

## **OPERATIONAL GUIDELINES FOR NATIONAL ANIMAL DISEASE CONTROL PROGRAMME FOR FOOT AND MOUTH DISEASE (FMD) AND BRUCELLOSIS (NADCP)**

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### **1. BACKGROUND**

- 1.1 India's livestock wealth (512 million) includes 190 million cattle, 110 million buffaloes, 135 million goats, 65 million sheep and 10 million pigs. India is the largest producer of milk globally with production of 176.35 million MT (2017-18).
- 1.2 Yet, prevalence of animal diseases is a serious impediment to the growth of the Livestock Sector. Losses due to some of these diseases e.g. Foot & Mouth Disease (FMD), Brucellosis, etc. are humongous and often beyond estimation. It is because of FMD that there is not only reduction in the milk production and trade in livestock products but also there is infertility, reduction in the quality of hides and skins of the animals, including their draught power. Thus, FMD has a direct negative impact on trade of milk and other livestock products.
- 1.3 Brucellosis is a reproductive disease of livestock resulting in huge financial losses and has an adverse impact on human health, as it has zoonotic potential. Farm workers and livestock owners are always at risk of contracting as well as spreading this disease. Hence, control of Brucellosis will have a double impact - both in human health and livestock health, besides rich economic gains to the animal owners / farmers.
- 1.4 It is therefore imperative to control Foot and Mouth Disease (FMD) by vaccination of all cattle, buffaloes, goats, sheep and pigs and Brucellosis by vaccination of all female bovine calves (4 – 8 months old) in the country. This will not only make animals healthy but will also result in better productivity and acceptability of our animal products world over. Finally, efforts in this direction would further contribute towards doubling farmers' income.

### **2. RATIONALE**

#### **2.1 Foot and Mouth Disease**

- 2.1.1 Foot and Mouth Disease (FMD) is a highly contagious viral vesicular disease of cloven-hoofed animals such as cattle, buffaloes, sheep, goats and pigs etc. Clinical & visible signs include high fever (104-106 degree Celsius), loss of appetite and dullness, excessive salivation, vesicles in the mouth especially on the gums and tongue that result in ulcers, ulcers and wounds in the hoof in the inter-digital space, blisters on teats, etc. FMD leads to reduction in milk yield, decreased growth rate, infertility, reduced working capacity in bullocks, trade embargo in the international market.

- 2.1.2** It is amongst the most serious diseases of animals in terms of economic impact and is globally recognized as a priority disease for control and eradication. The economic losses suffered by farmers due to this disease are enormous and continue during the life cycle of the animal. FMD also leads to lack of access to export markets, despite India being the world's largest milk producer (*Estimated national loss due to FMD – Rs.20,000 crore per annum – source ICAR*).
- 2.1.3** FMD spreads through close contact with infected animal/s, contaminated feed and water, through animal movement and through aerosol and contaminated objects. There is no immediate treatment once the animal is infected. Infected animal has to be isolated and given symptomatic treatment and the animal shed cleaned with suitable disinfectant.
- 2.1.4** Control of FMD can be achieved by mass vaccination of susceptible livestock repeatedly at regular intervals till the incidence of the disease comes down. This will pave way to gradual eradication of the disease from the country.

## **2.2 Brucellosis**

- 2.2.1** Brucellosis is a reproductive disease of cattle and buffaloes caused by bacterium *Brucella abortus*. The disease is characterized by fever, induces abortion at the last stage of pregnancy, infertility, delayed heat, interrupted lactation resulting in loss of calves, loss in production of meat and milk.
- 2.2.2** Brucellosis has an adverse impact on human health as it is zoonotic (transmissible to humans). It is also a serious occupational hazard. Affected humans may exhibit undulating fever, night sweats, body pains and aches, poor appetite, weight loss and weakness.
- 2.2.3** Bovine brucellosis is endemic in India and appears to be on the increase in recent times, perhaps due to increased trade and rapid movement of livestock. The nature of livestock rearing, especially in rural India, is conducive to spread of infection from livestock to humans due to close contact with animals.
- 2.2.4** In the absence of any treatment for Brucellosis in bovine animals, the disease can be prevented by vaccination. Control of Brucellosis can be achieved by a once-in-a-lifetime vaccination of female bovine calves (4 – 8 months old).

## **3. OBJECTIVES OF THE PROGRAMME**

The overall aim of the National Animal Disease Control Programme for FMD and Brucellosis (NADCP) is to control FMD by 2025 with vaccination and its eventual eradication by 2030. This will result in increased domestic production and ultimately in increased exports of milk and livestock products. Intensive Brucellosis Control

programme in animals is envisaged for controlling Brucellosis which will result in effective management of the disease, in both animals and in humans.

#### 4. PROGRAMME IMPLEMENTATION

- 4.1 National Animal Disease Control Programme for FMD and Brucellosis (NADCP) is a Central Sector Scheme where 100% of funds shall be provided by the Central Government to the States / UTs.

Each State shall submit proposal to the Department of Animal Husbandry and Dairying (DAHD) as per the standard template enclosed at **ANNEXURE 1** for FMD and **ANNEXURE 2** for Brucellosis. While submitting proposal to the DAHD, the State should ensure that the proposal is complete in all respects and should also attach along with the proposal, the Financial and Physical Progress Report and Fund Utilization Certificate as per format GFR-12A [Under Rule 238(1)] of GFR 2017 duly approved and countersigned by Secretary, AH Department.

The proposal once received by the DAHD shall be appraised and thereafter, it shall be placed before the National Steering Committee for approval and consideration for release of funds.

- 4.2 The roles and responsibilities of the agencies for implementation and monitoring the programme at the Centre and at the States / UTs are as detailed in the underlying paragraphs.

##### 4.2.1 National Level

At the national level, overall implementation and monitoring of NADCP would be done by the following agencies as under -

- 4.2.1.1 **National Steering Committee (NSC):** The National Steering Committee (NSC) would be headed by Secretary, Department of Animal Husbandry and Dairying (DAHD) and shall comprise of the following members -

|                                                                                                  |   |                  |
|--------------------------------------------------------------------------------------------------|---|------------------|
| Secretary, Department of Animal Husbandry and Dairying (DAHD)                                    | : | Chairperson      |
| Additional Secretary & Financial Adviser, DAHD                                                   | : | Member           |
| Animal Husbandry Commissioner, DAHD                                                              | : | Member           |
| Deputy Director General (Animal Science), ICAR                                                   | : | Member           |
| Joint Secretary (LH), DAHD                                                                       | : | Member           |
| Principal Secretary/ Secretary, Department of Animal Husbandry from the participating States/UTs | : | Member           |
| Director, CSSNIAH, Baghpat                                                                       | : | Member           |
| Joint Commissioner (LH)                                                                          | : | Member Secretary |

The roles and responsibilities of NSC shall be the following –

- a) Oversee activities of the NADCP, give overall direction and guidance, monitor and review its progress and performance
- b) Amend operational guidelines, if and when necessary, other than those affecting the financing pattern
- c) Approve Annual Action Plans and sanction release of funds to the central agency(ies)/ State Implementing Agencies (SIA)/ICAR Institutes
- d) Modify physical and financial targets based on review, approve inclusion and changes in eligibility criteria for implementing agencies and other guidelines including project area, composition of NSC, component structure and re-appropriation proposals
- e) Make changes and delegate powers necessary for smooth implementation of the programme
- f) Meet twice a year or as frequently as may be required
- g) The Chairman of NSC may approve projects in anticipation of approval of NSC, in case the next meeting of NSC is delayed

**4.2.1.2 Programme Management Agency (PMA):** The PMA shall act as the secretariat at the centre for the implementation and monitoring of NADCP and shall be headed by the Joint Secretary (LH), DAHD. The responsibilities of the PMA shall include collection, collation and analysis of the Annual Action Plans for NADCP for FMD and Brucellosis from the States /UTs for consideration of sanction of funds by the NSC to the central and state agencies. PMA shall appraise the plan of operation for vaccination in the States for FMD and Brucellosis that includes manpower requirement and deployment, their training, cold-chain infrastructure management at different levels in the States, districts and blocks, availability and distribution of vaccines, ear tags and tag applicators and suggest measures for alleviation of hurdles, if any, in the programme implementation in the States /UTs. Besides, the PMA shall be responsible for the overall monitoring of the programme including planning of public awareness programmes and trainings and management of the database at the central level (INAPH), those generated online (dashboard, etc.) and those through the Call Centre set up at the Centre.

**4.2.1.3 Programme Logistics Agency (PLA):** The agency shall be responsible for procurement of vaccines, ear tags and tag applicators centrally and shall undertake the following activities in this regard -

- a) PLA shall coordinate with central Programme Management Agency (PMA) to assess the requirement of vaccine dosages, tags and applicators, schedule of vaccination and supply of vaccines
- b) PLA shall prepare tender document in consultation with DAHD, call for tenders, scrutinize the bid documents for vaccine suppliers, tags and applicators and finalize suppliers through competitive bidding

- c) Based on the merit (technical and financial) of the bidder, the suppliers will be identified by PLA. The items will be as per specifications, terms & conditions in the bid
- d) For vaccines, there shall be prior testing for quality through ICAR/CCSNIAH to check for eligibility as per specifications. PLA shall co-ordinate with the Institutes and the vaccine manufacturers for this purpose
- e) PLA shall plan the delivery schedules including identification of various suppliers for specific destination well in advance to ensure that manufacturer supplies the vaccine and ear tags etc. at the district level maintaining cold-chain for the vaccines, based on the requirements as per the State Action Plans
- f) PLA shall carry out pre-dispatch physical verification of vaccines and ear tags with applicators at the manufacturers' end. This will include expiry of the vaccines through the VVMs, temperature loggers, etc. PLA will also obtain the quality check reports done by the manufacturer before dispatch of the vaccines. PLA shall further ensure random quality testing of vaccine batches prior to dispatch of vaccine in coordination with IVRI/ CCSNIAH
- g) PLA shall ensure that the States/ UTs receiving the materials checks the contents of the packages and record the number of vaccines received at the destination as well as expiry of the vaccines through the VVMs, temperature loggers, etc. Batch-wise traceability of vaccines used under NADCP is to be maintained by PLA in coordination with State Governments / UTs
- h) Random check at field level shall also be done for verifying receipt of vaccines, ear tags and applicators as well as expiry of the vaccines through the VVMs, temperature loggers, etc.
- i) PLA shall release payment to vaccine suppliers and ear-tags including applicator suppliers on receipt of acceptance certificates from the respective State Animal Husbandry Departments regarding quantity and quality of each components including results of seromonitoring concerning the vaccines supplied
- j) PLA shall obtain necessary approval from DAHD from time to time for meeting various expenditure of the activities such as, placing of orders on the selected suppliers, release of money to the suppliers, etc.
- k) PLA shall ensure that the GFR of Ministry of Finance shall be followed and strictly adhered to while dealing with matters of financial nature. The PLA shall adhere to the checklist for verification and payment of bills in connection with purchase of vaccines, ear tags and tag applicators

- l) A separate account shall be opened in a Bank by PLA for NADCP and record of the funds shall be maintained meticulously
- m) PLA shall intimate DAHD on all the activities undertaken on a regular basis

**4.2.1.4 Central Call Centre:** The Call Centre set up at DAHD shall be responsible for monitoring implementation of the programme on the ground by calling up beneficiaries (*livestock owners*) over the telephone and ascertaining vaccination details vis-à-vis their livestock. The Call Centre shall liaise with NDDDB (*w r t the INAPH portal*) and the SMUs with regard to data of the livestock owners (*UID and mobile telephone numbers collected during vaccination / ear tagging and registration on INAPH*)

**4.2.1.5 Information Network for Animal Productivity and Health (INAPH) portal of National Dairy Development Board (NDDDB):** This portal shall serve as the central database for animals registered uniquely on INAPH. 100% central funding would be provided to NDDDB for registering the animals (vaccinated) and maintaining the INAPH database. Liaison of INAPH with the Call centre set up centrally will enable verification of implementation of the programme at the ground level under NADCP.

#### **4.2.2 State / UT Level**

The State / UT government shall provide the requisite administrative support and the necessary infrastructure for cold-chain maintenance for vaccines, power back up, etc. and manpower to carry out vaccination and other related activities in a systematic manner as per the planned calendar in order to effectively control these diseases. For smooth implementation of the programme at the district, block and village level, the State Animal Husbandry Department shall constitute the following units with their enlisted roles and responsibilities as under -

**4.2.2.1 State Monitoring Unit (SMU):** State / UT Department of Animal Husbandry shall monitor the Programme through State Monitoring Units to be headed by the Principal Secretary / ACS / Secretary of the Department of Animal Husbandry of the State / UT concerned, as Chairman of the SMU. Commissioner / Director, Animal Husbandry Department of respective State/UT shall be an ex-officio member of the SMU. The SMU may co-opt any other member(s) as deemed necessary from other State / UT government agencies / departments and Panchayati Raj Institutions for effective implementation of the programme.

The State Monitoring Unit shall oversee the overall activities of the NADCP at the respective State/ UT and shall have the following functions:

- a) Monitor and review progress and performance of the NADCP
- b) Chairman of SMU is empowered to approve the Annual Action Plans submitted by the State Implementing Agencies / Livestock Development Boards and forward the same to the Central Government for consideration of sanction / release of funds to the SIAs / LDBs.

- c) SMU shall oversee and finalize the process related with procurement / tendering of vaccines and other logistics required for vaccination and ensure that all vaccine doses and logistics are available before the start of the vaccination round.
- d) SMU shall ensure in advance that the required vaccine doses are available at district / block level well before start of vaccination round as per scheduled month of vaccination. **Vaccination should only be started when all logistics are put in place**
- e) SMU shall ensure receipt of vaccines, tags and applicators in good condition supplied by the suppliers authorized by central Programme Logistics agency (PLA). SMUs shall, after due verification of quality and quantity of vaccines, ear tags and applicators, ensure sending certificate regarding the same countersigned by Principal Secretary / Secretary in charge of Animal Husbandry Department of State / UT. The quality verification of vaccine should also include results of seromonitoring.
- f) SMU shall ensure maintaining continuous cold-chain throughout the vaccination period for effective implementation of the programme. SMU shall ensure that adequate cold chain facilities are strengthened for storage of vaccines. Cold chain maintenance shall also be ensured while supplying vaccine at district or block level
- g) SMU shall draw district / block- wise, village wise vaccination programme and should indicate date of start of vaccination, duration and date of completion for further implementation by District and Block Monitoring unit. The interval of six-monthly vaccinations needs to be maintained for FMD Control Programme while for Brucellosis Control Programme a schedule shall be drawn so as to ensure 100% coverage of the female bovine calves of 4-8 months of age
- h) SMU shall ensure availability of trained manpower for carrying out vaccination and also ensure extension activities, training to field staff, publicity and awareness
- i) In places where sufficient staff is not available, SMU shall ensure availability of manpower to be deployed from neighboring districts / co-operative societies / private organizations / veterinary colleges / Universities, etc.
- j) SMU shall ensure diagnostic facilities to all the laboratories engaged in the serosurveillance and seromonitoring work
- k) SMU shall establish liaison with concerned ICAR laboratories / ICAR-DFMD / ICAR-NIVEDI, etc. for seromonitoring. SMU shall also ensure that a result of seromonitoring is conveyed to PLA in time
- l) SMU shall evaluate impact of programme and constant review of the progress of project
- m) SMU shall submit the weekly report of progress of vaccination to GOI as per prescribed format

- n) SMU shall also submit the completion report of vaccination round to GOI as per prescribed format
- o) SMU shall ensure that vaccination programme should be carried out in Mission mode in shortest possible time period (within 21-30 days for FMD-CP) for its effectiveness so as to build herd immunity and ensure vaccination of all leftover animals and new introduction
- p) For FMD-CP, it must be ensured that all susceptible animals, including pregnant ones, must be included in the vaccination programme. Fear of abortion due to vaccination, if any, must be alleviated through extensive Information and Education Campaign at the farmers' level
- q) SMU shall also ensure complete vaccination of all stray animals to be covered under the programme
- r) SMU shall ensure availability of stock of emergency medicines for immediate use as anti-shock treatment in a suspected case of anaphylactic reaction, if any
- s) For proper identification of vaccinated animals, SMU shall ensure that ear-tags, tagging machines, etc. are available before start of vaccination. All vaccinated animals shall be ear-tagged and registered in INAPH animal health module database
- t) SMU shall ensure training of technicians involved in the process of ear-tagging, entry of details required and uploading in the data in the INAPH server. Simultaneous issuing of animal health cards for recording details of vaccinated animals to animal owners may also be ensured. Vaccination card need to be issued for individual animal, where ever the same has not been issued earlier, and handed over to the animal owner.
- u) SMU shall ensure 'Master' creation as well as vaccination camp creation at district level in the animal health module of INAPH
- v) SMU shall ensure that wide awareness and publicity throughout the Sate/ UT is given towards this programme of the Department
- w) SMU may also coordinate with neighboring States under FMD-CP for carrying out vaccination round simultaneously
- x) SMU shall arrange to regulate the entry of animals from other States only against a vaccination proof of 21 days ago. Wider publicity should be given to encourage the farmers to get the newly introduced animals vaccinated, preferably before their entry to the State. If not, at least immediately on arrival
- y) SMU shall ensure strict compliance of the provisions under the Prevention and Control of Infectious and Contagious Diseases of Animals Act, 2009 and rules thereon either notified by Central Government or framed by the State Governments as empowered by the various provisions of the Act for effective implementation of the disease control programme



- z) SMU shall ensure setting up of State-level Call Centre and other mechanisms to verify and monitor the implementation of the programme

**4.2.2.2 District Monitoring Unit (DMU):** The DMU is to be headed by the District Magistrate, as its Chairman. The DMU may co-opt any other member(s) as deemed necessary from other State / UT government agencies / departments and Panchayati Raj Institutions for effective implementation of the programme. Joint Director / Deputy Director / District Veterinary Officer, Animal Husbandry Department shall be the Convener of the District Monitoring Unit (DMU).

The responsibilities of the DMU are as follows:

- a) The DMU shall be the main executive unit in the entire implementation of the programme. DMU shall be responsible in ensuring that required vaccines and all logistics required for vaccination including man-power for carrying out vaccination, cold chain cabinets and vaccine carriers are in place well before the start of the vaccination programme
- b) DMU shall ensure execution of vaccination in the entire district as per schedule and prescribed procedures, collection of sera samples for sero-monitoring, animal identification and documentation
- c) The DMU shall be responsible for surveillance within the district during the entire project period and shall investigate any suspected outbreaks of FMD/ Brucellosis and arrange for sending specimen for laboratory confirmation
- d) DMU shall be responsible for training of staff engaged in vaccination programme well before the start of the programme and should prepare calendar of operation with the help of District Animal Husbandry officer and Block Officers
- e) DMU should ensure mass education / awareness campaign on FMD/ Brucellosis amongst the livestock farmers giving emphasis on economic impact of the disease and benefits likely to accrue due to preventive vaccination of their animals and timely reporting of the disease in case of its suspicion/occurrence. All forms of print and electronic media to be considered while disseminating the information
- f) DMU shall ensure working of the cold room / cabinets required for storage and cold chain maintenance of the vaccine at district head quarter
- g) In case of failure of electricity, generators shall be made available to maintain the cold chain
- h) At the time of supply of vaccine by suppliers at district level, maintenance of cold chain for vaccine shall be ensured and temperature monitor card and VVMs should also be inspected
- i) DMU shall supervise vaccination programme and provide all necessary required infrastructure facilities like aprons, disposable syringes, needles, biological waste

deposit bags, transportation arrangement, vaccine containers etc. to the Block Officers

- j) DMU shall maintain the buffer stock of vaccines as per the requirement to ensure prompt delivery
- k) DMU shall compile epidemiological information and data of vaccination programme and various reports and submit to SMU as per the schedule
- l) DMU, with the help of District Polyclinic shall co-ordinate with the respective Disease Investigation Laboratories to collect pre- and post-vaccination sera samples for seromonitoring by ICAR/ICAR-DFMD laboratories, etc.
- m) For proper identification of vaccinated animals, DMU shall have ear-tags, tagging machines, etc. readily available before start of vaccination. DMU shall ensure that vaccinated animals are necessarily ear-tagged and registered in the INAPH animal health module database
- n) DMU shall ensure training of technicians involved in the process of ear-tagging, entry of details required and uploading in the data in the INAPH server. Simultaneous issuing of animal health cards for recording details of vaccinated animals to animal owners may also be ensured. Vaccination card need to be issued for individual animal, where ever the same has not been issued earlier, and handed over to the animal owner
- o) DMU shall be responsible for 'Master' creation as well as vaccination camp creation at district level in the animal health module of INAPH
- p) DMU shall liaise with other agencies, Co-operative department, Panchayati Raj Institutions, women Self-Help groups and Youth organizations for effective implementation of the programme
- q) DMU shall supervise proper disposal of bio-medical waste generated during vaccination programme

**4.2.2.3 Block Monitoring Unit / Block Veterinary Officers:** Following are the responsibilities of the Block Veterinary Officers -

- a) Block Veterinary Officer (BVO) at block level shall ensure the supply of vaccine to field officers as per the calendar of vaccination. For example, village wise vaccination plan for FMD-CP should be prepared in each block so as to start vaccination from border villages.
- b) BVO shall ensure availability of adequate vaccine stock as per eligible animal population and ensure maintenance of cold chain. In this regard BVO should also have knowledge of vaccine vial monitors (VVM) and how the same are to be interpreted. This information should also be given to the vaccinator by the BVO.
- c) BVO shall ensure all pre-requisite of the vaccination programme like trained manpower, vaccine carriers, syringes, needles, biological waste deposit bags, personnel protective equipment (apron, hand glove, plain protecting glass), ear-

tags, ear-tagging machines, transport of vaccine, etc., before starting actual vaccination in the block

- d) Field Veterinary Officer/ vaccinator shall obtain the vaccine doses from District Veterinary Officer (DVO) or Block Veterinary Officer (BVO) in vaccine carriers with gel / icepacks. The gel packs should have been stored in cold cabinets at (-) 20°C for 48 hours
- e) BVO shall ensure that **separate disposable needle** is used for vaccination of each animal
- f) BVO shall ensure that technicians involved in ear-tagging are aware of the procedure and enter relevant details required as per the animal health module of INAPH
- g) BVO shall ensure that animal health cards with recorded details of vaccinated animals are issued to animal owners. Each animal shall be issued a Vaccination card and thereafter BVO shall ensure that these cards have been handed over to the animal owner
- h) BVO shall help in collecting pre-vaccinated and post-vaccinated sera samples for laboratory analysis
- i) BVO shall provide publicity material at local level such as leaflets, pamphlets, posters etc., to village panchayat, cattle market authorities and sugar factory authorities, etc.
- j) BVO shall take the support of Block Development Officer, local leaders and key person(s) in the area, women self-help groups, youth organizations, etc., for effective implementation of the programme
- k) In case of suspicion of outbreak or confirmation of FMD outbreak, Block Veterinary Officer should implement all necessary control and containment measures immediately and also report the suspected / confirmed outbreak through the National Disease Reporting System (NADRS)
- l) The Officer in-charge of Veterinary Institutes with his team shall vaccinate all eligible animals as per programme norms
- m) During the vaccination campaign, it should be ensured that vaccine bottles are continuously kept in vaccine carriers when not in immediate use so that cold-chain is maintained
- n) Vaccinators shall ensure that vaccine bottles once opened (punctured) should be used on the same day itself to avoid deterioration of potency / quality of vaccine
- o) Vaccinators shall take care to avoid spillage of vaccine during filling up the syringe
- p) If the animal becomes ferocious or gets disturbed while carrying out vaccination thereby leading to spilling of the vaccine, it shall be ensured that such animals are once again vaccinated properly

- q) Vaccinator shall hand over the vaccination card, duly signed by the Veterinary Officer, to every animal owner after vaccinating the particular animal
- r) The Officer In-charge of Veterinary Institutes shall monitor the vaccination programme in the villages under its jurisdiction and shall ensure participation of village officers, panchayat, gram sevaks, key person(s) and local leaders of the village(s)
- s) He /she shall provide information about the control programme, its importance and impact to the villagers through discussion, leaflets, pamphlets, posters, visual aids during training and awareness programmes, etc., so as to encourage the farmers to vaccinate their animals.
- t) Appropriate disposal of used / waste materials or any other bio-medical waste generated also need to be ensured by the BVO.

## **5. Activities under NADCP for FMD and Brucellosis**

### **5.1 Control of Foot & Mouth Disease:**

Major activities of this programme include –

- vaccinating the entire susceptible population of bovines, small ruminants (sheep and goats) and pigs at six-monthly intervals (mass vaccination against FMD)
- primary vaccination of bovine calves (4-5 months of age)
- deworming one month prior to vaccination
- publicity and mass awareness campaigns at national, state, block and village level including orientation of the state functionaries for implementation of the programme
- identification of target animals by ear-tagging, registration and uploading the data in the animal health module of Information Network for Animal Productivity and Health (INAPH)
- maintaining record of vaccination through Animal Health cards
- serosurveillance/seromonitoring of animal population
- procurement of cold cabinets (ice liners, refrigerators, etc.) and FMD vaccine
- investigation and virus isolation and typing in case of outbreak
- recording/regulation of animal movement through temporary quarantine/ check-posts
- testing of pre-vaccination and post-vaccination samples
- generation of data and regular monitoring including evaluation of impact of the programme
- providing remuneration to vaccinator which should not be less than Rs.3/- per vaccination dose and Rs.2/- per animal for ear-tagging including animal data entry

### **5.1.1 Vaccine and Vaccination:**

Control of FMD to be achieved by mass vaccination of all susceptible livestock repeatedly at regular intervals. The mission of the project is carrying out 100% vaccination of cloven-hoofed domestic animals viz., cattle, buffalo, sheep, goat and pig. Primary vaccination of cattle and buffalo calves (4 to 5 months age) is also to be carried out. Vaccination shall be carried out biannually (six-monthly interval). The duration of each mass vaccination shall be a maximum of 30 days (extendable by 15 days only in unavoidable cases). It shall be preferable to complete vaccination in a single time-frame all over the country but the State/UT may provide their individual vaccination schedule at the beginning of each financial year till synchronized vaccination throughout the country is achieved. The details of work plan with technical indicators for NADCP – FMD and Vaccination are given in **Table 1** and **Table 2**, respectively, as annexed.

**5.1.1.2** 100% central assistance shall be given for procurement of vaccine and other logistics to carry out vaccination including remuneration to private vaccinators, creation of cold-chain facility and serum sample collection. Vaccines shall be procured by the Centre or its agency and the requisite logistics including cold chain facility and serum sample collection vials by State/UT Implementing Agencies/ Livestock Development Boards preferably through GeM or by tendering following all the codal /legal provisions and Financial Rules and Regulation. The vaccine requirement and vaccination schedule district-wise as well as their timelines for this activity should be planned. The indicative format at **Sl. No. 3** of the **Model Annual State Action Plan for NADCP for FMD** annexed (**ANNEXURE 1**), shall be referred.

**5.1.1.3** The State/ UT Government shall provide infrastructure for cold chain maintenance and manpower to carry out vaccination against FMD in a systematic manner at six-monthly intervals, which is essential for effective control of FMD. The infrastructure for cold-chain management and the total manpower requirement for carrying out vaccination during the vaccination campaign district-wise along with timelines for these activities should be planned well in advance. The indicative format at **Sl. No. 12** and **6** respectively of the **Model Annual State Action Plan for NADCP for FMD** annexed (**ANNEXURE 1**) shall be referred.

### **5.1.2 Parasitic control:**

Deworming before vaccination help to get better immune response. Deworming shall be done twice a year, preferably to commensurate with the vaccination programme, but 3-4 weeks prior to it. The procurement of anthelmintic shall be done by the State/UT Implementing Agencies/ Livestock Development Boards through GeM or by tendering following all the codal / legal provisions and Financial Rules and Regulation.

### **5.1.3 Publicity and awareness:**

**5.1.3.1** Wide publicity about the programme shall be given in such a way so that the message of importance of vaccination, disease control and prevention reach the target beneficiaries. Emphasis shall be given on the economic impact of FMD on the rural economy. Both print and electronic media such as television, radio, community radio, newspapers-

posters-leaflets-wall painting-banners etc., shall be used both for general awareness and for awareness of the notified vaccination schedule, especially, vaccination dates, movement control of animals, importance of disease etc. Sensitization of the stakeholders is important for the success of the programme. Private agencies/ State Cooperatives/ NGOs may also be utilized for implementing behavior change strategies in the communities.

**5.1.3.2** 100% Central assistance would be given to the State/UT Implementing Agencies/ Livestock Development Board for awareness campaign. Indicative activities with timelines as given in the indicative format at **Sl. No. 11** of the **Model Annual State Action Plan for NADCP for FMD** annexed herewith (**ANNEXURE 1**) shall be referred and shall be adhered to.

#### **5.1.4 Animal Identification and Animal Health card:**

**5.1.4.1** 100% central assistance shall be provided to National Dairy Development Board (NDDB) and the State/UT Implementing Agencies/ Livestock Development Board for capturing the animal data through animal health module of INAPH and ear-tagging. Animal Health cards for individual animals are to be given to the farmers / animal owners to maintain a record at their level. A model format of the Animal Health cum Vaccination Certificate is annexed at **ANNEXURE 3**. The envisaged outcome of implementation of Animal Health Module of INAPH is to ensure traceability of all the animals that have been ear-tagged and registered including generation of area-wise data on the percentage of vaccination coverage. Animals which are already tagged under different schemes under INAPH module will not be tagged again. The data capturing in the INAPH module for FMDCP (refer **ANNEXURE 4**) may also be used for other related programmes / schemes of the Department.

**5.1.4.2** The requirement of ear-tags and tagging schedule shall be worked out district wise at least four months before the start of vaccination campaign and procured by the Centre or its agency/ the State/UT Implementing Agencies/ Livestock Development Boards through GeM or by tendering following all the codal / legal provisions and Financial Rules and Regulation. **The tagging schedule shall coincide with the vaccination schedule.** An indicative format for working out the requirement of ear-tags along with tagging schedule mentioned in the indicative format at **Sl. 4** of the **Model Annual State Action Plan for NADCP for FMD** annexed, (**ANNEXURE 1**) shall be referred.

**5.1.4.3** Training of Master Trainers for usage of the animal health module of INAPH including creation of district wise 'Masters' in INAPH at NDDB and thereafter the Training of Trainers at district level for the activities related with INAPH has to be ensured by the State / UT Department.

**5.1.4.4** Requisite training for the vaccinators, personnel involved with ear tagging and registration as well as entry of vaccination data of individual animal in the animal health module of INAPH at the field shall be ensured by the State / UT Department concerned. Indicative training module as well as timelines for this activity may be

referred to at **Sl. No. 7** of the **Model Annual State Action Plan for NADCP for FMD**, annexed (**ANNEXURE 1**).

**5.1.5 Establishment/ Strengthening of Check posts:** FMD is a trans-boundary animal disease and hence, veterinary border check-posts set up to control movement of live animals and animal products entering to the country or inter-state is one of the ways to control animal movement. 100% Central funding shall be provided to the State/UT Implementing Agencies/ Livestock Development Boards for establishment or strengthening of check posts @ Rs.10 lakh per check post. The manpower to operationalize these check posts shall be provided by the State/UT Government. It is preferable to establish a check post at strategic points of animal movement corridors and preferably near to Veterinary Hospital / Dispensary, etc.

**5.1.6 Serosurveillance, Seromonitoring, Vaccine testing and Vaccine matching:** The ICAR-DFMD, Mukteshwar, IC-FMD, Bhubaneswar and ICAR-IVRI, Bengaluru to carry out serosurveillance, seromonitoring and vaccine testing. DAHD may involve CCSNIAH, Baghpat for the same as well as other institutes as per need. Testing of FMD vaccine as per IP vet shall be carried out at ICAR-Indian Veterinary Research Institute (IVRI), Bengaluru or at any other Institute approved by DAHD. 100% Central assistance shall be given to these institutes for carrying out serosurveillance, seromonitoring, vaccine testing and vaccine matching. Grants shall be provided by DAHD directly to these institutes for their establishment and strengthening.

**5.1.7 Grant-in-Aid to Research Institutes:** Funds have been earmarked for ICAR Research Institutes for FMD and Brucellosis.

## **5.2 Control of Brucellosis**

**5.2.1** The major activities of this component include mass screening of cattle and buffaloes to know exact incidence of the disease in an area / villages / block / district of state, once in lifetime vaccination of all female calves between 4-8 months using *B. abortus* S-19 strain vaccine (*any alternative vaccine may replace the existing one in future*), one time grant to strengthen one ELISA laboratory in a State/UT, consumables for ELISA Laboratories, remuneration to privately engaged vaccinators in absence of sufficient manpower, publicity and awareness campaigns at national, state and block level, including orientation of the state functionaries for implementation of the programme and online monitoring & data management at HQ. The details of work plan with technical indicators for NADCP – for Brucellosis and vaccination are given in **Table 3** as annexed.

**5.2.2 Vaccine and vaccination:** As NADCP is a Central Sector Scheme, 100% financial assistance shall be provided by the Central Government for undertaking all activities. State/ UT Governments shall submit their proposals for their annual financial requirement for covering 100% bovine (cattle & buffalo) female calves' population of 4 to 8 months of age. The vaccination is to be done only once-in-a-lifetime in 4-8 months' old female bovine calves. Procurement of vaccine shall be undertaken by the Centre or its agency / State Implementing Agency/ Livestock Development Board following financial / codal procedures of the respective State/UT Government.

- 5.2.3** As Brucellosis in animals is highly zoonotic, therefore handling of live attenuated vaccines and vaccinating animals need extra care. Any accidental exposure to it may result infection to the personnel engaged in vaccination. The manpower physically engaged in vaccination of animals need personal protective equipment (PPE) gumboots, goggles, gloves and masks, etc. and also requires proper training for handling of vaccines and performing vaccination of the animals. Each State Implementing Agency/ Livestock Development Board shall ensure procurement of all protective equipment and submit proposals for financial requirements. The procurement shall be undertaken by the Centre or its agency /SIAs/LDBs following requisite financial codal procedures.
- 5.2.4 Remuneration to private vaccinators:** Keeping in view of insufficient manpower with the State Animal Husbandry Departments and to achieve the goal of 100% control of brucellosis in bovines, the programme requires vaccination of every individual targeted bovine female calf. In this connection, private personnel may be engaged to compensate the vacancies of the state governments. The private vaccinators shall be trained for handling of vaccine, personal protection and vaccination of animals. For carrying out vaccination, the vaccinator shall be paid @ Rs.4.00 per dose.
- 5.2.5 Strengthening of ELISA Laboratory in each State/UT:** Brucellosis is a complicated disease in terms of diagnosis. A precise diagnosis of active infection is important for the control of the disease in livestock. Clinical diagnosis is based usually on the history of reproductive failures in livestock, but it is a presumptive diagnosis that must be confirmed by laboratorial methods. Whole blood and serum samples are the easiest to use in terms of collection, handling and processing and pose lower risks especially serum samples. Therefore, it has been recommended to use appropriate samples for the diagnosis of brucellosis.
- 5.2.6** Laboratories in the states shall conduct serosurveillance for brucellosis under this programme. Since the programme covers vaccination of 100% bovine female calves' population, therefore sampling plan for serosurveillance must include each block/taluka. These laboratories shall be strengthened with ELISA Reader.
- 5.2.7** The State/UT ELISA laboratory engaged in serosurveillance requires consumables for conducting diagnostic tests for prevalence of brucellosis disease in animals. Each such laboratory shall be provided financial assistance over the period of implementation of the programme.
- 5.2.8 Conducting Village level screening of serum samples for Brucellosis:** State Government shall conduct Village Level Screening of samples for Brucellosis disease @ 2% of total bovine population for which financial assistance to the State Implementing Agency/Livestock Development Board shall be given @ Rs.5.00 per sample. The serosurveillance of brucellosis in cattle & buffalo shall be followed as per surveillance plan given by the ICAR - NIVEDI, Bengaluru.
- 5.2.9 Conducting awareness programmes:** In animals, Brucellosis usually spread through contact with infected birthing tissues and fluids (e.g., placenta, aborted fetuses, fetal fluids, vaginal discharges). The bacteria causing this disease can also be found in milk,



blood, urine and semen of infected animals. Animals can get the bacteria by ingestion (oral), direct contact with mucous membranes (eyes, nose, mouth), or breaks in the skin. Brucellosis can also be transmitted by contaminated objects (fomites) such as, equipment, clothing, shoes, hay, feed or water. Some animals are carriers; they will have the bacteria but show no signs of illness. These animals can shed the bacteria into the environment for long periods of time, infecting other animals in the herd. Brucella can survive for months in the environment under optimum conditions but can be destroyed by heat and some disinfectants.

In view of the above, it is understood that sensitization of Brucellosis is very much needed. Therefore, creating awareness with regards to management of uterine discharges/aborted fetus /retention of placenta and necessity of vaccination of female calves at the age of 4-8 months of age along with the zoonotic importance of the disease is the need of the hour. For this reason, this Brucellosis control programme has a provision for financial assistance to organize camps, for advertisements, campaigns, etc.

**5.2.10** Animal Health Cards for individual animals are to be given to the farmers as at **ANNEXURE 3** if not already provided earlier in FMD programme for maintaining a record at their level. Animals shall also be tagged if not already tagged in FMD programme or any other programme. The data capturing in INAPH module for Brucellosis (as per **ANNEXURE 4**) shall also be done after administering the vaccine. The vaccinator would also be provided Rs.2/- per animal for ear-tagging and data entry if this tagging is done in Brucellosis vaccination programme.

**5.2.11 Grants-in-Aid to Indian Council of Agriculture Research - National Institute of Veterinary Epidemiology and Disease Informatics (ICAR-NIVEDI) for conducting seromonitoring at National Level:** ICAR-NIVEDI shall be provided an annual grant for conducting seromonitoring (pre-vaccination and post vaccination sera samples), confirmation of doubtful cases, training of laboratory personnel, state-wise sampling plan and also technical support to State/UT Governments for screening outbreak samples etc.

## **6. EVALUATION**

Evaluation of the programme at the end of two years (2021-22) and five years (2023-24) would be carried out by an independent third-party agency. The programme shall also be subject to audit as per extant Government of India procedures.

\*\*\*\*

**Table 1: Details of work plan with technical indicators for NADCP – FMD**

| <b>Sl. No.</b> | <b>Items of Work Plan</b> | <b>Technical indicator</b>                                                                                                                                                                                                                      |
|----------------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1              | States to be covered      | All States and Union Territories of the country                                                                                                                                                                                                 |
| 2              | Animals to be vaccinated  | 300 million cattle and buffaloes, 200 million sheep and goat, and 10 million pigs ( <i>to be revised as per latest census data being undertaken</i> ) in each round of vaccination<br>Primary vaccination for bovine calves (4-5 months of age) |
| 3              | De-worming                | Entire population of cattle, buffalo, sheep, goat and pig, twice a year, one month before vaccination                                                                                                                                           |
| 4              | Vaccination               | Six-monthly (Bi-annual). Primary vaccination for Bovine calves (4-5 months of age)                                                                                                                                                              |
| 5              | Vaccine to be used        | Trivalent (O,A, Asia-1) BEI inactivated with minimum 3PD <sub>50</sub> per dose. The manufacturer to self-certify the vaccine to be NSP free                                                                                                    |
| 6              | Functional check posts    | There would be adequate number of functional check posts in strategic locations at inter-state boundaries                                                                                                                                       |

**Table 2: Details of vaccination for FMD**

| <b>Description of animal</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>Vaccination schedule</b>                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Young Animals                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Bovine calves 4-5 months old. Booster dose of vaccine shall be administered four weeks after primary vaccination and regular vaccination should be followed thereafter every 6 months |
| Adult Animals                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Six-monthly vaccination as recommended under the programme                                                                                                                            |
| <ul style="list-style-type: none"><li>➤ FMD vaccine shall be kept constantly at a temperature between 2°C and 8°C</li><li>➤ The vaccine shall neither be frozen nor be exposed to temperature higher than 8°C</li><li>➤ The dose of vaccine used shall be as per the manufacturer's instructions which is at present 2 ml each for cattle, buffalo and pigs while 1 ml for sheep and goats</li><li>➤ Route — deep intramuscular (<i>Care must be taken not to rupture bigger blood vessels that may cause emboli in the blood stream</i>)</li></ul> |                                                                                                                                                                                       |

**Table 3: Details of work plan with technical indicators for NADCP – BCP**

| Sl. No. | Items of Work Plan                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Technical indicator                                                    |
|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| 1       | States to be covered                                                                                                                                                                                                                                                                                                                                                                                                                                                               | All States and Union Territories in the Country                        |
| 2       | Animals to be vaccinated                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 100% vaccination coverage of bovine female calves of 4-8 months of age |
| 3       | Vaccination                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Once in a life-time calf-hood vaccination                              |
| 4.      | Vaccine                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Brucella S 19                                                          |
|         | <ul style="list-style-type: none"> <li>➤ Brucella vaccine shall be kept constantly at a temperature between 2°C and 8°C</li> <li>➤ Use only the diluent provided with the vaccine for its reconstitution</li> <li>➤ The dose of vaccine used shall be as per the manufacturer's instructions which is at present 2 ml each for female cattle and buffalo calves</li> </ul> <p>Route — sub-cutaneous (<i>Care must be taken not to vaccinate the rump region of the animal</i>)</p> |                                                                        |

**STANDARD TEMPLATE FOR ANNUAL STATE ACTION PLAN FOR  
NATIONAL ANIMAL DISEASE CONTROL PROGRAMME (NADCP)  
FOR  
Foot and Mouth Disease**

- Name of the Implementing Agency-
- Address -
- Telephone No. and fax No. -
- Email ID of the HOD -
- Nodal officer-

1. **Animal Population:** (*Species-wise (Nos.) and District-wise*)

| Sl. No. | Name of District | Cattle | Buffalo | Sheep | Goat | Pig |
|---------|------------------|--------|---------|-------|------|-----|
|         |                  |        |         |       |      |     |
|         | Total            |        |         |       |      |     |

2. **FMD Vaccination and Outbreaks reported during last year –**

(*details of outbreaks District-wise for the last year*)

| Sl. No | Name of District | Date of last FMD vaccination carried out | No. of FMD outbreaks | Number of animals |          |      |
|--------|------------------|------------------------------------------|----------------------|-------------------|----------|------|
|        |                  |                                          |                      | Susceptible       | Affected | Died |
|        |                  |                                          |                      |                   |          |      |

3. **Proposed vaccine requirement and vaccination schedule district wise**

(*All animals in the district to be covered in one schedule*)

| Sl. No. | Name of District | No. of doses required for one round |         |                                                                 |       |        |     | Expected vaccination commencement date | Expected vaccination end date |
|---------|------------------|-------------------------------------|---------|-----------------------------------------------------------------|-------|--------|-----|----------------------------------------|-------------------------------|
|         |                  | Cattle                              | Buffalo | Bovine calves for booster vaccination after primary vaccination | Goat@ | Sheep@ | Pig |                                        |                               |
|         |                  |                                     |         |                                                                 |       |        |     |                                        |                               |

\*Bovine calves should be given booster one month after primary vaccination (*first time vaccination since birth*)

@Dosage for goat and sheep is half of that in bovines and pigs

4. **Tagging requirement and tagging schedule district wise** (*Tagging should be done with the vaccination schedule simultaneously*)

| Sl. No. | District | No. of tags and applicators required (100% coverage) |         |       |       |      |       | No. of tags & applicators available | Balance requirement of tags & applicators | Expected start date* of tagging | Expected end date of tagging |
|---------|----------|------------------------------------------------------|---------|-------|-------|------|-------|-------------------------------------|-------------------------------------------|---------------------------------|------------------------------|
|         |          | Cattle                                               | Buffalo | Sheep | Goats | Pigs | Total |                                     |                                           |                                 |                              |
|         |          |                                                      |         |       |       |      |       |                                     |                                           |                                 |                              |

\*Tagging schedule must coincide with the vaccination schedule at Sl. No. 3

5. **Deworming** - *to be ensured 1 month before AVD(AVD = Actual Vaccination date)*

6. **Total manpower requirement:**

*(Details regarding requirement of Vaccinators for carrying out vaccination during vaccination campaign)*

**Total manpower required for vaccination should be identified one month before AVD**

| S. No.       | Name of Districts | No. of Animals to be covered under vaccination | Total manpower required for vaccination | Manpower available with State Government for vaccination | Shortage / Gap of vaccinators | Hiring/ Outsourcing of manpower |
|--------------|-------------------|------------------------------------------------|-----------------------------------------|----------------------------------------------------------|-------------------------------|---------------------------------|
| 1            |                   |                                                |                                         |                                                          |                               |                                 |
| 2            |                   |                                                |                                         |                                                          |                               |                                 |
| 3...         |                   |                                                |                                         |                                                          |                               |                                 |
| <b>TOTAL</b> |                   |                                                |                                         |                                                          |                               |                                 |

7. **Training for manpower:** *(Details of training\*# of Vaccinators for vaccination, ear tagging and registration in INAPH including institutions and module)*

*\*Training Module duration (3 days) – Vaccination (1.5 days) / Ear tagging (0.5 days) / INAPH registration (1 day)*

*# Training of all vaccinators should be completed at least 10 days before commencement of vaccination (refer para 3 above)*

| Sl. No. | Name of District | Institution selected for training at District / Block level | Manpower to be trained for vaccination, ear-tagging and registration in INAPH (in nos.) |
|---------|------------------|-------------------------------------------------------------|-----------------------------------------------------------------------------------------|
|         |                  |                                                             |                                                                                         |
|         |                  |                                                             |                                                                                         |

8. **Training of Master trainers for INAPH** *(at least one per district)(Conduct of TOT with NDDB) – To be completed at least 45 days before AVD*

9. **Training of trainers for INAPH** *(at least one per block)(Conducted by master trainers) – To be completed at least 30 days before AVD*

10. **Creating district wise Masters in INAPH**

*- At least 30 days before AVD*

11. **Activities to be taken up for public awareness** – (Details of proposed awareness programmes, viz., Wall writing / banners / Posters / Audio-visuals / Radio advertisement, etc. at State / District / Block / Village level)

|                 | <i>Wall writing</i> | <i>Audio-visuals including films</i> | <i>Radio advertisement</i> | <i>Posters</i>                                   | <i>Banners / Hoardings</i> | <i>Public Announcements and distribution of pamphlets</i> |
|-----------------|---------------------|--------------------------------------|----------------------------|--------------------------------------------------|----------------------------|-----------------------------------------------------------|
| <b>State</b>    | 1 month before AVD  | 1month before AVD                    | 1month before AVD          | 1month before AVD on State transport buses, etc. | 1month before AVD          | -                                                         |
| <b>District</b> | -do-                | 15 days before AVD                   | -                          | 1 week before AVD                                | 1 week before AVD          | -                                                         |
| <b>Block</b>    | -do-                | -do-                                 | -                          | -do-                                             | -do-                       |                                                           |
| <b>Village</b>  | -do-                | -do-                                 | -                          | -do-                                             | -do-                       | 2 days before AVD                                         |

12. **Infrastructure plan for cold chain maintenance for FMD vaccine in districts / blocks under NADCP–**

| S. No. | Name of District | No. of doses required for 100% coverage of vaccination of cattle, buffaloes, sheep, goat, pigs (including primary vaccination) | Cold cabinets required for storage of vaccines at district level | Cold cabinets available for storage of vaccines at district level | Shortage of cold cabinets for storage of vaccines at district level | No. of institutions at block / village level available for further distribution | Cold cabinets required for storage of vaccines at institution level (at block / village) | Cold cabinets available for storage of vaccines at institution level (at block / village) | Shortage of Cold cabinets for storage of vaccines at institution level (at block / village) | Tentative dates* of vaccination scheduled in a block / village | Cold chain capacity required for vaccine distribution to vaccinators up to village level (vaccine carriers) | Cold chain capacity available for vaccine distribution to vaccinators up to village level (vaccine carriers) | Shortage of Cold chain capacity for vaccine distribution to vaccinators up to village level (vaccine carriers) |
|--------|------------------|--------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|-------------------------------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
|        |                  |                                                                                                                                | N C                                                              | N C                                                               | N C                                                                 |                                                                                 | N C                                                                                      | N C                                                                                       | N C                                                                                         |                                                                | N C                                                                                                         | N C                                                                                                          | N C                                                                                                            |

# Tentative dates of vaccination schedule should be within the schedule mentioned at serial no. 3 of the particular district

N = number; C = capacity

13. **Procurement procedure and supply of accessories:** (Details about the procurement procedure to be followed to procure, logistics for vaccination viz. needle and syringes, gloves, apron, refrigerator, cold cabinets, walk - in coolers, etc.)

| Items                                 | Date of tender (to be at least 90 days before AVD) | Supply order (to be at least 60 days before AVD) | Date of expected actual availability to be at least 15 days before AVD |             |          |
|---------------------------------------|----------------------------------------------------|--------------------------------------------------|------------------------------------------------------------------------|-------------|----------|
|                                       |                                                    |                                                  | At State                                                               | At District | At Block |
| 1) Needles and syringes               |                                                    |                                                  |                                                                        |             |          |
| 2) Gloves                             |                                                    |                                                  |                                                                        |             |          |
| 3) Apron                              |                                                    |                                                  |                                                                        |             |          |
| 4) Refrigerators                      |                                                    |                                                  |                                                                        |             |          |
| 5) Cold cabinets (vaccine carriers)   |                                                    |                                                  |                                                                        |             |          |
| 6) Walk-in coolers                    |                                                    |                                                  |                                                                        |             |          |
| 7) Ice-line cabinets                  |                                                    |                                                  |                                                                        |             |          |
| 8) Animal Health cards                |                                                    |                                                  |                                                                        |             |          |
| 9) Discard bags and other accessories |                                                    |                                                  |                                                                        |             |          |

14. **Supply and distribution plan for vaccines, tags and tag applicators**

| Items              | Date of expected actual availability (supply and distribution)* |       |                       |
|--------------------|-----------------------------------------------------------------|-------|-----------------------|
|                    | District                                                        | Block | village (Institution) |
| 1) FMD Vaccine     |                                                                 |       |                       |
| 2) Ear tags        |                                                                 |       |                       |
| 3) Tag applicators |                                                                 |       |                       |

*\*Vaccine doses should be available at District at least 10 days before AVD, Veterinary Institution at Block level 5 days before AVD and at Village level (Veterinary Institution) on the day of AVD*

15. **Seromonitoring Plan**(details of collection of samples, preservation at field level, transportation to State laboratory, storage facility at state laboratory and finally to the Laboratory for seromonitoring)–ICAR – DFMD)

| Sl. No. | District | No. of villages selected for sample collection | No. of samples to be collected |                    |       |
|---------|----------|------------------------------------------------|--------------------------------|--------------------|-------|
|         |          |                                                | 0 day (Pre-vacc)               | 30 day (Post-vacc) | Total |
|         |          |                                                |                                |                    |       |
|         |          |                                                |                                |                    |       |



16. **Serosurveillance** (*details of collection of samples, preservation at field level, transportation to State laboratory, storage facility at state laboratory and finally to the Laboratory for serosurveillance*) – ICAR – DFMD)

| Sl. No. | District | No. of villages selected for sample collection | No. of samples to be collected |
|---------|----------|------------------------------------------------|--------------------------------|
|         |          |                                                |                                |
|         |          |                                                |                                |

17. **Monitoring and Supervision Plan for NADCP**-(*Details of plans to monitor vaccination, cold chain maintenance at the field level*)

- Establish Call Centre (***to be established by State at least 7 days before AVD***)
- Monitoring by State Nodal Officer for each district (during and after vaccination - at least 2 visits during vaccination)
- ***Vaccination to be supervised by Block Veterinarian***
- ***Vaccinators to register name, UID (Aadhar no.) / Mobile no. of animal owner at the time of vaccination***

18. **Proposed Financial Requirement (Item-wise) as per approved Guidelines for NADCP**-(*Actual financial requirement for each item within the prescribed cost. Indicative items for reference are mentioned below at Annexure 1.a*)

**Annexure 1.a**

**LIST OF INDICATIVE ITEMS/COMPONENTS FOR FINANCIAL PROPOSALS UNDER NATIONAL ANIMAL DISEASE CONTROL PROGRAMME FOR FMD \***

| <b>Sl. No</b> | <b>Component</b>                                                                                                                                                                                                                 | <b>1<sup>st</sup> Round</b> | <b>2<sup>nd</sup> Round</b> | <b>TOTAL</b> |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-----------------------------|--------------|
| 1.            | Vaccination cost ( <i>Cost of vaccination and other logistics. This also includes at least Rs.3.00 per dose as incentive for vaccination and recording of animal details on INAPH</i> )                                          |                             |                             |              |
| 2.            | Establishment / Strengthening of Check post to control movement of animals @ Rs 10 lakh per check post (with facilities for infrastructure for health check-up, vaccination, sample collection, ear tagging, registration, etc.) |                             |                             |              |
| 3.            | Awareness campaign                                                                                                                                                                                                               |                             |                             |              |
| 4.            | Cost of ear tagging, registration on INAPH and Animal Health card                                                                                                                                                                |                             |                             |              |

\*Cost towards vaccine, ear tag and applicator to be paid centrally through Programme Logistic Agency (PLA)

**STANDARD TEMPLATE FOR ANNUAL STATE ACTION PLAN FOR  
NATIONAL ANIMAL DISEASE CONTROL PROGRAMME (NADCP)  
FOR  
BRUCELLOSIS**

- Name of the Implementing Agency-
- Address -
- Telephone No. and fax No. -
- Email ID of the HOD -
- Nodal officer-

1. **Animal Population:** (*Species-wise (Nos.) and District-wise*)

| Sl. No. | Name of District | Bovine female calves (4-8 months of age) |         |
|---------|------------------|------------------------------------------|---------|
|         |                  | Cattle                                   | Buffalo |
|         |                  |                                          |         |
|         | Total            |                                          |         |

2. **Brucellosis Vaccination and Outbreaks reported during last year –** (*details of outbreaks District-wise for the last year*)

| Sl. No. | Name of District | Date of last vaccination carried out | No. of outbreaks | Number of animals |          |      |
|---------|------------------|--------------------------------------|------------------|-------------------|----------|------|
|         |                  |                                      |                  | Susceptible       | Affected | Died |
|         |                  |                                      |                  |                   |          |      |
|         |                  |                                      |                  |                   |          |      |
|         |                  |                                      |                  |                   |          |      |

3. **Proposed vaccine requirement and vaccination schedule district wise**

| Sl. No. | Name of District | No. of doses required | Vaccination Schedule |                  |                  |                  |                  |                  |
|---------|------------------|-----------------------|----------------------|------------------|------------------|------------------|------------------|------------------|
|         |                  |                       | Month with dates     | Month with dates | Month with dates | Month with dates | Month with dates | Month with dates |
|         |                  |                       |                      |                  |                  |                  |                  |                  |
|         |                  |                       |                      |                  |                  |                  |                  |                  |

4. **Identification and Registration of animals for Brucellosis Vaccination** (*Tagging already done under NADCP-FMD / INAPH, which will be used for Brucellosis vaccination records*)

5. **Total manpower requirement:** (*Details regarding requirement of vaccinators for vaccination under NADCP – Brucellosis*)

| S. No.       | Name of District | No. of Animals to be covered under vaccination | Total manpower required for vaccination | Manpower available with State Government for vaccination | Shortage / Gap of vaccinators | Hiring/ Outsourcing of manpower |
|--------------|------------------|------------------------------------------------|-----------------------------------------|----------------------------------------------------------|-------------------------------|---------------------------------|
| 1            |                  |                                                |                                         |                                                          |                               |                                 |
| 2            |                  |                                                |                                         |                                                          |                               |                                 |
| 3...         |                  |                                                |                                         |                                                          |                               |                                 |
| <b>TOTAL</b> |                  |                                                |                                         |                                                          |                               |                                 |

6. **Training for manpower:** (*Details of training\*# of Vaccinators for vaccination, ear tagging and registration in INAPH including institutions and module*)

\**Training Module duration (3 days) – Vaccination (1.5 days) / Ear tagging (0.5 days) / INAPH registration (1 day)*

# *Training of all vaccinators should be completed at least 10 days before commencement of vaccination (refer para 3 above)*

| Sl. No. | Name of District | Institution selected for training at District / Block level | Manpower to be trained for vaccination, ear tagging and registration in INAPH (in nos.) |
|---------|------------------|-------------------------------------------------------------|-----------------------------------------------------------------------------------------|
|         |                  |                                                             |                                                                                         |
|         |                  |                                                             |                                                                                         |

7. **Activities to be taken up for public awareness** – (*Details of proposed awareness programmes, viz., Wall writing / banners / Posters / Audio-visuals / Radio advertisement, etc. at State / District / Block / Village level*)

|                 | <i>Wall writing</i> | <i>Audio-visuals including films</i> | <i>Radio advertisement</i> | <i>Posters</i>                                  | <i>Banners / Hoardings</i> | <i>Public Announcements and distribution of pamphlets</i> |
|-----------------|---------------------|--------------------------------------|----------------------------|-------------------------------------------------|----------------------------|-----------------------------------------------------------|
| <b>State</b>    | 1 month before AVD  | 1month before AVD                    | 1month before AVD          | 1month before AVD on State transport buses, etc | 1month before AVD          | -                                                         |
| <b>District</b> | -do-                | 15 days before AVD                   | -                          | 1 week before AVD                               | 1 week before AVD          | -                                                         |
| <b>Block</b>    | -do-                | -do-                                 | -                          | -do-                                            | -do-                       |                                                           |
| <b>Village</b>  | -do-                | -do-                                 | -                          | -do-                                            | -do-                       | 2 days before AVD                                         |

8. **Infrastructure plan for cold chain maintenance for Brucellosis vaccine in districts / blocks under NADCP–**

*(The infrastructure available with the State or created under NADCVP-FMD to be used for Brucellosis vaccines under NADCP – Brucellosis)*

9. **Procurement procedure and supply of accessories:** *(Details about the procurement procedure to be followed to procure, logistics for vaccination viz: needle and syringes, gloves, apron, etc.)*

| Items                                      | Date of tender (to be at least 90 days before AVD) | Supply order (to be at least 60 days before AVD) | Date of expected actual availability to be at least 15 days before AVD |             |          |
|--------------------------------------------|----------------------------------------------------|--------------------------------------------------|------------------------------------------------------------------------|-------------|----------|
|                                            |                                                    |                                                  | At State                                                               | At District | At Block |
| 1) Needles and syringes                    |                                                    |                                                  |                                                                        |             |          |
| 2) Gloves                                  |                                                    |                                                  |                                                                        |             |          |
| 3) Apron                                   |                                                    |                                                  |                                                                        |             |          |
| 4) Discard bags and other accessories..... |                                                    |                                                  |                                                                        |             |          |

10. **Supply and distribution plan for vaccines**

| Items               | Date of expected actual availability (supply and distribution)* |          |                          |
|---------------------|-----------------------------------------------------------------|----------|--------------------------|
|                     | At District                                                     | At Block | At village (Institution) |
| 1) Brucella Vaccine |                                                                 |          |                          |

**\*Vaccine doses should be available at District at least 10 days before AVD, Veterinary Institution at Block level 5 days before AVD and at Village level (Veterinary Institution) on the day of AVD**

11. **Seromonitoring Plan***(details of collection of samples, preservation at field level, transportation to State laboratory, storage facility at state laboratory and finally to the Laboratory for seromonitoring)–ICAR –NIVEDI)*

| Sl. No. | District | No. of villages selected for sample collection | No. of samples to be collected |                    |       |
|---------|----------|------------------------------------------------|--------------------------------|--------------------|-------|
|         |          |                                                | 0 day (Pre-vacc)               | 30 day (Post-vacc) | Total |
|         |          |                                                |                                |                    |       |
|         |          |                                                |                                |                    |       |

12. **Serosurveillance** *(details of collection of samples, preservation at field level, transportation to State laboratory, storage facility at state laboratory)*

| Sl. No. | District | No. of villages selected for sample collection | No. of samples to be collected |
|---------|----------|------------------------------------------------|--------------------------------|
|         |          |                                                |                                |
|         |          |                                                |                                |

13. **Monitoring and Supervision Plan for NADCP-***(Details of plans to monitor vaccination, cold chain maintenance at the field level)*
  - *Call Centre of FMD would suffice*
  - *Vaccination to be supervised by Block Veterinarian*
  - *Vaccinators to register name, UID (Aadhar no.) / Mobile no. of animal owner at the time of vaccination*
  
14. **Proposed Financial Requirement (Item-wise) as per approved Guidelines for NADCP-***(Actual financial requirement for each item within the prescribed cost. Indicative items for reference are mentioned below at **Annexure 2.a**)*

**LIST OF INDICATIVE ITEMS/COMPONENTS FOR FINANCIAL PROPOSALS  
UNDER NATIONAL ANIMAL DISEASE CONTROL PROGRAMME FOR  
BRUCELLOSIS**

| Sl. No | Component                                                                                                                      |
|--------|--------------------------------------------------------------------------------------------------------------------------------|
| 1.     | Vaccination Cost for syringe, gloves, gumboots etc.                                                                            |
| 2.     | Remuneration Cost to Vaccinator @ Rs.4.00 / dose                                                                               |
| 3.     | Strengthening of ELISA Laboratories - One Time Assistance @ Rs.30.00 Lakh for only one Laboratory/State                        |
| 4.     | Expenditure on Consumables for ELISA laboratories @ Rs.20.00 lakh/Year                                                         |
| 5.     | Expenditure on Village level screening of samples: @ 2% of total Bovine Population i.e. for 60 Lakh samples @ Rs.5.00 / Sample |
| 6.     | Expenditure on Awareness Programme                                                                                             |

**Model Format of Animal Health Card cum Vaccination Certificate**

Department of Animal Husbandry and Dairying  
National Animal Disease Control Programme for FMD & Brucellosis  
**Animal Health Card cum Vaccination Certificate**  
Government of \_\_\_\_\_

Name of District: \_\_\_\_\_ Name of Village: \_\_\_\_\_

Name of Veterinary Institute: \_\_\_\_\_

Animal Details:

**Animal UID No.** \_\_\_\_\_ **Breed/Species:** \_\_\_\_\_

Male / Female \_\_\_\_\_ Age \_\_\_\_\_ Colour \_\_\_\_\_

Identification marks: \_\_\_\_\_

**Details of Owner:**

**Name:** \_\_\_\_\_ **Father's name:** \_\_\_\_\_

Full Address: \_\_\_\_\_

**Aadhar Number:** \_\_\_\_\_ **Mobile number:** \_\_\_\_\_

Issuing Official:

Name: \_\_\_\_\_ Designation: \_\_\_\_\_

Contact Number: \_\_\_\_\_ Date of issue: \_\_\_\_\_

Signature with Office seal

**Important Instructions:**

1. Vaccination card shall always be kept with the animal owner
2. Animal Health Card shall be carried during migration of livestock to any place or animal market
3. Animal Health Card shall be transferred to the purchaser (New Owner)
4. Newly purchased animal shall be vaccinated by contacting nearest Veterinary Institute
5. **Contact nearest Veterinary Institute for more details of FMD and Brucellosis vaccination**

*Continued overleaf*



**Deworming Details**

| Deworming at six monthly intervals |           |      |           |
|------------------------------------|-----------|------|-----------|
| Date                               | De-wormer | Date | De-wormer |
|                                    |           |      |           |
|                                    |           |      |           |
|                                    |           |      |           |
|                                    |           |      |           |
|                                    |           |      |           |
|                                    |           |      |           |

**Vaccination Details**

**a. Foot and Mouth Disease (FMD)**

| Vaccination No. | Batch number | Date | Signature of vaccinator | Vaccination No. | Batch number | Date | Signature of vaccinator |
|-----------------|--------------|------|-------------------------|-----------------|--------------|------|-------------------------|
| 1               |              |      |                         | 7               |              |      |                         |
| 2               |              |      |                         | 8               |              |      |                         |
| 3               |              |      |                         | 9               |              |      |                         |
| 4               |              |      |                         | 10              |              |      |                         |
| 5               |              |      |                         | 11              |              |      |                         |
| 6               |              |      |                         | 12              |              |      |                         |

**b. Brucellosis**

| Vaccination No. | Batch number | Date | Signature of vaccinator | Vaccination No. | Batch number | Date | Signature of vaccinator |
|-----------------|--------------|------|-------------------------|-----------------|--------------|------|-------------------------|
| 1               |              |      |                         | 7               |              |      |                         |
| 2               |              |      |                         | 8               |              |      |                         |
| 3               |              |      |                         | 9               |              |      |                         |
| 4               |              |      |                         | 10              |              |      |                         |
| 5               |              |      |                         | 11              |              |      |                         |
| 6               |              |      |                         | 12              |              |      |                         |

Information Network for Animal Productivity and Health (INAPH)

| Vaccination Format - filled for Vaccinator |                                                                                                                                                                                                                                          |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| << Name of the Organisation >>             |                                                                                                                                                                                                                                          |
| Vaccinator Name                            | _____ Month _____ Year _____                                                                                                                                                                                                             |
| User ID                                    | _____ Date: _____                                                                                                                                                                                                                        |
| <b>I Registration</b>                      |                                                                                                                                                                                                                                          |
| <b>a Animal</b>                            |                                                                                                                                                                                                                                          |
| 1 * Tag Number                             | <input style="width: 100%; height: 20px;" type="text"/>                                                                                                                                                                                  |
| 2 * Registration Date                      | <input style="width: 100%; height: 20px;" type="text"/> (dd/mm/yyyy)                                                                                                                                                                     |
| 3 * Sex                                    | <input type="checkbox"/> Male <input type="checkbox"/> Female                                                                                                                                                                            |
| 4 * Species                                | <input type="checkbox"/> Cattle <input type="checkbox"/> Buffalo <input style="width: 40px;" type="text"/> Yak <input type="checkbox"/> Mithun <input type="checkbox"/> Sheep <input type="checkbox"/> Goat <input type="checkbox"/> Pig |
| 5 * Breed Name                             | <input style="width: 100%; height: 20px;" type="text"/>                                                                                                                                                                                  |
| 6 * Age                                    | <input style="width: 20px;" type="text"/> Years <input style="width: 20px;" type="text"/> Months                                                                                                                                         |
| 7 * Number of Calvings                     | <input style="width: 100%; height: 20px;" type="text"/>                                                                                                                                                                                  |
| <b>b Owner Details</b>                     |                                                                                                                                                                                                                                          |
| 1 * Village Name                           | <input style="width: 100%; height: 20px;" type="text"/>                                                                                                                                                                                  |
| 2 * Hamlet Name                            | <input style="width: 100%; height: 20px;" type="text"/>                                                                                                                                                                                  |
| 3 * Owner Name                             | <input style="width: 100%; height: 20px;" type="text"/>                                                                                                                                                                                  |
| 4 * Owner Gender                           | <input type="checkbox"/> Male <input type="checkbox"/> Female                                                                                                                                                                            |
| 5 Mobile No.                               | <input style="width: 100%; height: 20px;" type="text"/>                                                                                                                                                                                  |
| 6 Aadhar No.                               | <input style="width: 100%; height: 20px;" type="text"/>                                                                                                                                                                                  |

**II Vaccination of animal - Mandatory fields**

1 \*Tag Number

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

2 \*Vaccination for

3 \* Date of Vaccination

|  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|

(dd/mm/yyyy)

4 \*Dosage

|  |
|--|
|  |
|--|

5 \*Vaccine manufacturer

6 \* Batch No.

**Fields Marked with \* are Mandatory**

**Suggestions for Printer**

1. One format will be used for one animal
2. Format should be printed in 2 copies. While capturing the data carbon paper will be used
3. If the data is not uploaded by the vaccinator himself, main copy will be forwarded for data entry at centralised location (Taluka/district). Lower copy will be office copy.
4. Different colours may be given to different copies
5. Rice paper (thin paper) should be used, to enable impression upto last copy