From the Director’s Desk....

Seasons Greetings!

A New Year-2012 has begun and hope this New Year brings good health to all of us. This New Year is very important as it is landing to XII Five Year Plan. Many things were achieved and much is to be achieved. We all have started different plannings for various programmes to be implemented in the five year plan. All our goals and activities are to be focused on two missions projected by our honourable Director General viz., “Farmer FIRST and Student READY”. We are overwhelmed by the advice and kind words of appreciation of our honourable Director General during his recent visit to our institute. We feel extremely happy and proud to say that our Directorate will be renamed as “National Institute of Veterinary Epidemiology and Disease Informatics (NIVEDI)”. Upgradation means more responsibility! To accomplish the broadened objectives and goals, AICRP on ADMAS is being extended to 19 new centers covering the entire nation in XII plan.

Quality data is the backbone of any database. The Directorate is maintaining the exhaustive database on livestock diseases and their profile. We are developing effective linkages with Regional disease diagnostic laboratories (RDDLs) in order to make the database more effectively being analyzed and put to use through NADRES to various stakeholders viz., veterinary officers, disease diagnostic labs, State Animal Husbandry Departments, National and International level policy makers. Recently, FAO has appreciated the endeavours of the Directorate in creation of database on National Animal Health Status and Animal Disease Surveillance. The Directorate is taking a big leap in this XII plan to predict animal diseases more precisely so as to help policy makers of the State Animal Husbandry Department to take appropriate actions in controlling the diseases.

PD_ADMAS

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Dr S Ayyappan, Secretary DARE and DG ICAR visited PD_ADMAS, Bangalore on 1st December 2011 and discussed various activities of the Directorate and advised to adapt latest technologies in Animal Disease Monitoring and Surveillance.

A four day long training programme on “Introduction to Spatial Epidemiology” was organized by Food and Agriculture Organization (FAO) at PD_ADMAS, Hebbal, Bangalore from 2-5, August, 2011 and uses of GeoDa software in Epidemiology were demonstrated.

Project Directorate on Animal Disease Monitoring and Surveillance (PD_ADMAS), Bangalore
(Indian Council of Agricultural Research)
Anthrax is an infectious disease caused by *Bacillus anthracis*. Most forms of the disease are lethal and it affects both humans and animals. Based on the animal disease profile available at this Institute, the pattern of occurrence of Anthrax in the country was analyzed. The profile lacks data from Uttar Pradesh, Chhattisgarh, Sikkim, Arunachal Pradesh, Nagaland and Tripura. Based on the outbreak reports of the remaining states, the country has been divided into areas with no reports, sporadic, endemic and hyperendemic occurrence of anthrax and has been mapped at district level (above).

The anthrax surveillance system depends on the following cardinal actions:
- Education of both those who will be involved in the surveillance and all who own or handle livestock, meat, hides and other animal products.
- Correct diagnosis.
- Implementation of control measures.
- Prompt reporting.

These need to be supported by appropriate laboratory diagnostic back-up.
Anthrax is an infectious, often fatal, disease of both man and animals. Based on the animal disease profile available at this Institute, the pattern of occurrence of Anthrax in the country was analyzed. The profile lacks data from Uttar Pradesh, Chhattisgarh, Sikkim, Arunachal Pradesh, Nagaland and Tripura. Based on the outbreak reports of the remaining states between 1991 and 2010, the country has been divided into areas with no reports, sporadic, endemic and hyperendemic occurrence of anthrax and has been mapped at district level (below).

The anthrax surveillance system depends on the following cardinal actions (1) Education of both those who will be involved in the surveillance and all who own or handle livestock, meat, hides and other animal products. (2) Correct diagnosis. Implementation of control measures and (3) Prompt reporting. These need to be supported by appropriate laboratory diagnostic back-up. The outbreak of anthrax is being reported from all the six zones of the country. Due to poor reporting system there are only limited numbers of records in the North zone. It may be observed that, although the disease does not have any specific seasonality, it consistently occurs during the months of July, August, September and October. Generally, these are the monsoon months across the country. The hot and humid season facilitates the germination of the spores in the environment. Hence, it is advisable to vaccinate the animals during the later half of May or June. Anthrax vaccination is to be done annually. The immunity from first-time vaccination may not be very long-lasting and is better after boosters.

IMC meeting of the Institute

IMC Meeting was held on 7th July 2011 in the presence of ADG (AH), ICAR. Discussions were held on Institute Projects and were approved to place before RAC.

II Research Advisory Committee meeting of the Institute

Dr R N S Gowda chaired the meeting. Dr Gaya Prasad, ADG (AH), ICAR, Dr H Rahman, Project Director, Dr K Prabhusadas and Dr M Rajasekhar, former Project Directors, Dr B Pattnaik, Project Director, PD_FMD attended the meeting.
Seroepidemiology of brucellosis in swine

Brucellosis is one of the emerging and re-emerging zoonotic diseases of the farm animals. The main pathogenic species worldwide are *B. abortus* (for bovine brucellosis), *B. melitensis* (main etiologic agent of ovine and caprine brucellosis) and *B. suis* (for swine brucellosis). *B. suis* causes infertility, abortion and birth of dead or weak piglets in sows; orchitis and infection of secondary sex organs in boars and lameness and paralysis in both sexes. In India, brucellosis in swine is routinely diagnosed by rose bengal plate test (RBPT) and standard tube agglutination test (STAT). An indirect ELISA for diagnosis of brucellosis in swine has been standardized using smooth lipopolysaccharide (sLPS) antigen from *Brucella abortus*. The diagnostic sensitivity and diagnostic specificity were found to be 95.71% and 96.14%, respectively. In the cross reactivity study, the *E. coli* (O157 H7), 17 salmonella and five *Y. enterocolitica* serotypes specific sera tested negative in the standardized assay which is an important feature in Brucella diagnostics.

A total of 1759 sera samples from seven states tested, 270 (15.35%), 84 (4.78.63%) and 389 (22.11%) were positive for *Brucella* antibodies by RBPT, STAT and iELISA respectively. Out of three serological tests, RBPT, STAT and iELISA, the iELISA detected higher positives than the other two tests 389 (22.11 %). The farm-wise sero-prevalence when compared, high percent prevalence of disease was recorded in farm-1 of Andhra Pradesh (53%); followed by farms -1 & 2 of Karnataka (59%; 38.46%), Kerala (33%), and Punjab (29.67%), farm-3 of Karnataka (23.52%), farm-7 of Karnataka (8.06%), farm-2 of Andhra Pradesh (5.88%) and Gujarat (2.48%) states in the order. Anti *Brucella* antibodies were not detected in sera samples of Manipur, Meghalaya and farm-8 of Karnataka and overall prevalence of brucellosis in swine population is shown in the map (Fig.).

The developed assay could be an additional screening test apart from the available routine laboratory techniques for sero-screening of brucellosis in swine.

Activities of Construction of Proposed New Laboratory cum Administrative Building

1. Organized Interactive Meeting with officials of NDDB for construction of administrative building and BSL II laboratory, PD_ADMAS on 8th-9th August 2011 at Bangalore.

2. Organized Interactive Meeting with officials of NDDB for construction of administrative building and BSL II laboratory, PD_ADMAS on 5th November 2011 at Bangalore.

3. Organized Project Implementation and Technical committee meeting for construction of administrative building and BSL II laboratory, PD_ADMAS on 17th December 2011 at New Delhi.

Institutional Animal Ethics Committee Meeting

IAEC meeting of PDADMAS held on 22nd October 2011 in the conference hall. The following members attended the meeting: Dr. H. Rahman, Project Director and Chairman, Dr. S. G. Ramachandra, CPCSEA nominee, Dr. Vishwanath Bhagwat, Scientist from outside the Institute, Mr. D. R. Prahallada, Non-scientific socially aware member, Dr. Diwakar Hemadri, Principal Scientist, Dr. P. P. Sengupta, Senior Scientist, Dr. P. Krishnamoorthy, Scientist and Member Secretary. Four project proposals submitted by Scientists, PD_ADMAS were presented, discussed and approved by the committee.
Celebration of Institute Foundation Day

For the first time, Institute Foundation Day was celebrated on 1st July 2011 with enthusiasm by planting tree saplings at proposed new site at Yelahanka, Bangalore. The former Project Directors greeted the staff of the institute and appreciated the efforts as “well begun”.

Seroepidemiology of Peste des petits ruminants (PPR)

PPR is highly infectious and fatal disease of sheep and goats caused by a paramyxovirus in the genus Morbillivirus. Prevalence rate of PPR antibodies 4.58 % in cattle and Buffaloes in Southern Peninsular India was observed based on screening of 2159 serum samples. The prevalence rate of PPRV antibodies 10.52 % was observed in livestock species based on screening of random 4787 serum samples. The base line epidemiological data for PPR in some states of the country was established using the random samples from livestock (Sheep, Goats, Cattle and Buffaloes) population.

Consortium Implementation Committee (CIC) and Consortium Advisory Committee (CAC) of NAIP on Bovine Mastitis

CIC & CAC of NAIP on Bovine Mastitis, PD_ADMAS was held on 18th October 2011.

Monitoring of leptospirosis in man and animals

rpoB gene based phylogenetic analysis identifies the prevalence of Leptospira inadai subspecies in man and animals in India. Prevalence of Leptospira species namely L. borgpetersenii; L. interrogans; L. krischneri and L. inadai subspecies was observed in India based on rpoB gene based phylogenetic analysis of 300 isolates of Leptospira. In clinical and abortion cases of the livestock especially in cattle–most of the Leptospira species belong to L. borgpetersenii and L. interrogans. In non-clinical cases, most of the Leptospira species were L. inadai subgroup or subspecies.

Project Director visits Australia

Dr H Rahman, Project Director, PD_ADMAS, Bangalore visited CSIRO Australian Animal Health Laboratory (AAHL), Geelong, Australia during November 19 - 25, 2011 to discuss about the Biosafety measures/facilities to be practiced as GLP in India.
Model Training Course on Brucellosis

A Model Training Course (MTC) on Comprehensive approaches for the diagnosis and control of Brucellosis in the country was held from September, 5-12, 2011. Dr M. Rajasekhar, Dr H. Rahman, Dr Abdur Rahman, Dr R.N. Sreenivasagowda, Dr S. Raghavan graced the Inaugural function. 24 Veterinary Officers from all over the country participated in the training. Dr Rajeswari Shome, Senior Scientist was the Course Coordinator of the programme.

Hindi Saptah was celebrated for one week from 14th September to 22nd September 2011 and various activities in Rashtra Bhasha like Essay writing, Translations, Quiz, Debate, Ashu Bhavan, and Solo Songs etc. There was a good response from the Staff of the Institute.

Dr Subhash Morzaria, FAO (ECTAD), Bangkok had an interacted with the Scientists of PD_ADMAS and IVRI (Bangalore) on 14-12-2011 regarding transboundry and emerging diseases.

Hindi Implementation Committee meeting

Dr S S Patil and Dr Nagalingam, Scientists visiting Kumar Pig Farm, Hosabudanur, Mandya, Karnataka for CSF investigation and having interaction with Dr Vivekananda, Veterinary Officer.
XIX Annual Review Meet AICRP on ADMAS

XIX Annual Review Meet - AICRP on ADMAS, PD_ADMAS was held at Jaipur on 8th December, 2011 to review the activities of different Collaborating Units of AICRP on ADMAS and also to discuss the thrust areas to be taken up during 12th five year plan. The event was organised by AICRP - ADMAS, Jaipur centre.

Dr. Balamurugan V, Senior Scientist participated training programme on "DATA analysis using SAS" of the NAIP Consortium "Strengthening Statistical Computing for NARS" organized by Department of Agricultural Statistics, UAS, GKV, Bangalore from 8th to 13th August, 2011.

Dr. Balamurugan V, Senior Scientist and Dr. Nagalingam M, Scientist participated training on "Bovine TB diagnostics" from 4th to 8th October 2011 at Indian immunologicals Ltd, Hyderabad.

Dr. Sengupta P P, Sr. Scientist & Dr. Krishnamoorthy P, Scientist presented paper in 5th Annual Conference of Indian Academy of Tropical Parasitology on 11-13th November 2011 at Government Medical College & Hospital, Nagpur.

Dr. Nagalingam M, Scientist attended NAIP sponsored training course on 'Biosecurity in Livestock and Poultry Health' from 19.12.2011 to 01.01.2012 organized by Central University Laboratory, Centre for Animal Health Studies, TANUVAS, Chennai.

Dr. Krishnamoorthy P, Scientist presented paper and posters in 28th Annual conference of Indian Association of Veterinary Pathologists, 29-30th December 2011, Madras Veterinary College, Chennai.