National Animal Disease Reporting System (NADRS)

The National Animal Disease Reporting System, in short NADRS, is a new Centrally Sponsored Scheme proposed for implementation during last three years of the 11th Five Year Plan with cent percent Central assistance.

India has a large animal population comprising, as per Livestock Census (2003), 485 million of livestock and a one-time count of 489 million poultry. Livestock also plays an important role in India's economy, contributing (along with fisheries) 5.21% to the country's GDP and 31.6% to the agriculture GDP in 2007-08. The livestock sector has immense potential. It has emerged as the key driver of agricultural growth in the country.

The biggest impediment to growth of this sector, however, is the large-scale prevalence of diseases such as Foot and Mouth Disease (FMD), Haemorrhagic Septicaemia (HS), Black Quarter (BQ) in cattle, Enterotoxaemia, Peste des Petits Ruminants (PPR) & Sheep-Goat Pox in sheep and goats and Swine Fever in pigs, which drastically affect the productivity of animals. The presence of animal diseases also deters domestic and foreign investment in the livestock sector. These diseases not only wreck havoc on the existing stock but also constrain market access to our livestock sector, in spite of the fact that we have ample scope to participate in the global trade.

The economic impact of the diseases in livestock results from both morbidity and mortality and the consequent production losses. This includes the direct losses due to mortality, reduced production in terms of milk, meat, wool, hide and skins, as well as indirect loss due to abortions, subsequent infertility, sterility, and deterioration of semen quality. Controlling animal diseases is of upmost important for to prevent these losses and livestock industry to progress for the benefit of the livestock farmers.

At present, an animal disease is primarily recorded by the veterinary doctor working in a Government hospital / dispensary on the basis of clinical diagnosis. This information is passed on to the Taluka / Block level and then to the District and the State veterinary authorities. Disease information is also generated from the disease diagnostic laboratories at the District, State or regional level on the basis of laboratory diagnosis. Finally, information from State level is transmitted to the Central Government, i.e., the Department of Animal Husbandry, Dairying & Fisheries (DADF) in New Delhi. The DADF notifies the World Animal Health Organization (OIE) and other international organizations, as appropriate.

The present system of animal disease reporting is not satisfactory for the following reasons:

The disease reporting is neither timely nor complete. As a result of reliance on postal means of communication, the reports and returns take considerable time and some are also lost in transit. Hence, the compiled information does not represent true picture of the disease situation at any given point of time.
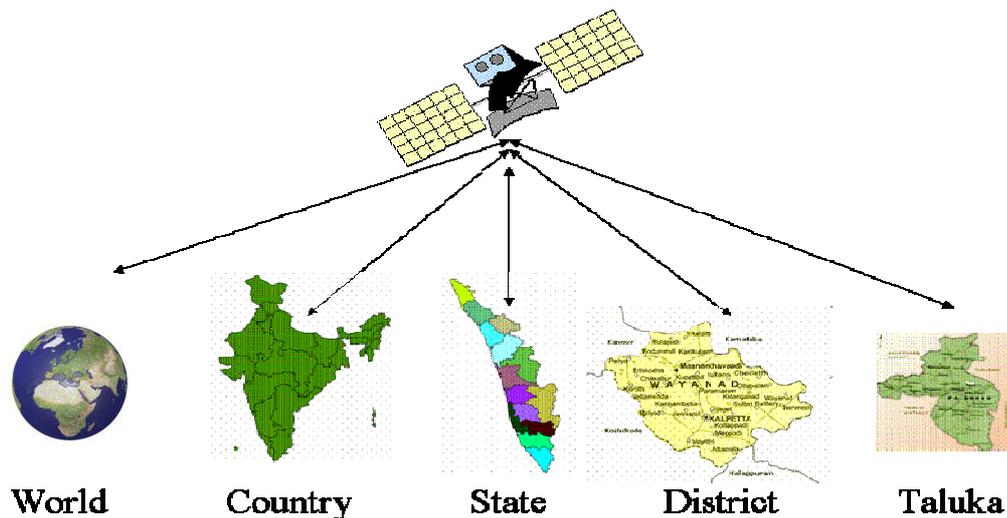
The veterinary services available in the country are grossly inadequate. As a result, a large portion of the livestock owners do not have access to the Government veterinary services. These people rely on either the traditional systems of veterinary medicine or the private veterinary services. These incidences of animal diseases remain out of the reporting system. Their number is believed to be significant.
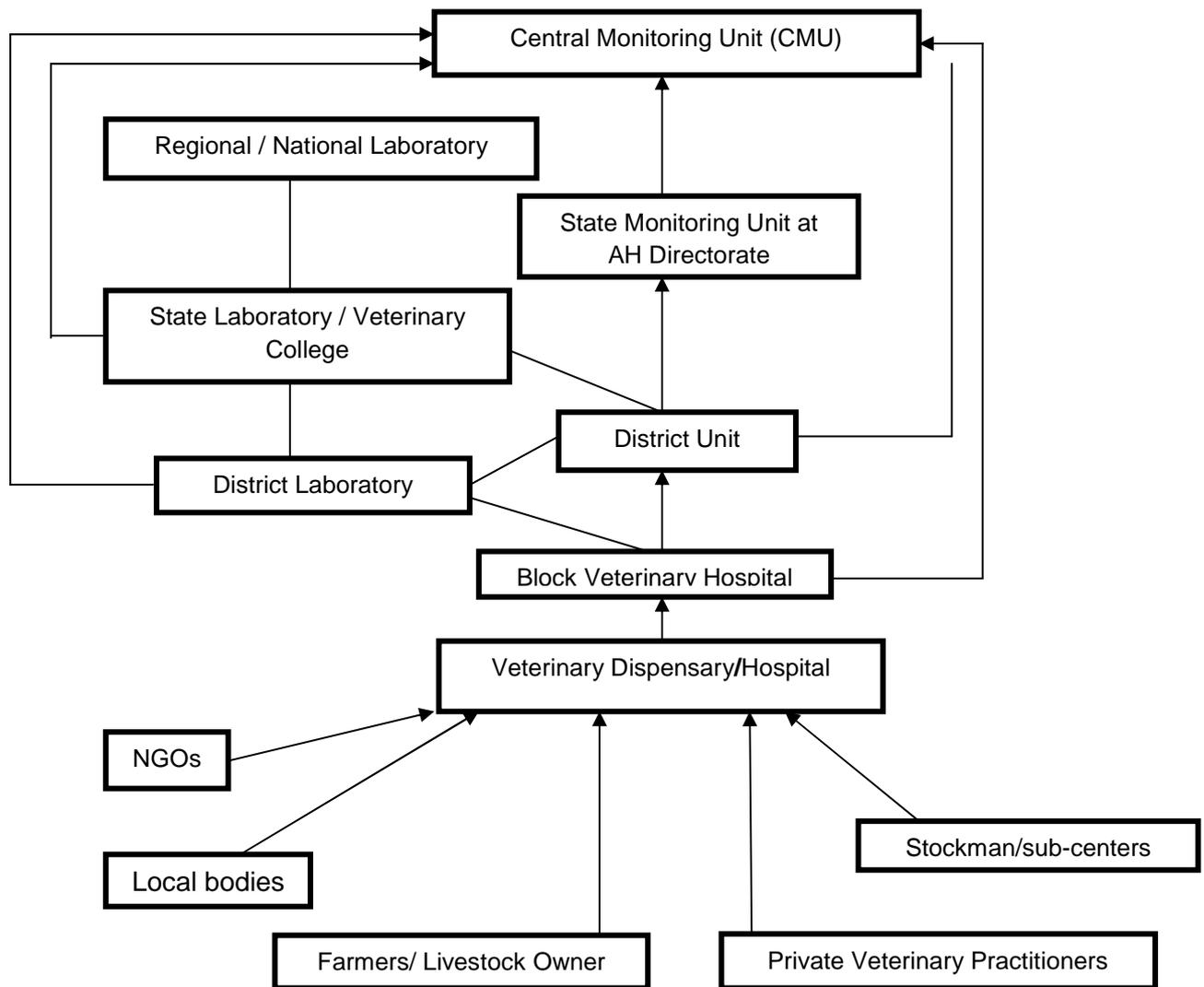
In the prevailing situation, many times animal diseases assume serious proportion before control and containment steps can be initiated, thereby causing avoidable social and economic costs on the livestock owners and the country's economy.

In order to bring about desired change to the existing situation, a computerized system of animal disease reporting is being introduced, linking each Taluka / Block, District and State Headquarters to a Central Disease Reporting and Monitoring Unit at the DADF in New Delhi. The diagrams given below depict the NADRS contemplated diagrammatically, along with various agencies who would be expected to contribute data to the system and its transmission to the Central Monitoring Unit in the DADF at New Delhi.

The reporting system envisaged will enable the Block, District and State animal health officials to report the disease information and render reports and returns prescribed in this regard via internet. The system will be so designed as to assure secure data transfer and confidentiality of information. At the apex level, NADRS will compile and generate animal disease information for the country as a whole. The users will have access to the information as per permissions in consonance with their role and responsibilities envisaged under the system. This computerized system, proposed to be called 'National Animal Disease Reporting System' (in short NADRS), will enable fuller and timely reporting of the animal disease situation in the country, enabling its effective management.

NADRS – Network linkages

World   Country   State   District   Taluka

```
                    ┌─────────────────────────────────────┐
        ┌──────────►│   Central Monitoring Unit (CMU)     │◄────────┐
        │   ┌───────►│                                     │         │
        │   │        └─────────────────────────────────────┘         │
        │   │                                                         │
    ┌───┴───┴──────────────────┐          ▲                          │
    │ Regional / National       │          │                          │
    │ Laboratory                │   ┌──────┴─────────────────┐        │
    └───────────────────────────┘   │ State Monitoring Unit at│       │
              │                       │ AH Directorate          │       │
              │                       └─────────────────────────┘       │
    ┌─────────┴────────────────┐               ▲                       │
    │ State Laboratory /        │               │                       │
    │ Veterinary College        │               │                       │
    └───────────────────────────┘     ┌─────────┴────────┐             │
              │                   ┌───►│  District Unit   │─────────────┤
              │                   │    └──────────────────┘             │
    ┌─────────┴─────────┐        │          ▲                          │
    │ District Laboratory│───────┘          │                          │
    └────────────────────┘          ┌───────┴────────────┐             │
                                     │ Block Veterinary    │────────────┤
                                     │ Hospital            │
                                     └─────────────────────┘
                                              ▲
                              ┌───────────────┴──────────────┐
                              │ Veterinary Dispensary/Hospital│
                              └───────────────────────────────┘
```

As a result of the information that would emerge from the NADRS, it would be possible to develop disease forecasting models, leading to development of disease prevention strategies. As the proposed scheme aims at effective monitoring the occurrence of livestock diseases with a view to enabling their early control, it will result in improving the livestock health in the country. By the very nature of the benefits that would accrue, these cannot be quantified in concrete terms. There is, however, no doubt that implementation of the scheme will yield immediate benefits to the livestock owners and to the economy by way of better health status of animals, prevention of losses due to their morbidity and mortality and improvement in the quality of their products. The benefits likely to accrue to livestock owners and to the economy may be summarized below:-

Benefits to livestock owners

- Better management of diseases of their livestock
- Availability of veterinary service

- Increased economic gain from higher productivity of animals
- Improved market acceptability of their livestock products

Benefits to animal husbandry administration

- Availability of a common channel for dissemination of animal disease information to all stakeholders
- Availability of SMS-based instant alert system for outbreak of diseases, spread of diseases, remedial measures and expert advice, enabling prompt control of diseases
- Availability of enhanced decision support system with GIS integration for effective and timely decision making

Benefits to economy

- Increased livestock production and productivity
- Improved market acceptability of domestic livestock products in international trade
- Saving of costs otherwise incurred for treatment of animals
- Fillip to the growth of the livestock sector, leading to increased employment generation and higher availability of animal protein to the population

In the beginning the users may find the data entry forms exhaustive, but this is because these are designed to capture all details about the disease reporting. If filled properly, in long run these will be beneficial in the future activities like generating detail reports without going through the manual exercise of referring different registers maintained for it. It would create a very good data bank about animal diseases which can be further used for analytical purposes.