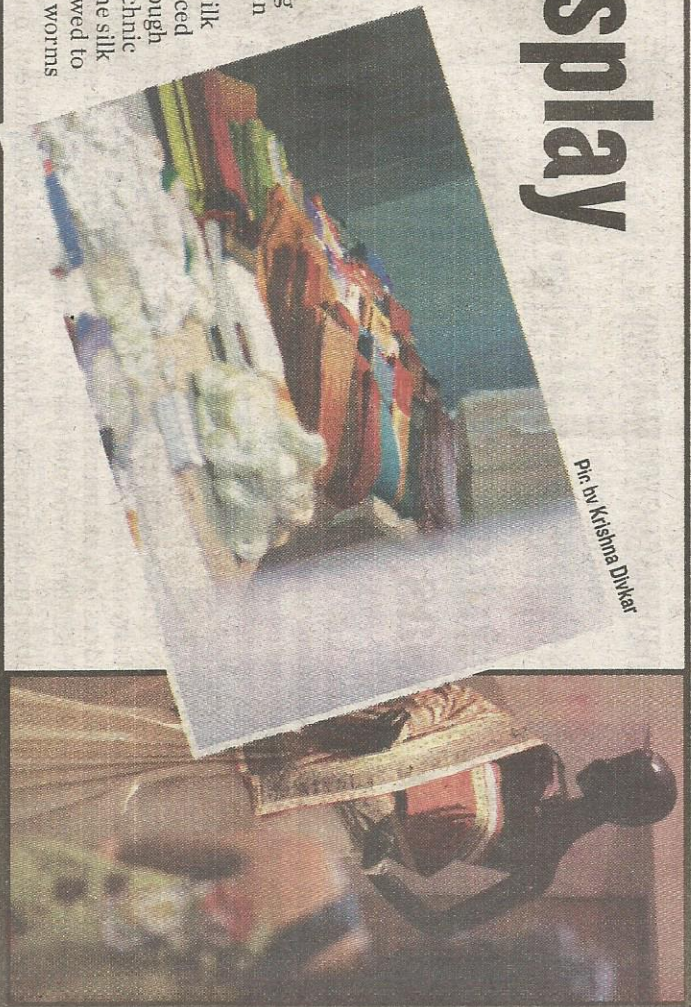
**79**

# Ahimsa Silk on display at the ESG

NT NETWORK

The Goa Handicrafts Rural and Small Scale Industries together with Vasco Watch, a local area free publication that is completing ten years and Kalpana have organised an Ahimsa Silk exhibition at the ESG Art Gallery from October 2 to 4.

The exhibition will promote 'ahimsa silk', a kind of silk invented and patented by Kusuma Rajaiiah. The silk was sourced from Hyderabad and local designers from Goa ran their beautiful designs through them. Right from Wendell Rodrigues to the students from the Goa Polytechnic College, Fine Arts College, Althino, and the Goa College of Home Science. The silk derives its name 'ahimsa' as the silk worms used in silk production are allowed to grow to moths and fly away as opposed to the common method of killing the worms by boiling them. The silk is then spun.



PH: Dr. Kusuma Dikar



one, even an unemployed boy in a village.

used to bring change: a village in Satara

It would be about...

# The silky way — without the guilt

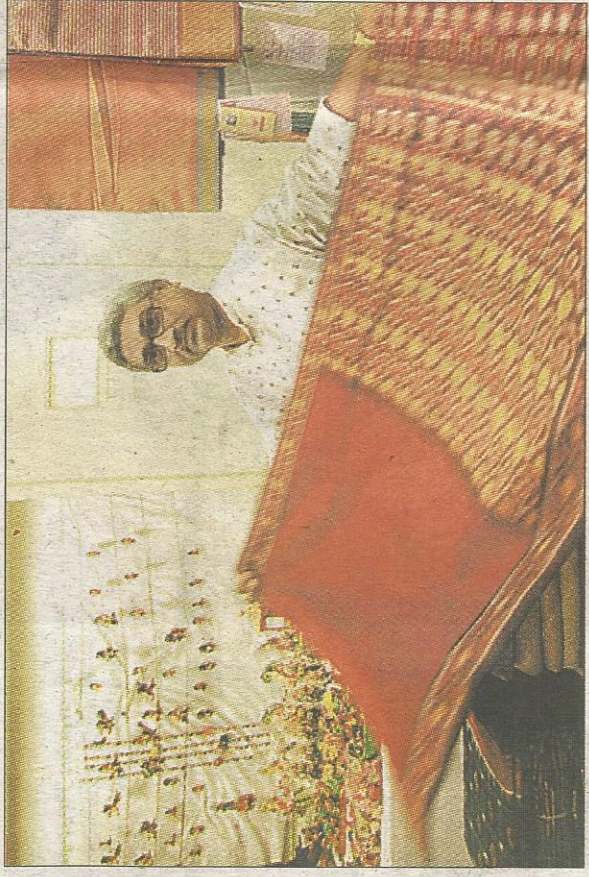
## For the non-violent, ahimsa silk is a great way to drape themselves

Mini Pant Zachariah  
Mumbai

Two months ago, when Sumathi Balasubramaniam's son was to be married, the retired teacher from Powai faced that universal problem: what would she wear? For Balasubramaniam, the option of buying an exotic silk sari does not exist. She had given up wearing silk some 20 years ago when she learnt that the sari she loved to drape was made by killing 10,000 silkworms. "We are followers of Sankaracharya and the idea of causing harm to any living being was repulsive. So I gave away all my silk saris to friends and family and switched to cotton. But a wedding, and my son's, at that, called for a silk sari," says Balasubramaniam.

Thanks to the *ahimsa* silk, developed and patented by Kusuma Rajaiah of Andhra Pradesh, Balasubramaniam did manage to find a silk sari that she could wear to the wedding.

Rajaiah is showing his wares — saris,



PRASAD GORI/HT

OUT OF THE BOX: Kusuma Rajaiah, showing off one of his exquisite creations.

stoles, scarves, dress materials and *angawastrams* at the Dastakari Mela in Bandra till October 14. His products may not sell by the thousands at this exhibition, but there is a select group of conscious consumers who buy his *ahimsa* silk.

Rajaiah, who is a pioneer in the production of *ahimsa* silk, obtained a patent for his brand in 2006, though commercial production started in 2000. And his turnover has now grown to Rs 30 lakh today. "It may not be much but I am happy I

have developed a way of making silk without killing the silkworms," says Rajaiah.

A diploma holder in handloom textiles, Rajaiah was inspired to try and find a non-violent way of making silk when in the early 90s, he heard former President R Venkataraman's wife wondering whether there was a way to make silk in a more humane way.

So Rajaiah set about collecting silk cocoons from farmers and waiting for the larvae to grow into moths and break free from the cocoons. "The left-over cocoon was used to extract the silk thread. But, unlike the silk obtained from the regular method of boiling cocoons, the thread would break very often," he recalls.

Amala, former South Indian actress and now an animal activist, bought the first *ahimsa* sari. Now Rajaiah gets orders from America, Europe and Australia.

"Out of 100 kg of silk cocoons I get only 16 kg of silk. This pushes up the cost of an *ahimsa* silk sari to almost twice the cost of a normal sari," he says.

So how does one spot an original from a fake? If it is *ahimsa*, the thread will show the different skeins. It will not have the same lustre though.

mini.zachariah@hindustantimes.com

HINDUSTAN TIMES. 12/10/2008



0.7%, to \$665.5 at 8:50 AM local time. The Comex division of the NYMEX. Gold for immediate delivery fell 1.99 cents, or 0.3%, to \$662.16 an ounce at 1:50 PM in London.

### Nickel rises to 19-year high in London

Nickel rose to its highest in at least 19 years as stockpiles shrank, curbing supply of the metal used to make stainless steel. Nickel stockpiles tracked by the LME fell 120 metric tonnes to 6,462 tonnes, the lowest level since May 18 2005, the LME said, on Monday, in a daily report. Inventory may be used to fill a forecast production shortfall this year. Credit Suisse Group said last month in a report that nickel demand in 2006 will beat output by 15,000 tonnes. Nickel for delivery in three months on the LME rose \$1,200, or 4.7%, to \$26,800 a metric tonne as of 10:30 AM London time. That's the highest level since at least 1987, when Bloomberg data begins. The price has almost doubled this year.

### Copper declines as Mexican strike may be resolved

Copper fell in London on speculation that a strike at Grupo Mexico SA's La Caridad mine may end after the company resolved another dispute. Workers at Cananea, Mexico's largest copper mine, agreed to return to work after the company agreed to pay 50% of wages lost during a strike, the country's miners union said on Sunday. Workers shut down the mine on June 1. Copper for delivery in three months on the LME dropped \$160, or 2%, to \$7,920 a metric tonne as of 1 PM local time.

# 'Ahimsa silk fabric', new way of manufacturing silk

**BV Mahalakshmi**  
Hyderabad, July 17

The Controller of Patents, Designs, Trademarks and Geographical Indications has granted patent for an eco-friendly method of manufacturing mulberry silk-worm yarn.

The patent has been granted for 20 years to Kusuma Rajaiah, hailing from Hanamkonda, in Warangal district of Andhra Pradesh. Rajaiah is a technical officer at the Andhra Pradesh Co-operative Society (APCO).

The yarn is called 'Ahimsa silk fabric', and is prepared without killing the silk-worm. The process involves producing yarn without putting the silkworms in boiling water. Instead, it uses left-over cocoons which are treated with chemicals and later dissolved.

Just a quick ride back to basics. Silk is commonly obtained from mulberry worms. The silkworms are fed with mulberry leaves in the larval stage.

Then, in the pupal stage, the silkworms secrete a fluid by which they cover themselves and form a cocoon.

After the gestation period, the moth opens and flies away. The yarn is produced when these cocoons are put into boiling water thus killing the moths. Obviously, a gruesome process, Rajaiah said.

His technology involves piercing the cocoon thus allowing the moth to fly through the hole. In fact, he collects those cocoons which do not have moths inside from Ser-iFed.

Though he does not get continuity of yarn thereby causing breakages, it is slowly spun bringing together the breakages and made into a single thread. The process is certainly laborious, and of course reflects in the pricing of the final product.

Out of 100 kilos of cocoons, only 16 kilos were obtained and each kilo is being charged by the spinning unit. The cost per saree might cost about Rs 4,500 unlike the conventional ones ranging from Rs 2,000.

The quality is in fact soft and finer with the 'Ahimsa silk' compared to the usual silk.

Rajaiah, along with the National Institute of Fashion Technology will soon be commercialising the 'Ahimsa silk'.

This apart, the technical officer at the Andhra Pradesh Co-operative Society has plans to talk to fashion houses and big retail chains to store these kind of eco-friendly products as they are sold at a premium. Perhaps, this patent will get recognition and bring the concept of 'Ahimsa' fresh in the weaving industry. ♦

**FINANCIAL EXPRESS**





Maneka Gandhi

## Deadly yarn

Many people who object to wearing leather because it is made by killing and skinning animals, don't think twice about wearing silk. Even religious people who would faint at the sight of meat being offered to God, don't consider the offering or wearing of silk as violent. Few people know that silk worms wrap themselves up in cocoons made of layers of thread to protect themselves from predators while they mature into butterflies and moths.

It is this butterfly baby that is boiled alive and its thread used for silk. It takes the life of 15 silk moths to produce one gram of woven silk. To produce 100 grams of pure silk, approximately 1,500 chrysalis have to die. One sari uses up to 50,000 dead creatures. If life is the same in all then how much more frightening to wearing the skin of 50,000 murdered animals than one. India has 700 silk producing centres spread over 17 states. The total production in 1994-95 was 13,879 tonnes. Calculate that in terms of butterfly lives.

Nor is it just cruelty that is involved here. The massive wiping out of these tiny insects adversely affects the ecological balance. Butterflies pollinate many tubular flowers, orchids, for example, cannot grow without them. They devour plant pests like aphids and destroy weeds. In Australia, for example, the cactus moth has been used to clear 60 million acres of prickly pear cactus for farming. Moths are in turn eaten by lizards, spiders, bats and monkeys. So every yard of silk has wrapped up in it the lives of all these creatures and of the earth.

However, I realise that asking people to give up silk is difficult since society has made it into such a status symbol that it is worn for occasions even when the temperature is above 30 degrees C. So I have looked around for an alternative to recommend. There is a kind of silk known as Eri silk which is being produced in Assam. Its production process does not involve murdering helpless creatures. In fact there are small groups making Eri silk in Uttaranchal, Assam and Gujarat. I am trying to find the seed money to start proper production as the largest shops of sarees in India and distributors all over Maharashtra and Delhi have told me that they will have a special counter for Ahimsa silk if I can guarantee supply.

If anyone reading this article is interested, please let me know there is a huge market in India itself! A small amount of Ahimsa silk is being made and marketed by Shri Kusuma Rajaiah (M/s Design Weaves, H.No 2-2-1105/5/37/E, II Floor, Tilaknagar, Nallakunta, Hyderabad-500044. Tel:7552112). Ahimsa silk uses cocoons through which the worm has pierced and escaped. The process is certainly more laborious and requires many more cocoons than regular silk. As a result Ahimsa silk is slightly more expensive than other silk. However, in no other way does it look or feel different. And for those who understand the value of life, money is but a small price to pay. ■

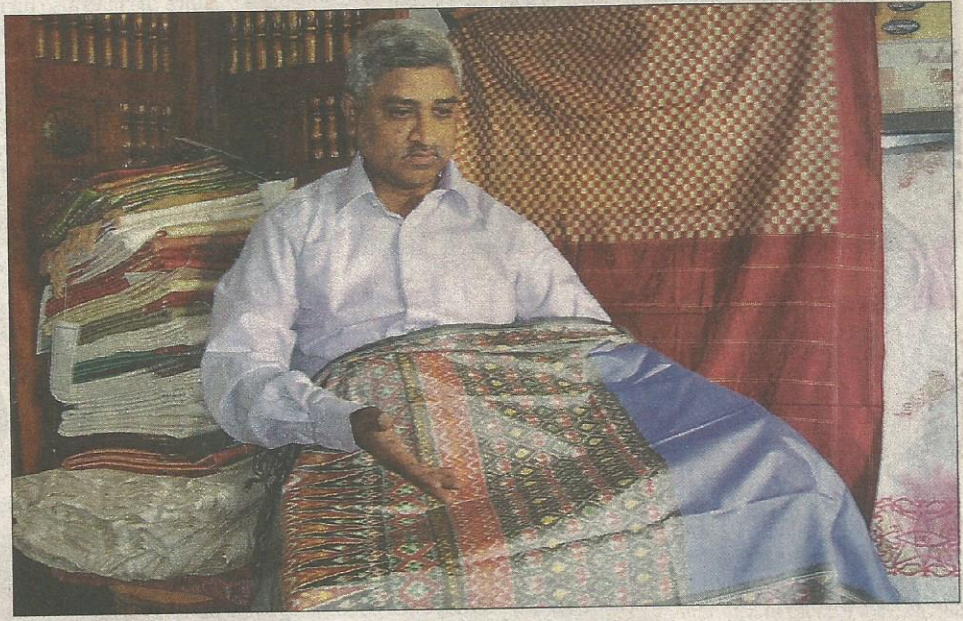
(Anyone wanting to join the animal welfare movement may contact Maneka Gandhi at 14, Ashoka Road, New Delhi 110001. Or [gandhim@paris.nic.in](mailto:gandhim@paris.nic.in))



DNA - 1/10/2017

# The man behind Ahimsa silk

**Heena Khandelwal speaks to Kusuma Rajaiah, the technologist who invented the Ahimsa silk movement**



**K**usuma Rajaiah is angry. The 62-year-old Hyderabad-based handloom technologist, credited with inventing *Ahimsa* silk, is upset that several Indian designers and labels are using the *Ahimsa* silk tag without his permission. Rajaiah holds the patent on *Ahimsa* silk and so, legally, only he can use the tag. Miffed, Rajaiah says that he plans to start legal proceedings against those fraudulently using the tag.

"I got the patent in 2002 and having been holding the trademark and logo since 2006. Though, I have approached the trademark council and Intellectual Property Rights Facilitation Services department, there are a lot of legal issues involved. We are at the preliminary stage of trying to identify all those to whom we will send a notice," says Rajaiah. He also wants consumers of this silk to look out for the *Ahimsa* silk trademark that is present on every product, which claims to be made of it.

Rajaiah's story is well known. The Indian Institute of Handloom Technology graduate was working in the Andhra Pradesh handloom department in the early 1990s when Janaki Venkataraman, the wife of former president R Venkataraman, on a visit to the state's silk-making facilities, wondered whether silk could be made without deliberately killing the worms. Rajaiah then had no answers, but her question set him off on a quest.

Finally in 1993, Rajaiah found a way. Unlike the traditional method, where silk is extracted by boiling the cocoon of the mulberry worms, Rajaiah's method allows the worms to hatch and leave the cocoons on their own. This was a gentler, non-violent way of making silk and Rajaiah, an ardent follower of Mahatma Gandhi, named it *ahimsa*.

"At that time, I only succeeded in

**I face a lot of issues with production. Weavers are unwilling to work with Ahimsa silk even when I'm ready to pay them well**

**Kusuma Rajaiah, inventor of Ahimsa silk**

creating a sample of *Ahimsa* silk. But in 2000, I decided to research ways of producing it commercially and in bulk. I emptied my Provident Fund account, which had ₹80,000, took a loan of ₹50,000 from a friend and bought a large amount of cocoon from farmers in Rayalaseema." Rajaiah then waited for them to hatch. When they'd done so, he collected the pierced cocoon and sent them off for spinning. "Out of 100kg cocoon, we could produce only 16.5kg of yarn. yet, we sent the yarn to West Godavari district for weaving," says Rajaiah, who decides the designs and colour schemes himself.

Although the website that he made post retirement in 2014 offers a wide range of *saris* and *stoles*, unstitched fabric has been Rajaiah's focus. "I face a lot of issues with production. Weavers are unwilling to work with *Ahimsa* silk even when I'm ready to pay them well. I want to

collaborate with Indian designers. But they prefer buying *Tasar* or *Eri* silk from Bihar," says Rajaiah, who exports *Ahimsa* silk fabric to the US, Ireland and Europe, where it has a few international celebrity patrons. Among them is Suzy Amis, wife of *Avatar* director James Cameron and Courtney Cox.

Over the years, Rajaiah has won a lot of recognition for his innovation, however none from the Indian government. "In 2008, the Andhra Pradesh government proposed my name for the Padma Shri, and in 2015, the Weavers Service Centre proposed my name for a national award, but nothing happened. The government doesn't care," he says, adding that he is happy as long as the message of *ahimsa* - non-violence - goes out to people.

heena.khandelwal@dnaindia.net;  
@heenakhandwal

(From top) Kusuma Rajaiah with an ahimsa silk sari; with Courtney Cox at her Malibu residence in 2014 with Cox wearing an ahimsa silk scarf that Rajaiah gifted her; with wife Savithri separating the pierced cocoons and silk moth





• Forecast: Rain/thundershowers towards evening or night • Max. tem: 33°C • Min. tem: 24°C • RH: 82% • Rainfall: Nil

[ Trend Setting ]

# Going places with Ahimsa silk

Though in huge demand overseas, Kusama Rajaiah's products have few takers at home

MOULLIKA KV  
HYDERABAD

Shopping for fancy saris and heavy pattu silk can be an overwhelming experience! And if you are looking for something unique like cruelty-free saris, you often end up getting disappointed due to lack of such products in retail outlets of Hyderabad.

Acknowledging the fact that thousands of silkworms are killed in order to make a small piece of fabric, Kusama Rajaiah, a city-based textile technocrat, has developed an innovative way of making silk that does not involve the killing of silkworms.

The Ahimsa silk, as Rajaiah calls it, is made by harnessing silk filaments from broken cocoons after the silk moths fly away by piercing them at maturity.

The idea originated after a request from then first lady of India (between 1987 and 1992) Janaki Venkataraman for a silk sari made without killing a silkworm.

The request got Rajaiah curious and he took up an extensive research on this. Finally, he launched his brand of non-violent mulberry silk in 1992.

By introducing this silk to the world, Rajaiah could also fulfil the desire of Mahatma Gandhi who wanted the silk industry to follow the ahimsa process of making silk.

Rajaiah's Ahimsa silk has many takers in Germany, Israel, United Kingdom, United States and Europe.

The saris, stoles, shirts, lingerie, shawls and other silk material are imported by leading designers across the world.

For instance, wardrobes of royal families have Ahimsa silk. Also, the pre-Oscar gown for filmmaker James Cameron's wife was designed using Ahimsa silk. Former Indonesian President Megawati Sukarnoputri and American actor Courtney Cox have been a patron of these saris.

However, there are not many takers for his products in the twin cities.

"Saris that glitter and are heavy are preferred in the local market. People have to realise that Ahimsa silk is better quality-wise, costs only one-and-a-half times more than the conventional silk and lasts longer," Rajaiah said.

"If you prefer a cruelty-free way of life, Ahimsa silk can sure be an alternative," says Rajaiah.



UNIQUE: Kusama Rajaiah with an Ahimsa silk saree that was made without killing a silk worm. — Photo: Moulika KV



## Peaceful process

Ahimsa silk is also known as peace silk

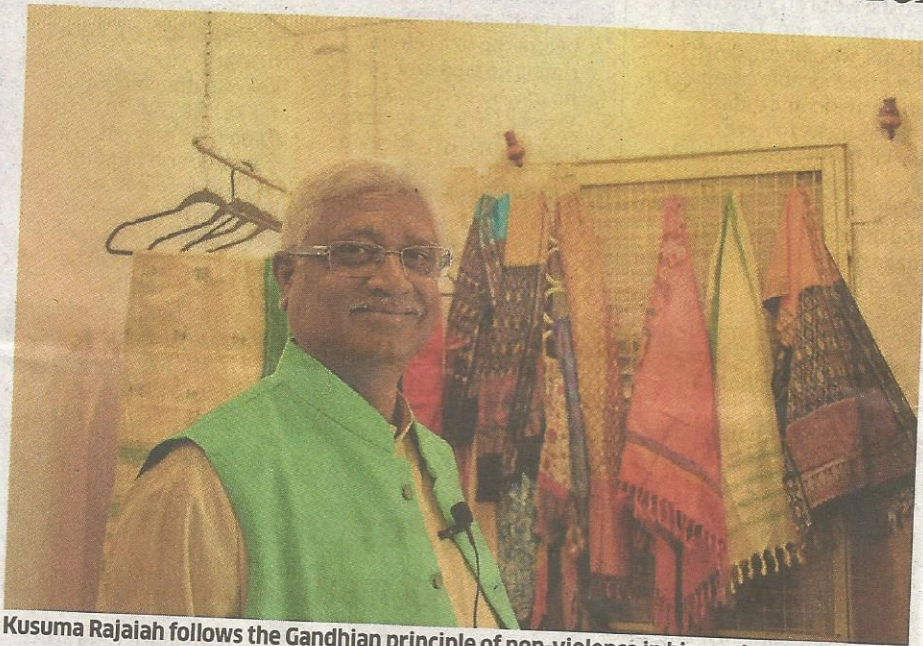
- The silk is processed from cocoons without killing the pupae inside
- There are two main types of Ahimsa silk, cultivated and wild (semi-domesticated)
- Most cultivated Ahimsa silk is *Bombyx mori*
- The Ahimsa cocoons are all allowed to hatch and breed, and the silk is processed from the hatched cocoon.

CONTINUATION FROM PAGE 1

Groovin



# Taking the 'Ahimsa' route with silk



**Kusuma Rajaiah follows the Gandhian principle of non-violence in his work.**

**T**aking after the vision of Mahatma Gandhi, Sri Kusuma Rajaiah has created a way to follow the non-violence movement even in your dressing.

He is the only producer of Ahimsa silk, a silk that does not involve the killing of mulberry silk worms, but allows it to grow and finish its life cycle before their cocoons are harvested to make the fabric.

In a session at Tharangini Design Studio, Sadashivanagar over the weekend, Kusuma Rajaiah, shared his experience of how he came up with the idea. He is a graduate from the Indian Institute of Handloom Technology and has a strong grounding in this art. He says, "I have made saris, fabrics and scarves for numerous celebrities including famous FRIENDS actress Courteney Cox and UK's former Prime Minister's wife Samantha Cameron."

He elaborated about how he is the only maker of this silk and about his journey over the last 20 years. After

he graduated with a diploma in Handloom Technology, he decided to take up the initiative of creating silk that not only makes you feel good physically, but also imparts good moral sense as well. Kusuma started his research by making samples till he

finally perfected it in 2002. "Dr Somu Sundaram helped me a lot with this. He was a true guide and encouragement for me," he added.

Being a different method of textile production, this type of silk takes longer to make, thus being a lot cost-

lier than the commercial silk. Kusuma purchases the cocoons from the farmers and then shelter it until the worms become moths and die. This way, they live their entire life cycle which is a span of five to six days. Then, the hatched cocoons

**“**  
**I have made saris, fabrics and scarves for celebrities including Courtney Cox.**

**Kusuma Rajaiah**

are taken and woven to create the fabric. The fibres are shorter than the commercial silk, thus giving it a cotton feel on touch.

Kusuma has a worldwide acclaim for his work in the textile industry. He has presented shawls to great personalities, including the Pope and Sonia Gandhi. Being a retired government official from Andhra Pradesh, this 63-year-old man wishes to carry forward his vision with even greater commitment to preserve it for posterity.

**Roshni Rajagopal**

