

## For the Sake of Mother's Pain : Asu Yarn Winding Machine

*Everyone gets inspiration from mother. But here is a story of a young innovator who not only got inspired by his mother but also relieved the pain and suffering of all the mothers of his community. The financial condition of his society has improved a lot due to his innovation, the automatic Asu machine. It has revived the dying silk sari of Pochampalli variety. Innovation rewriting the history!*

### Background

Mrs Laxmi Malleshham is perhaps the happiest mother in the small village of handloom weavers, Sharjipet. She has got freedom from the hours of physical pain and stress. Now she has all the time for herself and her family, thanks to her 36 years old son, Chintakindi Malleshham.



Life without weaving on looms is difficult in his community, so his parents taught him to work on looms from his tenth year. He studied in the night, worked on looms in the day, and managed to pass tenth class in the third attempt. Considering the financial condition of the family, he finally gave up his studies in 1986.

Pochampalli silk sari is an exquisite tradition of double *ikat* style of weaving with combination of variety of colours and intricate designs of geometrical patterns. It is distinguished because it has similar appearance of design on the front as well as the back side of sari. Pochampalli sari tradition got geographical indications certification (GI) four years ago making its copying outside its region illegal. Before weaving these patterns



Source: <http://www.scribd.com/doc/9881856/GI-on-Pocham-Palli-Ikat-Designs>

on loom, hand winding process of yarn has to be pursued, called *Asu*. Malleshham's family has been into this tradition of weaving saris involving the process of *Asu* for several generations. Entire

design on the saris is totally dependent on *Asu* process. Traditionally, ladies of the family performed this activity as it was done sitting under the shade or at home. But it involved long hours and lot of physical effort.

### Inspiration

Malleshham's mother used to do the *Asu* for the saris woven by his father and him. This process involves moving hand, over a space of one meter up and down around multiple pegs, 9000 times for one sari. It also demands high concentration and accuracy. For each sari almost four to five hours were required. In a day, at the maximum, his mother could do *Asu* for two saris only, as it involved 18000 *to* and *fro* movements of one hand. On each peg one had to wind four times before moving to the next peg. Thus a series of *to* and *fro* movement along a semi-circular set of pegs for the whole day caused tremendous pain in the shoulders and elbow joints. She would often tell her son that she could not do this any more. For the family two saris per day were not enough to fetch sufficient means. This was not the case with his family alone. Women of his community looked after family, performed chores and also worked for 8-9 hours to supply *Asu* material for two to three saris per day. Even so many hours of physical drudgery would fetch hardly any sufficient income for the family.

His mother's insistence on changing the profession used to disturb him. Working on the loom was not strenuous for him, but the pain of his mother did bother him a great deal. He wondered if there could be an



alternative method for *Asu* that would mean a better living condition as well as less physical drudgery for his mother. If there is a power loom to replace manual loom, why can not there be a mechanical device to alleviate his mother's pain? This thought became the genesis of the *Asu* Machine. So by the age of 20 years, in 1992, this young innovator started his dream project.

### Earning, Saving, Improving Machine, Again Earning...

The vibrant world of modern, technology was unknown to Malleshham, who had been a weaver since childhood. But a strong desire to relieve his mother of the pain inspired him and led him further. He started working on the idea and divided the entire process into five different parts. Part by part, he developed and fitted mechanical devices to a wooden frame. Since he did not have the right technical knowledge he would end up wasting money in buying incorrect parts. That money used to be the savings of days of his hard work. He then had to wait for some time to pool in his savings again and buy more parts.

He did not get much free time since he had to work on looms by the day and on the *Asu* machine in the nights. Earning, saving, spending on his project, earning and so on, became a cycle that went on for four years.

At the age of 24, he married Swarna. His wife supported him by giving him whatever money she had. With that money, he managed to complete three parts successfully in 1997. By now he had drained all his resources. He stopped weaving and looked for loans.

### Perseverance

No one was ready to give him loans. Everyone knew that he might default at repayment. Determined, he approached all the people with the hope that some good hearted Samaritan might help him financially. Some did help by extending loans. With that money some more parts of the *Asu* machine were completed. He used to go to Hyderabad to shop for relevant parts. By observation of different machines parts, he managed to complete some more portions of the machine successfully.

After sometime he reached a stage where he did not know what to do, what devices to fit and from where to get more money. He needed some technological help also but did not know whom to approach.

By then, his family was fed up with his desire of making a machine for *Asu* process. They perceived



it to be a useless distraction. He was advised not to pursue the machine and get back to weaving seriously. Frequent visits from the people who had given loans, hurt his family. He decided to leave village to make a living in Hyderabad. This way, he thought he would be able to clear the debts and avoid constant discouragement for his dream.

The semi-finished machine was packed in a room. He went to Hyderabad in mid 1997 and started working as an electrical contractor

on daily wages. There he worked for a year and the money earned was sent home. After a year, he shifted the unfinished machine to Hyderabad and fitted it in his rented room. He started working part time also to earn more money. The additional money was used for buying machine parts. It was almost ready except for one movement.

He reached a blind alley where he had no idea about which part to use in the machine for a particular activity that involved the thread to go round the stem or peg and slide down to the last thread perfectly. This action was taking a long time in becoming functional in the machine.

### The Breakthrough

In Feb 1999, he went to work in a machine shop in Balanagar area in Secunderabad. A number of machines, caught his attention. He started observing each one of them. The owner shouted that he had come for work and not for watching the machines. This incited him to watch the various machines even more seriously. In one he noticed a movement similar to what he required in his machine. Immediately he told the shop owner that he was off for the day and was prepared to forego the wages. He rushed to a





workshop, and got a part manufactured to suit the requirement. With excitement in his heart, he reached his room, fitted the component to the machine, and started the operation. Hurray it worked! Next day he disassembled the machine and went to a friend's house in Aler. The machine was reassembled and Mallesham demonstrated the processing of *Asu*. His friend used the *Asu* machine for weaving a sari. The quality that came out was better than the one obtained through hand operated *Asu* process. The news spread like wild fire and there was a beeline at his friend's house to see the *Asu* machine.

### A Social and Financial Revolution

History was made that day. It was for the first time that a machine was used for *Asu* process, which was done by hands for centuries. Weavers from neighboring villages came to see the machine and asked him to supply one such machine immediately. Overwhelmed by the response, he decided to pass on the comfort to all the women

of weaver community. No mother would undergo the suffering like his mother did, for so long.


With the help of his brother and few family members he started a workshop in 2000 to produce the *Asu* machines for supplying these to the weavers. He was now a contented man as his machine helped a wide cross section of weaver community involved in Pochampalli silk sari tradition. Employment, productivity and marketability have visibly increased. Separate work centers for only *Asu* have come up especially by those who could not afford a loom. Ladies who were hitherto engaged in manual *Asu* process have now learnt to weave on looms like men. They have been able to supplement their family income. Some loom less weavers have set up '*Asu* Machine Center' only and started

supplying *Asu* to weavers with looms. This is a new opportunity, only possible with Mallesham's machine. For those weavers who wanted to cease weaving due to the difficulty in hand *Asu* process, he has become a ray of hope. His mother can't stop praising him.

### Recognition

On 17 Oct 2008, while felicitating Mallesham in a Workshop conducted by Honey Bee Andhra Pradesh, in the premises of Osmania University Engineering College, Hyderabad, the editor of the Honey Bee magazine named this machine "Laxmi *Asu* Machine" and dedicated it to Smt Laxmi, mother of the Innovator who was the inspiration for such an excellent innovation. The Laxmi *Asu* Machine is in the process of being patented. When invited to the Inventors of India workshop held on Nov 28, 2008 at IIM Ahmedabad,



Mallesham proudly talked about his machine. In the same workshop his machine was observed by the Weavers' Association of Gujarat. *Asu* process is developed for a double *ikat* weaving process. Interestingly it was found to be useful for the single *ikat* weaving process also and so can be used by the weavers of *that* tradition in Gujarat also. The possibilities of introducing his machine for different weaving styles in other parts of India are also being explored. Till date he has sold 500 machines. His mother does not complain of pain in her arms any more. And Mallesham's happiness is beyond measure. 

Salient Differences between Manual and Machine <i>Asu</i> Process	
Manual	Machine
Time for one sari - Four hours	One hour thirty minutes
Number of saris per day - Two	Eight
Labour cost for one sari - Rs Eighty	Rs Two
Concentration and good eye sight required	Not much human effort required
Only limited designs possible	A wide variety of designs possible
Severe shoulder pain	No effect on operators