

## **Books Launch Ceremony, December 28, 2017**



**Excerpts from the address of Dr. Arvind Gupta,**  
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These books bio-detections and chemical detections brings together wealth of information in this area particularly on the technologies and equipment which are today available in the market and this will certainly be a book which will help raise awareness and also will have some importance for those companies who has researchers in this field.

In the recent decades the world has seen exponential rise of non-state actors and in that context these books bringing issue of WMD terrorism becomes very important. What happens if some of these things like biological weapons or precursors or some of the technologies which are going in making the biological and chemical agents, fall into the hands of these non-state actors, terrorists, or mischief makers. What happens and how do we deal with it. Some of what has been described in this book would be the tools which we will all be using as first responders for detection or may be first responders for treatment etc.

Data provided is very useful as despite having a treaty on ban, the chemical weapons have actually being used in recent wars, as also the non-state actors and those sponsored by the state can still get a hands to these chemical and biological weapons.

It is very difficult to control chemical and biological weapons because they all have and

all of these technologies which goes into it are actually dual use so they have excellent civilian uses and they also have military uses. It remains a big challenge for most of governments, literally for decades as to how to control the spread or the proliferation of these agents into the wrong hands.

Under WMD Act of 2005, India put certain controls over the export of some of these things and it has worked very well and but we need to build capacities. One should be able to detect as to what is being produced and what kind of end use it will have and where would it land up etc. and also we should not fall foul of the international rules and regulations. So all of these policies can be made only if you have right kind of data and I think that is what these books does.

Pandemics like bird flu, SARS, H<sub>1</sub>N<sub>1</sub>, Ebola and others do happen and something goes out of control very quickly, very fast and can completely change societies, devastate societies and people and they can bring in massive changes in the geopolitical arena. Spread of diseases lead to a lot of panic. To understand how the disease grows, how it spread and how to distinguish on the symptoms, one need to have these kind of technologies and devices which are described in the books.

Country needs to develop indigenous capacities. Which require quality R&D effort and translate these effort into products. Laboratory efforts to convert lab to product should shorten the processes and the times. Importance should be given on R&D to build an ecosystem of innovation. Policies and efforts of related departments should synergize to make a strong R&D base. The focus and challenge of government remains to get the government academia and industry together to bring in an innovator innovation system. The rules, procedures and other things which go into the making in this innovation system, should be taken care of. Biological and chemicals are part of it. These book would be a good addition to our existing literature and it would certainly enhance our understanding.