

Interview with Kaushik Boruah

by Chinmoyee Deka - Tuesday, March 31, 2015

<http://gonitsora.com/interview-with-kaushik-boruah/>

1. Tell us something about your childhood.

I have spent my childhood in my native village named Senchowa Gaon, five kms away from Golaghat town, towards the eastern direction. I grew up in a joint family and my childhood was full of joy. I was involved in the agricultural activities mainly paddy, vegetables and sericulture. Some of my greatest childhood memories were when we observed Magh Bihu by passing the whole night with my relatives, outside our home around bonfires rejoicing the new harvest. I consider myself lucky enough to be brought up in a village life with all those beautiful memories.

2. Tell us about yourself , your passion and your dreams.

I was born on 22nd April in 1996. I have completed my primary and high school education from Vivekananda Kendra Vidyalaya, Golaghat and I am presently studying B. Sc. Biotechnology at Baba Farid Institute of Technology, Dehradun, Uttarakhand.

Well, talking about the things I like, artistic things always fascinate me. I like to sketch, read novels and watch scientific fictions. And about sports, I play football. I am also a fan of 'parkour'.

I am interested in the recent scientific advancements in this frequently changing world. During my school life I was always eager to do science projects. I love to involve myself in innovation of new technologies which will help in betterment of mankind.

My dreams are to become an independent scientist and involve myself in need based research activities for common people. I shall not hanker after earning money through my research for a luxurious life.

3. Whom did you look onto when you are young?

I was always enlightened by the ideas and thoughts of great people, particularly Dr. A.P.J Abdul Kalam and Paulo Coelho. Throughout my childhood I have admired my parents and I still do. They are the ones without whom all these would have never come true.

4. What is the pertinent issue which made you develop the muga cocoon reeling mechanism?

Actually my "Muga Cocoon Reeling Mechanism" refers to the reeling of continuous silk filament from Cut and Pierce Cocoon (CPC) which are rejected for normal reeling .The farmers sell the good cocoons for reeling purpose and keep the best cocoons for seed purpose. These seed cocoons become cut & pierce cocoons when moth emerges from it by cutting the mouth of the cocoon. Cut & Pierce cocoons are sold at very low price for making dhaga(hand spined yarn) and sometime left as waste material. After careful observation, it is found that the moth do not cut the cocoon mouth as it has no cutting mouth parts.

Actually, the moth make a hole in the cocoon wall with the help of salivary liquid by keeping the silk filament aside. Not a single filament is cut at the time of emerging. That is why a special reeling mechanism has been evolved so that cut & pierce cocoons also can be reeled to get both benefits of seed cocoon and reeling cocoon.

5. How long did it take to come up with the muga cocoon reeling mechanism and what was your experience?

It took me one and a half years to come up with the idea to develop the mechanism. It was a great experience for me. I got to know about Muga Silkworms and its life cycles. I also got to know about the great economic importance of the Muga Silk in the rural parts of Assam. This Muga Silkworm (*Anthaeria assama*) is an endemic species which is native to Assam and its neighbouring area.

I feel honoured to say that I stood 1st all over India at CBSE National Science Exhibition in 2010 in my biology section and also got IGNITE award from Dr. APJ Abdul Kalam, section organized by National Innovation Foundation.

6. We would like you to tell us about the muga cocoon reeling mechanism , how it works?

Reeling mechanism of Cut and Pierce Cocoon (CPC) of muga is very simple. It can be done in traditional reeling machine(Bhaori) or in charkha reeling machine. But special method should be adopted in the following way:-

1. Cut & pierce cocoons should be deflossed i.e. removal of unwanted silk layer from the cocoon surface until getting of a continuous It can done by boiling the cocoons in 5% sodium carbonate solution up to 80 C with the help of a brush. Deflossed also can be done by hand in case of dry reeling.
2. Before reeling , the empty cut & pierce cocoon should be filled with a marble or iron ball. This will prevent the jumping of cocoon from the surface of reeling water.
3. Thus, 8- 10 cocoons may be reeled to get a single yarn. About 50% silk recovery can be achieved in this way.

7. How positive you were regarding your innovation?

High quality silk can be obtained from the Cut and Pierce Cocoon (CPC) as they are selected as best cocoons for seed purpose. Silk recovery is same with that of normal reeling cocoon(50%). So the farmers can produce 1 kg. Raw silk from 5000 nos. of cut & pierce cocoons though they are regarded as waste cocoon. Considering all these facts of my research work I am very confident and positive regarding my innovation.

8. When you were working with this did you face serious problems?

There were no serious problems. Although to develop the idea I had to do some field study, collecting facts and data from local sericulture farmers which consumed time. Well, putting all those time and a great deal of work, it gave me something which I always dreamt of.

9. Who motivated and supported when you were busy with this mechanism?

My family motivated me very much. Specially my father helped me a lot with his valuable guidance. My mother was always beside me whenever I was in need.

10. What are the scopes and limitations of the mechanisms?

The mechanism has great economic importance and has an enormous scope for the traditional farmers if they use this mechanism for their silk production. While I was developing the mechanism I came out with two more findings along with the above mechanism. One is “Bobcoon” and another is “Nano Silk”. Bobcoon is a new terminology which is contracted form of bobbin Cocoon. Many cocoons can be reeled one after another into a bobbin to form a bobcoon. Thus all cocoons can be converted into bobcoons containing thousands and thousands of metre of single filament without a break. In future, reelers will prefer to purchase bobcoon only, because the bobcoon gives unbreakable continuous and uniform filament with a longer storing facility. On the other hand nano silk is reeled in nano bobcoon with half filament which can be used for preparation of micro filter, ultra violet protector etc.

The marble or iron ball used in the empty cocoon are sometime found coming out from inside and this problem may be solved by replacing with an uneven lead ball.

11. Is it patented? Do you have any plans to commercialise it in future?

Yes, provisional patent number is obtained from Indian Patent Office situated at Calcutta. I have the plan to commercialise the mechanism subject to the assistance from any organization.

12. In which other places have you demonstrated your product?

I got a chance to demonstrate in front of the then President of India, Dr. APJ Abdul Kalam at Indian Institute of Management in Ahmadabad and in 2013 I felt honoured to present it before Dr. Pranab Mukherjee in Assam University, Silchar.

I attended CBSE Regional Science Exhibition at Guwahati and CBSE National Science Exhibition at New Delhi.

13. Would you like to give any advice to GONITSORA?

Though I do not know much about Gonitsora, I would like to request that GONITSORA might take action to activate viable innovations which are still in pen and paper due to one reason or other. It will be really helpful to the unprivileged innovators who are not getting any platforms to express their ideas to the world.