



PD-1



## Experience in Developing Self Reliance in Diagnostics

**Dr. Shama Bhat**

Founder, Chairman and Managing Director  
Bhat Bio-Tech India Pvt. Ltd., Bangalore  
Email: bhatbiotech@gmail.com

*Dr. Shama Bhat is presently Founder, Chairman and Managing Director of Bhat Bio-Tech India Pvt. Ltd., Bangalore and Secretary of Veerasandra Industries Association. He was awarded Junior and Senior Research Fellowships of Indian Council of Medical Research, New Delhi., Dr. D.Y.N. Murthy Memorial Award for Higher studies abroad, Post-doctoral Fellowship of National Multiple Sclerosis Society, Cultural Festival of India Award for outstanding contributions in basic science research and Ranbaxy Research Award. He is member of American Society for Neurochemistry, International Brain Research Organization and American Association for the Advancement of Scienc. He has total 38 publications and one patent on Mediation of HIV entry into cells by GalactosylCeramide or related glycolipids.*

Transforming from the academia to an entrepreneur is not an easy task. That too if you return from USA and have to set up an industry the task will be of several fold.

After returning from USA in 1994, I decided to set up a diagnostic industry for manufacturing diagnostic kits for HIV, HCV, HBsAg, Malaria, Dengue, Chikungunya, Pregnancy etc.

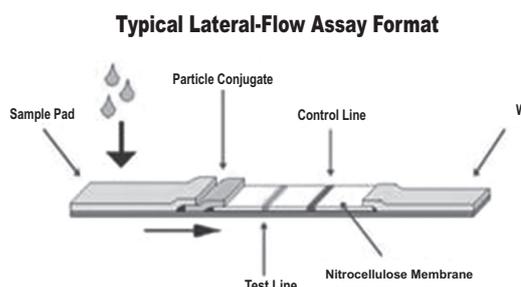
When we are discussing about manufacturing the following areas are the main aspects:

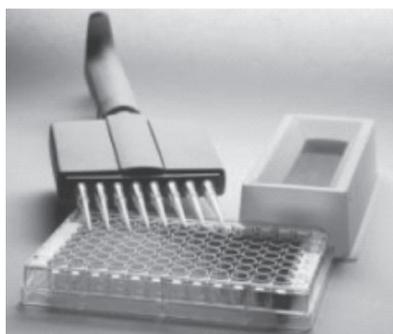
- |                 |                |               |                            |         |
|-----------------|----------------|---------------|----------------------------|---------|
| (1) Technology; | (2) R&D;       | (3) Manpower; | (4) Raw materials          | (5) QC; |
| (6) Purchasing; | (7) Marketing; | (8) Stores;   | (9) Administration/finance |         |

I will try to explain how we are able to get self reliance in the above areas.

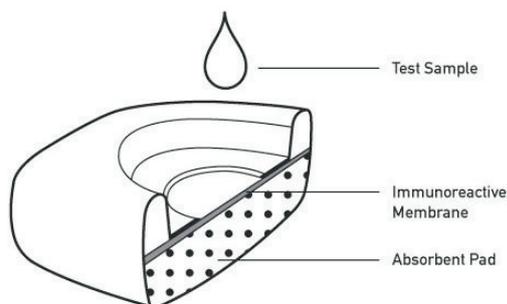
### 1. Technology:

Our major products are rapid diagnostic kits HIV, HCV, HBsAg, Malaria, Dengue, Chikungunya, and Pregnancy. We are using three major platform assays in our diagnostic products. They are lateral flow immuno-chromatography, Flow through Immunoassay and ELISA tests. I learnt some of the basic techniques for these during my research years, but commercialisation is different than research. For commercialisation I took the advantage of one of the consultants in USA, who helped me to learn the basics of making HCG lateral flow and HIV flow through assays. Once I learnt the basics, I was able to make the kits and teach the technology to my staff scientists. Once you understand making one product, making similar products based on the same platform assay is easy. Similarly, we made HIV, HCV, Malaria, Dengue etc. Similarly, we made several flow through based kits like HIV, Chikungunya, HCV etc.





**ELISA Method**



**Flow Through Method**

ELISA Based kits are based on the technology available in the literature and making for commercial use was not a difficult task.

## **2. R&D**

Any good company to succeed you need a good R&D team. Today's technology will be obsolete tomorrow. In order to survive you need to constantly upgrade your technology and invent more products at a very fast pace. Otherwise, you will not be able to survive in this global market. You also keep watching for the emerging technology and products in your area to be competent and try to produce similar products.

## **3. MANPOWER**

Good Manpower is one of the most important requirements for any company. But it is more important for a manufacturing company. Getting quality manpower is very difficult. Screening and identifying the right candidate is a very difficult task. It is particularly important in this age of CET, where "cream of the crop" is opting for the professional courses. And also if you are a small company, competing with the bigger and multinational companies are very difficult.

## **4. RAW MATERIALS**

Raw material is one the most important and critical areas of manufacturing. Unless you are able to get good and quality raw materials at an affordable price you will not be able to make good products at a good cost. If your cost is too high you will not be able to sell at competitive price and will not be able to compete with your national and international competitors. Without a quality product, you will not be able to sell only once even if you have the best of the marketing staff. For repeat sales you need to have a very good quality product. To get a good quality product you need to use good raw materials. At Bhat Biotech, we outsource the raw materials from good known raw materials suppliers and later indigenise. The antibodies and antigens we outsourced from good suppliers and later slowly replaced from in-house. This will reduce your time to launch your products. More and more products from in-house will have the advantages of low price, good quality of the raw materials, and you control the supply.

## **5. OTHER AREAS**

Other areas are not complicated and are common to any manufacturing industry. Your self reliance depends on the availability of key raw materials in-house, up gradation of existing products, launching new and fast selling or unique products.

