

# SETTING A TREND

SHAHNOOR WAHID AND SOHEL RANA



PHOTO: COURTESY

*It turned out to be very rewarding for us when we stirred and provoked two scientific minds of the country, who run the sole privately-owned testing and research laboratory named Plasma Plus. On a pleasant afternoon last week, we talked to these two publicity-shy workaholics about the outstanding work they have done so far and what they envisage doing in the coming days. Professor Amir H Khan, PhD, the Chief Scientist of the lab, has an enviable track record. And HQ Chowdhury, Founder & Chief Executive Officer of Plasma Plus, was driven by intense passion to start this unique lab. They, by turn, talked about their work, breakthroughs, its importance in the society and related issues. Furnished with top of the line analytical instrumentation, Plasma Plus is the first science laboratory of its kind in the private sector aimed at promoting scientific research, testing and human resource development in science and technology.*

## HQ CHOWDHURY

**What made you develop Plasma Plus?**  
I was into scientific instruments and my profession helped me to interact with world class scientists in USA, UK, Japan, Western Europe and Bangladesh. I realised that a particular analytical instrument can have application in various fields from chemistry to physics to clinical biochemistry to material science.

**Tell us about its relevance in a country like Bangladesh.**  
Scientific research and testing is extremely expensive. If you can use a particular instrument for various uses, then it is possible to cut down the costs. We have engineers, chemists, physicists and pharmacists using the same instruments for the necessary application. So it makes sense to use one instrument for various purposes.

**In what way is it different from government labs like BCSIR, Atomic Energy, BSTI, and labs in universities?**

What separates Plasma Plus from these laboratories is that independent scientists cannot have access to government laboratories. At Plasma Plus, this is not the case. In my 42 years of professional life, I found many scientists in universities and research institutes unable to pursue their goal because of insufficient funds for instruments and manpower. They would get only a part of their requirement and the project continued for years. It is often frustrating. In such cases, she/he can utilise Plasma Plus by paying a fraction of the cost. Time and money, both are saved.

Also, government laboratories are very big and have different departments. They are overloaded with work. Due to such infrastructures, for example, to test a toxic metal in milk, you will need to go to its Food department while for the same toxic metal in soil, you have to go to the Soil Science Department. This is usually the case. At Plasma Plus we have the expertise to do both as we have in-house scientists and instruments.

**Who are your clients?**  
Dhaka Medical College, Mymensingh Agriculture University, FAO, JICA and many others collaborated with us. Recently, Prof. Amir Hussain Khan did two outstanding jobs here. One is 'Monitoring of water quality in greater Dhaka watershed', a World Bank Project. In this work, water quality of six major rivers flowing around Dhaka city were classified into five different groups for designated water use such as drinking water supply, agriculture, fisheries, industrial use and recreational purpose. This water quality classification is



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absolutely necessary for future water management.

The second one is, 'Heavy metal contamination in food and drinking water in Bangladesh', a FAO project. Arsenic, Cadmium, Chromium, Lead and Mercury were studied in rice grain, potatoes, brinjals as well as sweet water fish and drinking water.

**This is a specialised area. How viable is your organisation economically?**

It can be viable if one is not profit minded. Plasma Plus is a non-profit laboratory. Any profit generated is ploughed back into the system. The government in 1998 recognised it under Section 28.

**What are your future plans for Plasma Plus?**

I am trying to create a centre of excellence for technology transfer. I am looking for contractual scientific research. A country cannot develop without science and technology. But as I said it is expensive and knowledge-based. I thought I would use my expertise to help my country.

**Any Plasma Plus landmarks?**

Plasma Plus has been awarded accreditation according to ISO/IEC 17025:2005 on specific parameters for testing areas of Food, Textile, Pharmaceuticals and Environment. The accreditation means the laboratory has competency to produce globally accepted data/result.

## PROFESSOR AMIR HUSSAIN KHAN PhD

**You are one of the most respected scientists of Bangladesh. What made you join Plasma Plus when you were well placed with Atomic Energy Centre, then as a Professor at the Department of Chemistry, Dhaka University and finally as the Director, Centre of Excellence, DU?**

In 2006 my contract with Dhaka University had ended. I had the opportunity to extend my stay at Dhaka University. At that time, Plasma Plus offered me to join. I knew HQ Chowdhury well and his vision matched with mine. I wanted to see how a private laboratory could contribute to national development.

**What have you managed to accomplish so far?**

As of today, we have worked with JICA, UNDP, FAO, ICDDR,B, Dhaka Medical College, Mymensingh Agriculture University etc., and most



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pharmaceutical companies of the country. We have presented papers that have been published in national and international journals. As an independent laboratory, we have always responded to national crisis like melamine in infant formula, contaminated paracetamol syrups, trace metals in human body including arsenic, lead etc. But these are just some of the front line areas. There are other fields like Textile (fabrics & garments), Food (rice, fish, and agro based products), Pharmaceuticals (raw materials and finished products), Environmental (drinking water, wastewater, air, soil). So many areas to explore!

**What do you think about the scientific culture in the Bangladesh context?**

It is often said that if you invest in science today, you will get the return after 25 years and it will pay back many times more. But there is a catch here. You must invest intelligently with the right people or else your money will go down the drain. Scientific knowledge and its application is not something that can be purchased from a departmental store. One has to acquire it through hard work. The investment in science & technology is a national insurance for which the premium is never high.

**You have been honoured as 'one of the best Muslim scientists' by Iran. Tell us about that.**

It was in 1993. There was a competition amongst scientists of Muslim countries which was organised by Iran. Scientists from Pakistan, India, Iran, Iraq and many other Muslim countries also competed. I got it in Chemistry for the application of PIXE (Particle Induced X-ray Emission) in soil, water, air, food, human blood etc. I was the first person to apply this technique into the liquid system. It created a sensation in the scientific community. It was published in the international Journal, 'Nuclear Instruments and Methods' which gave Bangladesh a worldwide recognition in applied science.

**What is your dream as scientist?**

I want to leave a mark (with a smile) using electrochemical techniques particularly to explore sulphide minerals in sea water. In fact, I am already into it.



Plasma Plus has the competency to produce globally accepted results.