From The Director's Desk

I am happy to present the annual report of the institute for the year 2005-06.

During the year, Influenza A (H5N1) virus caused devastating outbreaks in many countries in Asia, Africa, Middle East and Europe. Unfortunately, India was also not spared and an epidemic in poultry occurred in parts of Maharashtra, Madhya Pradesh and Gujarat states. Though outbreak was successfully contained in short time, it caused huge economic loss and fear of outbreak in human gripped attention of public, media and health workers. Massive exercise to detect human cases was launched and each person involved in operation of cleaning, culling and surveillance was monitored. Fortunately, no human cases were reported.

Large numbers of cases of arthralgia were reported from Southern India, which were attributed to Chikungunya virus. After a gap of 32 years this outbreak was caused due to African genotype in contrast to all earlier outbreaks that were due to Asian genotype of the virus. Japanese encephalitis virus caused very large outbreak in Gorakhpur. Several cases of Chandipura were also recorded from Warangal district of Andhra Pradesh. Many outbreaks of Hepatitis virus were reported in different parts of Maharashtra.

The reorganization of the activities of the institute in disease-based groups has paid rich dividend. The work carried out during the year is presented group-wise. It is obvious that all the groups are now focused in their activities. It is not necessary for me to review them as the reports provide glimpses of the approach adapted by different groups. Molecular aspect in virology has become key area. This fact is obvious, as most of the groups have reported large data on molecular characterization of different viruses. West Nile virus is known to occur in India for at least the last 50 years but never produced any large outbreak. In contrast, tremendous expansion in distribution and continued outbreaks in newer areas have become major worry in America and Canada. Full genome study revealed that the Indian viruses form a distinct cluster and perhaps provides significant clues for differential pathogenesis. Several groups have also taken projects to study host factors, an area which is very important but less attended in the institute. Bioinformatics group is fully functional and is being modernized. Models developed for Japanese encephalitis has provided useful information.

We continue our thrust in diagnostics and vaccine development. Significant progress has been made in development of vaccine for hepatitis E virus using recombinant protein and DNA with liposome as adjuvant. Challenge studies in mice and monkeys were highly encouraging. Efforts are being made to develop a combined vaccine with components from hepatitis A, B and E. Significant progress is also made for the development of killed vaccine for Japanese encephalitis and Chandipura viruses.

Networking with other ICMR and non-IRCR institute was a priority area. Seasonal influenza surveillance was expanded by addition of 4 more centers to enhance surveillance as part of preparedness to meet influenza pandemic. A measles network was created and it is heartening to note that large number of centers agreed to participate even without any assurance of funding.

Quality Assurance and quality control are also important issues. Arrangements have been made for participation in international programs wherever available. Electron microscopy, measles group are regularly part of such activity. Bangalore field station laboratory has contributed significantly in Polio surveillance program and it is one of the high-accredited laboratories of the polio network.

Modernization of laboratories to meet international standards has been a major challenge. Though many laboratories are renovated but still lot more needs to be done. High containment laboratory that was inaugurated in 2005 is functioning properly and satisfactorily.

Extensive field and laboratory work activities kept scientists busy night and day. Similarly, developmental activities posed lot of challenges for engineering and administrative staff. Dedicated efforts of the scientists, technical persons and other support staff deserved high appreciation. I salute them all for their hard work, dedication and sense of responsibility. Support received from Prof N. K. Ganguly, Director General, ICMR has always been the great source of inspiration for us. We also gratefully acknowledge help and support received from Dr Lalit Kant and Dr Dipali Mukherjee and other officials of ICMR head quarter, New Delhi.

A.C.Mishra