



Preparedness Plan for Early Detection and Prevention of Notifiable Avian Influenza in Lebanon

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"Emergency assistance for early detection and prevention of avian influenza in the Middle East region"

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"Strengthening emergency preparedness for avian influenza and other epizootic diseases"

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The unprecedented current crisis of an avian influenza in scope, the geographical distribution, security, and capability of spreading with the potential to lead to a human pandemic explains the close collaboration of the national governments & the international organizations WHO, OIE, FAO whose main objective is to prevent any pandemic from occurring. It was fully agreed that eliminating the virus by combating the disease at its source (poultry) is the best strategy to protect both human and animal health.

An avian influenza preparedness plan is one of the most important and urgent preparedness programs for national animal disease emergencies. The purpose of this plan is to ensure advanced preparation for a timely, consistent and coordinated response across the concerned authorities in the event of an Avian Influenza outbreak which could affect Lebanon. This Preparedness Plan follows the guidelines of the FAO, the OIE, and the WHO models, and has been developed in accordance with the recommendations of those organizations, but has been adapted to meet the specific needs of the veterinary service staff in Lebanon.

The fundamental components to develop this preparedness plan are:

- **Early detection***
- **Rapid response (containment) of avian influenza outbreak***
- **Strengthening Biosecurity measures in poultry farms***

Early detection, reporting and diagnosis of disease together with rapid response effectively implemented measures are essential in an attempt to contain an outbreak already in place. If an outbreak occurs, it is necessary to prevent any further spread of infection by carefully monitoring and restricting movements of poultry and poultry products, by strengthening biosecurity measures at all levels of poultry production, by cleansing and disinfecting the infected holding, by establishing protection and surveillance zones around the outbreak and, if necessary, by vaccination.

The preparedness plan sets out specific measures and actions required by the national authorities involved to support an effective response. This plan also specifies the roles, tasks & responsibilities of all the concerned authorities, necessary human and financial resources and the procedures in case of a suspected and/or confirmed outbreak .

I. Introduction

The location of Lebanon in a region where most of the surrounding countries were infected with HPAI H5N1, & its position as the bottle neck of the migratory pathway of the migrating birds from the Northern Hemisphere to Africa, enforce the veterinary services to be well prepared to face any disease outbreak that might take place through a preparedness plan.

The poultry sector in Lebanon is self sufficient, & supports the living of an estimated number of 20,000 families. An estimated sum of 600 million US\$ is invested in poultry production and broiler processing including laying hens for table eggs, broilers, and 20 projects raising broiler and layer parent stock.

The poultry sector in Lebanon is constituted of around 60 million broilers/year and around 3 million laying hens/year. Around 30% are raised in closed farms while 70% are raised in open system.

Backyard poultry is raised and consumed by rural owners and families. It doesn't enter the commercial food chain. These backyard poultry is kept in small flocks rarely exceeding 50 chickens.

Regarding Farm biosecurity, around 15% of the poultry population is raised in environmentally controlled poultry houses (closed systems) where biosecurity measures are observed and implemented. The rest of the commercial production is carried out in conventional poultry houses (open & semi open systems) where biosecurity measures are observed to a varying degree. (Inventory & mapping the commercial poultry farms – ***Annex I***)

II. Legal Powers

There is the national legislation for the control of animal diseases in Lebanon which should be upgraded according to the new international standards and requirements in order to provide legal bases for taking the following actions: Notification of disease, ban of movement, slaughter of infected or suspected poultry, disposal, cleaning & disinfection, payment of compensation, enforcement & penalties.

The most related legal acts: Decrees, laws, and preventive measures

1. Law decree of veterinary quarantine numbered 12301 dated 20/3/1963
2. Official Veterinary Inspection Law dated 5/12/1913
3. Reporting system decree dated 5/12/1913
4. Law listing poultry diseases that should be monitored by VS, numbered 180/lr dated 17/8/1934
5. Decree number 24/1 dated 27/1/2004 issued for banning the importation of live poultry and any products capable of spreading influenza from countries known to have the disease. The list of these countries is periodically updated
6. Memo to ban the raising of backyard chickens within a 2.5 km radius around large-scale commercial poultry farms, especially in wetlands and marshland regions
7. Memo to emphasize the biosecurity measures in all poultry production units.
 - If possible prohibit visits between production units, otherwise reduce them to the strict minimum
 - Ensure that disinfection procedures and the principle of “All-in-all-out” are complied with.
 - Vaccinate all the staff working in poultry production establishments against human influenza

Measures were taken by local authorities to ensure that free-range poultry raised in small flocks must be confined until further notice, likewise to avoid any contact with migratory wild birds

8. Memo to ban the construction of new artificial ponds to attract wild birds for hunting purposes
9. Memo to ban the poultry production around the natural ponds
10. Memo to ban the importation of ornamental birds from all infected countries or countries at risk.
11. Memo to place pig farms under surveillance and ban the feeding of poultry by-products to pigs.
12. A reminder to emphasize on the decree banning hunting.
13. Memo to strengthen the measures needed to stop illegal trade.

• Ministry of Agriculture - Official Veterinary Services –Animal Resource Directorate (ARD)

The ARD staff consists of 55 veterinarians, agriculture engineers, & veterinary technicians (structure of the administration & their responsibilities –*Annex 2*). The ARD staff would be responsible to early detect & rapidly respond to an outbreak in poultry in order to control the disease & prevent further dissemination.

- **Ministry of Public Health (MOPH)**

The official health staff would be responsible to detect & respond rapidly to any human outbreak in order to be able to cure infected people. The ministry has fully equipped a section in Rafic El-Hariri Governmental Hospital (RHGH) to receive patients showing H5N1 clinical symptoms, perform tests for confirmation, & cure.

- **National Steering committee**

The committee, consisting of representative from the concerned authorities, is responsible to cope with HPAI situation for the containment of an outbreak.

III. Financial provisions

The main prerequisite to an efficient preparedness plan is providing permanent financial resources for animal diseases emergencies including Avian Influenza.

The council of Ministers, taking into consideration all the consequences that might arise during an animal disease outbreak, must approve, in advance, of a permanent fund being available immediately upon an animal disease outbreak.

The plans should be approved by all interested government parties, including economic planning authorities and the Ministry of Finance. The conditions under which funds may be released should be specified in advance. The funds may be held as special funds, & normally they would be provided to the Animal Resource Director when an emergency disease has been diagnosed or there are reasonable grounds to suspect that the disease is present; & the outbreak is controllable in accordance to the contingency plans prepared & approved of previously.

These funds must provide sufficient financial provision for personnel, equipments & consumable items, slaughter, transport, disposal, cleaning & disinfection, compensation, & vaccination.

The fund should also cover the on going activities for the early detection of a disease & the rapid response & control. Moreover, it is necessary to provide appropriate resources for ARD to implement properly the required activities in this preparedness plan.

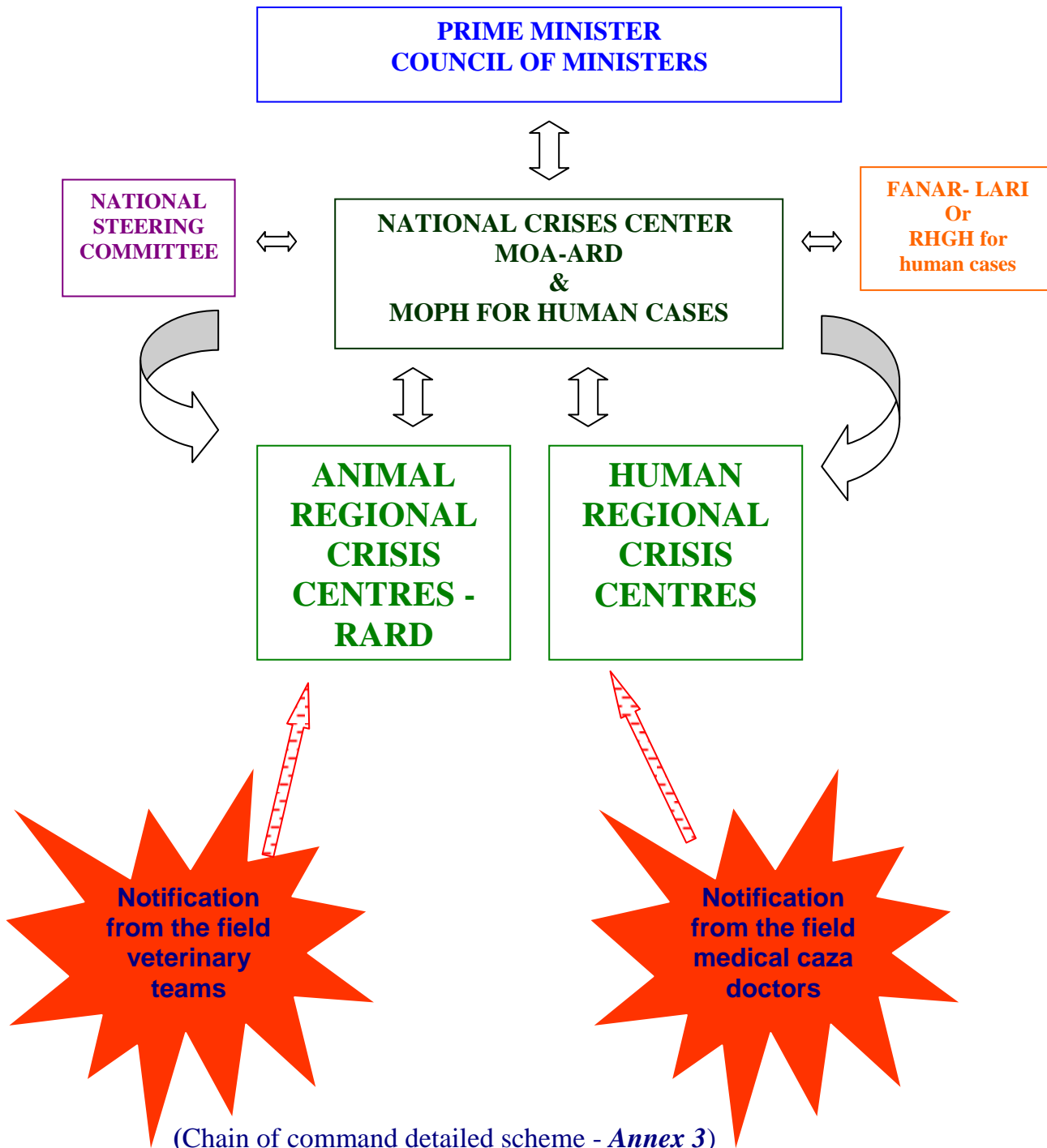
Several emergency funds were recognized from the high relief committee through the council of ministers & were used to recruit veterinarians, agriculture engineers, & veterinary technicians, & to purchase PPEs, equipments, kits & reagents. Another ministerial fund was recognized to purchase a conventional PCR & RT-PCR to the Fanar Laboratory.

In addition, several funds were provided to ARD by international organizations (FAO, OIE, WHO). They were used for launching awareness programs, training veterinary teams, & purchasing the required PPEs, equipments (MOA & Fanar Laboratory), & kits & reagents (Fanar Laboratory).

With respect to a compensation fund, a scenario suggesting a compensation policy for farmers specific to HPAI has been formulated based on chicken type, age, and production stage & was forwarded to the Council of Ministers in 2005, but unfortunately no final decision has been taken yet. Another scenario is under study suggesting that a fund should be prepared for emergency animal outbreaks & it would be in contribution of the private sector including processing industries and traders.

IV. The chain of command and the establishment of national Disease control centers & regional Disease control centers

GENERAL SCHEME OF THE CHAIN OF COMMAND



National crisis center - ARD

Responsibilities and command structures: the Minister of Agriculture is the president of the national emergency animal diseases steering committee and CVO has overall technical responsibility for preparedness and management of animal disease emergencies.

For that reason, the National Animal Disease Control Center is located at the ARD. In the event of an outbreak of avian Influenza HPAI H5N1, the center would be responsible to the CVO for coordinating all emergency disease control measures in the country. The center is situated within the National Veterinary Service headquarters, and the National Epidemiology Unit (Fanar Laboratory) works in close collaboration with it. The veterinary service staff delegates day to day responsibilities for implementing agreed policy to the head of the center (Animal Resources Director).

The responsibilities of the center in the emergency response would include:

- implementing the disease control policies decided by the National Emergency Animal Diseases Steering Committee and CVO;
- establishing a hotline (*Annex 4*);
- directing and monitoring the operations of Regional Animal Resources Departments;
- maintaining up-to-date lists of available personnel and other resources, and details of where further resources may be obtained;
- deploying staff and other resources to the regional departments;
- ordering and dispersing essential supplies, including vaccines if they are to be used;
- monitoring the progress of the campaign and providing technical advice to the CVO;
- advising the CVO on the definition and proclamation of the various disease control zones;
- maintaining up-to-date lists and contact details of risk enterprises, etc.;
- liaising with other groups involved in the emergency response, including those that may be activated as part of the National Disaster Plan;
- preparing international disease reports and, at the appropriate times, cases for recognition of zonal or national freedom from the disease;
- managing farmer awareness and general publicity programs, including press releases, and creating a public relations center to liaise with the media;
- general and financial administration, including record-keeping.

The National Animal Disease Control Center should be fully equipped with a range of maps covering all parts of the country (preferably at 1:50 000 or 1:20 000), and with suitable communication equipment for liaison with regional animal departments, Fanar laboratory, etc. by telephone, e-mail and fax as appropriate. The center should also be linked with the Emergency Disease Information System.

If any human cases were found, Ministry of Public Health - MOPH-the national human disease control center- will be responsible for testing, curing, & monitoring the infected human cases.

Regional Animal Resources Departments - RARD

During an emergency, the animal resources regional departments in the mohafaza of the infected focus, act as the Local Animal Disease Control Center. Teams are able to travel to and from any site necessary for surveillance or any other disease control activities in one day. The regional and district veterinary officers should be in charge of disease control operations in their area, and have the right to enter farms, collect samples and take any measures deemed necessary to prevent the movement of livestock, livestock products and any other potentially contaminated materials within and outside the areas under their control. They should be provided with the necessary materials for collection, storage over short periods (a refrigerator) and transmission of samples; protective clothing; stores of disinfectant; maps (1:20 000), a vehicle and fuel; and the means to contact the CVO as required (telephone, fax, & emails). The cooperation of other services, e.g. the police, agricultural extension officers and the media, to prevent dissemination of disease is done through the municipality. They should be provided with the materials needed to carry out a public information campaign and more intensive farmer training and information. Most important, they should at all times be in possession of accurate information relating to the status of the disease in the country and to isolate, vaccinate, and monitor.

There must be efficient mechanisms in place for transmission of information and instructions from the central veterinary services right down to the frontline of the disease control campaign in the field and laboratory; and for feedback of information to headquarters. For these things to happen quickly and efficiently in an emergency, the national veterinary services must be placed in a command structure or line management system at least for the duration of the emergency response to an H5N1 outbreak.

The National Emergency Animal Diseases Steering Committee

Members of the National Emergency Animal Diseases Steering Committee are representatives of the all concerned authorities: Ministry of Agriculture, Ministry of Public Health, Ministry of Environment, Ministry of Interior and Municipalities, Ministry of Economy, Ministry of Information, Ministry of Finance and High Relief Committee. The main function of this committee is to cope with all TAD outbreak situations. The president of the committee is the Minister of Agriculture.

Concerned Authorities

The High Relief Committee:

Supervise, coordinate, and execute all actions among the concerned teams, and supply funds and the necessary workers & equipments (Poklain for trench digging) in collaboration with the ARD.

Mohafez of the infected area:

1. Supervises the whole work & interferes, when necessary, with the teams in the field through the concerned team authority.
2. Coordination Between different authorities & the municipality & the people

Ministry of Agriculture (refer for use in Manual-attached):

1. The CVO is the technical leader of all the teams who supervises all the technical work done in the field. (Examine, take samples, inquire epidemiologically, and perform all the technical measures to be taken in a suspected & confirmed farm, perform surveillance in the protection & surveillance area...)
2. Provides PPE to all the teams
3. Declare the free status of the infected farm or area
4. Responsible for the repopulation decision

Civil defense:

1. Help in culling and burying the infected birds in the designated trenches, supplying water for disinfection, and help in disinfecting the farms.

Ministry of Finance:

1. Providing necessary funds to HRC

Ministry of Interior Affairs-Internal security:

1. Protect the quarantine area - pro.
2. Provide security if difficulties arise
3. Provide wooden poles & plastic red & white tape to identify the infected premises and the entrance/exit to the farm.
4. Provide night-time illumination devices
5. Escort the trucks carrying the dead birds to the disposal area if burying is to take place outside the infected farm, & back to the quarantine area to be thoroughly disinfected.
6. Record the names of people going in & out of the exit & monitor the exit.

Ministry of Public Health:

1. Collecting samples from people in direct contact with poultry.
2. Monitor people's health in the infected area including all the concerned teams in the field.
3. Tracing and taking the required measures if a proven case of H5N1 appears in humans.

Red Cross association:

1. Helping the personnel from Ministry of Public Health (Transportation of suspected people, first aid...)

Municipality of the area:

1. Coordination between teams and the farmers

Ministry of Water Resources and Ministry of Environment:

1. Selecting the trench site in the infected area in a way that underground water and overall Environment is not polluted.
2. Monitor the digging process of the trench

Ministry of economy:

1. Monitor food from poultry origin distributed in & from the infected area & the protection area in order to dispose it hygienically in collaboration with ARD.

Ministry of social affairs:

1. Assuring the well being of the whole population in the infected area including the young, the susceptible people, and elderly.

Ministry of information:

1. Diffusing official information and propagating public awareness programs issued by the Ministry of Agriculture and the Ministry of Public Health.

Poultry syndicate:

1. Playing a coordinating role between the executing teams and the poultry farmers

Fanar – LARI

The official laboratory Fanar Laboratory is responsible to perform all the required tests to confirm whether a farm is infected with HPAI H5N1 or not. The staff of the Fanar Laboratory should be available 24/24 during an outbreak crisis.

Prime Minister - Council of Ministers

1. Supervise the whole situation
2. Assign the concerned authority to cope with crisis as the MOF to release funds ...

V. Control measures applied in case of suspicion or confirmation of HP AI

The different scenarios for possible HPAI outbreaks:

1st scenario for a single outbreak:

1. Movement control from the quarantine area – one monitored exit
2. After the primary laboratory confirmation, the farm will be considered as an **Index farm/infected farm** and all the poultry within it should be stamped out -buried, and is compensated.
3. Samples from the infected farm flock (dead & alive) will be taken, and will be sent to the Fanar Laboratory and a reference international laboratory recommended by the international organizations.
4. An appropriate area (to be determined by the ARD according to the density of the poultry population – minimum 3km) will be subjected to intensive sampling and stamping out of suspected farms. Bird movement in & out of this area will be banned. Strict quarantine measures will be applied on abattoirs & slaughtering will be banned. Selling poultry products will be banned. Live poultry market should be closed immediately. All Backyard poultry will be stamped out & compensated.
5. A buffer area to prevent spreading of the disease around the quarantine area –minimum 10km (index farm as the center) will be subjected to continuous surveillance. If any case of NAI in this area is detected, the measures mentioned above will be applied.

2nd scenario for a limited multi-focus outbreak:

In addition to the measures mentioned above, Ring vaccination is an option to be decided & supervised by the ARD, especially if the outbreak is out of control. Vaccination should be applied on the commercial farms & the backyard poultry. (Vaccination & Monitoring – **Annex 5**).

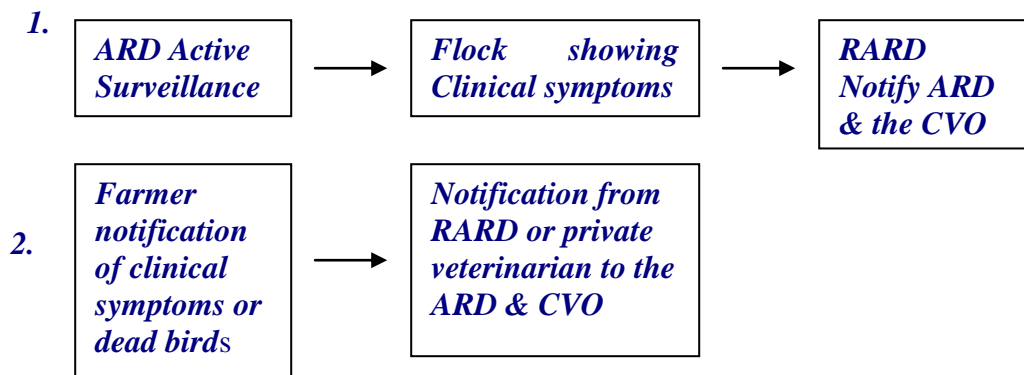
3rd Scenario multi -focus outbreak in different regions

In addition to the measures mentioned above, Blanket poultry vaccination should be reconsidered.

Measures in case of a suspicion

The veterinary team in the suspected farm should contain at least one official veterinarian. Inform the head of the Regional Animal Resources Department and the ARD of the suspicion of HPAI

A) Notification



B) Measures in holdings where outbreaks are suspected (ARD)

1. Identify the owner of the farm or the person who has reported the suspicion.
2. Collect information concerning the:
 - Location, characteristics and number of poultry, other captive birds and all other animals on the farm
 - Presence of staff and vehicles
 - Recent movement of people, equipment, vehicles and animals
 - The availability, on site, of disinfectants and equipments
3. All poultry and other captive birds must be kept indoors
4. No poultry or other captive birds may enter or leave the suspected holding
5. No carcasses or meat of poultry or other captive birds, eggs, feed, materials, waste, manure, slurry, litter or anything likely to transmit avian influenza may leave the holding
6. The movement of persons, mammals of domestic species, vehicles and equipment to or from the holding is subject to the conditions and authorisation of the ARD
7. Appropriate means of disinfection are used at the entrances and exits of buildings housing poultry or other captive birds and of the holding itself in accordance with the instructions of the ARD
8. Putting the farm under restriction which states that the personnel on the farm will not visit any establishment containing live birds until the results from Fanar Laboratory are released, & that the surveillance team must take all necessary precautions if they want to visit other farms, this will be done in collaboration with the MOPH & the MOIA.

9. Identify locations on the farm where vehicles leaving the farm can be washed and disinfected (internally & externally) & organize washing & disinfecting procedures
10. Identify a changing room containing large plastic bags, cardboard boxes, latex gloves, disinfectants
11. Insure that on leaving the premises, staff leaves their disposable gear inside the changing room, wash & disinfect exposed body parts & shoes & wash their clothing as soon as they return home.
12. Insuring that all staff on the premises put on the PPE and that the team has the required kits (Epidemiological inquiry form- *attached at the end of this booklet* -, papers & pens, 2 extra PPE sets, paper tissues, leak proof & water resistant plastic bags, rubber bands, electric torch, thin plastic bags, tape, Scissors, Forceps, knife, Sampling swabs, Syringe 3ml, Disposable sterile needle 19G, Vacutainer set consisting of test tube + Sterile needle 21G + Disposable holder, travel bag, Blood test tubes, labels, Swap, Disinfectant (Virkon S, Formaldehyde, Castle H110, NaOH), Knapsack Mist Blower, Sprayer, Autopsy kits, Samples shipment boxes (icebox), Epidemiological Inquiry Form, & Manual *. (list of PPE & equipment-**Annex 6**)
13. Take at least 30 cloacal swab samples from the suspected farm to be sent to the Fanar laboratory and to an accredited international laboratory for further conformation.
 - At least 5 moribund birds (for post mortem examination to be sent to the Fanar Laboratory)
 - Pooled tracheal samples from at least 5 moribund birds
 - Cloacal and tracheal swabs from healthy birds (also from waterfowl)
 - At least 10 bloods samples from the infected flock.
 - Note that samples from different holdings must not be pooled and each sample must be accompanied by the appropriate form. (**Annex 7 -sampling**)
14. An epidemiological inquiry should be carried out in each affected farm to trace back and follow up the infection; its origin, history, the disease and its determinants, disease pattern in order to determine the control strategies and the prevention of the spreading of the disease to other areas, and the re-introduction of the disease to the country. This enquiry should clarify the clinical situation on the farm, including ill & suspect birds, and all susceptible species present on the farm, and must begin from the most peripheral units. Any vaccination performed should be mentioned in the clinical investigation in order to be reported in the epidemiological inquiry. In the epidemiological inquiry, animal movements should be recorded up to 20 days prior to the onset of the first clinical signs. Also people & vehicles movement should be reported. (Epidemiological inquiry-**Annex 8**)

Measures in case of confirmation:

A) Measures in holdings where outbreaks are confirmed (ARD)

1. All poultry and other captive birds on the holding shall be killed without delay under ARD supervision. The killing shall be carried out in such a way as to avoid the risk of spread of avian influenza. Stamping out is performed by one team of the ARD within the infected farm. Stamping out is either through Decapitation & Dislocation of the neck (for a small flock), or by gasing with CO₂ (17.5 kg/1000m³) where the number of birds per m³ of gas should not exceed 150-mean weight 1.8Kg- (for large flocks) (**ARD-civil defense - Farm workers**)

2. All carcasses and eggs on the holding shall be disposed under official supervision. Putting the culled and dead birds in plastic bags to be buried in trenches. (ARD-civil defense - Farm workers)
3. The number of required vehicles for carrying the carcasses out of the farm if the burying is to take place outside the infected farm must be determined & the route to be taken by the vehicles carrying the dead birds & litter must be identified. The vehicles must be thoroughly disinfected after finishing the job. (ARD- HRC- Municipality)
4. In parallel, the trench should be dug (size decided according to the number of poultry to be buried) & covered with a layer of Calcium oxide (lime) at the bottom & the sides. After burying all the bags in the trench, the trench should be covered with another layer of Calcium oxide-lime & a layer of earth at least 1m thick. (HRC-MOWR-MOE)
5. Destroy all substances and waste, such as feed, litter, manure and all non disinfectable material present on the farm, by collecting them in plastic bags & burying them in the trench with the bags of animal carcasses. (ARD-civil defense - Farm workers)
6. The buildings used for housing poultry, pastures or land, the equipment likely to be contaminated and the vehicles used for transporting the poultry or other captive birds, carcasses, meat, feed, manure, slurry, bedding and any other material or substance likely to be contaminated shall undergo cleansing, disinfection and all procedures for eliminating avian influenza virus. Wash with hot water & detergent walls, floors, & ceilings of the infected farm, then disinfect them. (**list of disinfectants-Annex 9**) Metal structures such as cages may be disinfected using hot water + disinfectant. With respect to all equipment inside the house such as drinkers & food hoppers, they should be washed thoroughly with hot water & detergents & disinfected. Add chlorine, empty, wash with hot water & detergents, & disinfect the water reservoirs. Empty the feed in feed tanks in bags which should be buried in the above mentioned trench, wash the feed tanks with a hot water-pressure pump, & fumigate it (silos). Clean thoroughly & disinfect properly all units which are physically or functionally connected to the establishment as the hatchery, storage rooms, egg trolleys, vehicles. After washing & disinfecting all the units must be fumigated twice with at least two weeks between fumigations with Potassium permanganate & formaldehyde put in fumigation utensils. (ARD-civil defense-Farm workers)
7. Mammals of domestic species shall not enter or leave the holding without the authorisation of the ARD.
8. Examine all the people who are in contact with the poultry (MOPH-Red Cross)
9. The operation manual that describes all control measures applied after suspicion or conformation of HP AI must be distributed to all concerned authorities and all different teams. This manual is based on the national preparedness plan & the international guidelines of the FAO & OIE. The field staffs will be informed immediately if any changes took place. (ARD)
10. **Repopulation of the infected holdings** After the final cleaning & disinfection, the OVS should collect samples from the infected focus for 21 days to detect any possible presence of virus. If no presence of the virus is present the farm will be declared free but will not be repopulated, until further notice from the MOA. (ARD)

B) Measures in contact holdings (ARD)

1. Based on the epidemiological inquiry, the ARD competent shall decide if a holding is to be considered as a contact holding (a holding which is epidemiologically connected with infected farms).
2. Based on the epidemiological inquiry, the ARD may apply the measures from holdings where outbreaks are confirmed to contact holdings and in particular if the contact holding is located in an area with a high density of poultry.

C) Establishment of protection and surveillance zones (ARD)

1. Immediately following conformation of the outbreak the ARD will establish:
 - (a) a protection zone with a radius of at least three kilometres around the holding;
 - (b) a surveillance zone with a radius of at least ten kilometres around the holding, including the protection zone.
2. Immediately impose the check points and disinfection units at the exits from the protection and surveillance zone borders (ARD- Internal Security-MOPH)
3. The ARD may establish further restricted zones around or adjacent to the protection and surveillance zones, taking account of the epidemiological inquiry, the geographical situation, particularly natural boundaries, the location of holdings and the number of poultry and patterns of movements and trade in poultry.
4. The ARD may, where epidemiological information or other evidence indicates, implement a preventive eradication program, including preventive slaughtering or killing of poultry or other captive birds, in holdings and areas at risk.
5. In case of shortage in equipments, material, or personnel for stamping out, cleaning & disinfection, another resolution might be hiring personnel to support the teams by the HRC according to cabinet decree no. 101 dated 1/3/2006.

D) Measures applied in protection zones (ARD specialized surveillance field teams for the protection zone)

1. a census of all the holdings is made as soon as possible;
2. all commercial holdings are visited by the team as soon as possible for a clinical examination of the poultry and other captive birds and, if necessary, the collection of samples for laboratory tests
3. Backyard poultry holdings are visited by the team before the lifting of the protection zone
4. additional surveillance & sample collection is immediately implemented in order to identify any further spread of avian influenza in the holdings located in the protection zone.
5. all poultry and other captive birds must be kept indoors
6. The ARD shall ensure that within protection zones, the movement and transport from holdings on to roads, excluding private service roads of holdings, or by rail, of poultry, other captive birds, ready-to-lay poultry, day-old chicks, eggs and carcasses are prohibited.
7. Prohibition on the removal or spreading of used litter, manure or slurry from holdings

8. The ARD shall ensure that fairs, markets, shows or other gatherings of poultry or other captive birds are prohibited in protection zones.
9. the cleansing, disinfection and treatment of holdings and any materials or substances therein which are contaminated or likely to be contaminated with avian influenza viruses are carried out under the ARD supervision
10. The measures provided shall be maintained for at least 21 days following the date of completion of preliminary cleansing and disinfection on the infected holding and until holdings located in the protection zone have been tested.

E) Measures applied in surveillance zones (ARD specialized surveillance field teams for the surveillance zone)

1. a census of all commercial poultry holdings is made as soon as possible;
2. the movement of poultry, ready-to-lay poultry, day-old chicks, eggs within the surveillance zone is prohibited unless authorisation is granted by the ARD

F) Additional biosecurity measures (ARD)

1. In order to prevent the spread of avian influenza, the ARD may, order the implementation of additional biosecurity measures in holdings in the protection and surveillance zones and in the further restricted zones.
2. Those measures may include restrictions on movements of vehicles or persons for feed supply, egg collection, poultry transportation to slaughterhouses, the collection for disposal of carcasses and other movements of personnel.

Simulation exercise

The purpose of simulation exercises is to practise and evaluate the preparedness plan, to train users in its operation, and to strengthen intersectoral links between ARD & the concerned authorities.

The exercise will provide the opportunity for government departments and other stakeholders to examine:

- Requirements for better cooperation,
- Actions that would take place before, during and after an influenza pandemic.

Specific objectives for simulation exercises are:

- to test the Avian Influenza Preparedness Plan & train staff on its implementation (primary outbreak suspicion, primary outbreak confirmation, secondary outbreaks, post-outbreak management.)
- to test operational response arrangements, exposing communication...
- to examine the liaison and interdependencies between the key operational partners
- in conjunction with MOH, to consider the impact of the disease as a zoonotic infection;
- to test the capability of the ARD and its operational partners within the parameters of the exercise

VI. Diagnostic Laboratories

The Lebanese Agriculture Research Institute (LARI), the national official laboratory for diagnosis of animal diseases, is located in Fanar (suburbs of Beirut) is the official diagnostic laboratory, & an agreement was signed between the Ministry of Agriculture and the General Directory for Agricultural Research Institute on the mechanism of receiving & analyzing the samples of animal origin to test it for animal disease was established.

It's equipped to perform serology (HI tests), ELISA test (detection of antibodies), & RT-PCR test (viral detection according to specific prime). No virus isolation or culture is performed. The total expected capacity is 900 serology tests, 200 PCR/week. Tests in the Fanar laboratory are being done according to the OIE Guidelines for Surveillance for Avian Influenza.

Logistics of the Fanar Laboratory, to cope with diagnosis of H5, H7, and H9 strains, including hiring 3 laboratory technicians (2 with an MS degree & 1 with a BS degree), and procurement of equipments, tools, kits, and reagents, are being supplied by LARI, the **MOA**, and the **FAO** through LARI budget, emergency funds, TCPs, & SFERA projects.

The methodology used the according to the guidelines of the OIE. (**OIE guidelines-Annex 10**)

VII. Training

Regular training should be provided to the ARD & the concerned authorities to implement the required actions in the preparedness plan. These training programs include:

- Training in clinical diagnosis
- Epidemiological inquiries (surveillance & tracing)
- Procedures at the infected farms
- Procedures within the protection & surveillance zone
- Procedures at national crisis center ARD
- Procedures at RARD
- Procedures of notification & publicity

At the field level, official veterinary teams (veterinarians, agriculture engineers, animal husbandry specialists, veterinary technicians) have been set up to implement the surveillance after being subjected to continuous training through several workshops and training seminars on clinical symptoms, sampling, farm biosecurity, control measures, and reporting. Also several regional workshops about AI awareness were held in Lebanon & several countries in the world (Egypt, Jordan, Iran, Tunisia, Qatar...) between the years 2005-2009. Also members of the ARD attended workshops on Veterinary Epidemiology, vaccination, simulation exercise, intersectoral collaborationetc in several regional countries & the USA. Other workshops on sample collection, and handling took place in different provinces and were attended by municipality members.

VIII. Publicity & Disease Awareness

Publicity & disease awareness programs must be launched to inform farmers and the public about the prevention & control of avian influenza. Several programs were launched in collaboration between the MOA, MOPH, & WHO (September 2007- December 2007). Lectures were addressed to public all over the Lebanese territories (Eng. Abeer Sirawan, Dr. Ghazi El-Hakim - MOA- Rindala Farhat, and MOPH). Public brochures, travelers' brochures, maps on migratory birds' route, & Biosecurity measures in poultry farms poster have been issued and distributed. For preventive measures, guidelines were shown on T.V. channels and posters were placed on main roads. A private sector also contributed in the awareness campaign, by issuing brochures, posters, plate mats, and a video-clip. Also in cooperation with the farmers associations and poultry syndicate, meetings and lectures for raising biosecurity awareness and immediate reporting to ARD staff were organized.

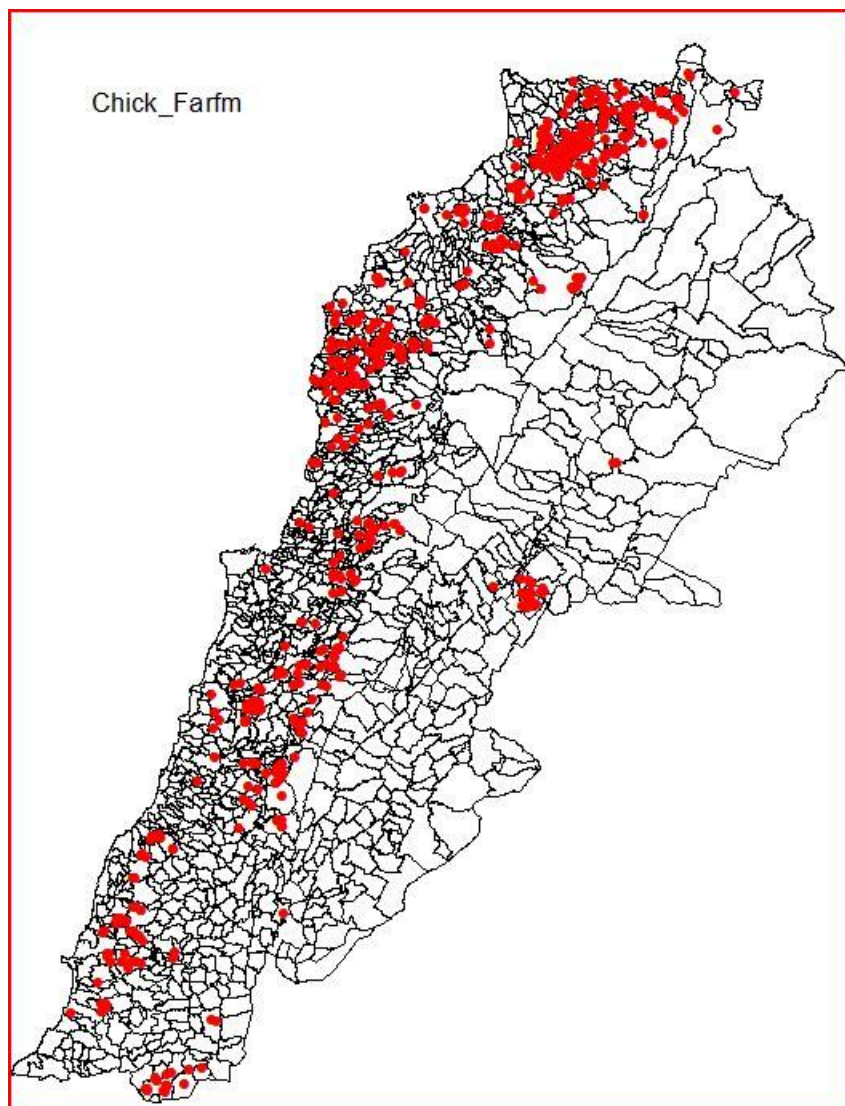
The awareness program is continuing to inform the poultry farmers & the public of all the upgraded information on HPAI & Biosecurity measures to be implemented in poultry farms. It is being implemented by the veterinary teams.

In case of suspicion or confirmation of HPAI, the national hotline telephones will be open 24 hours in order to provide all necessary information & to minimize confusion & panic.

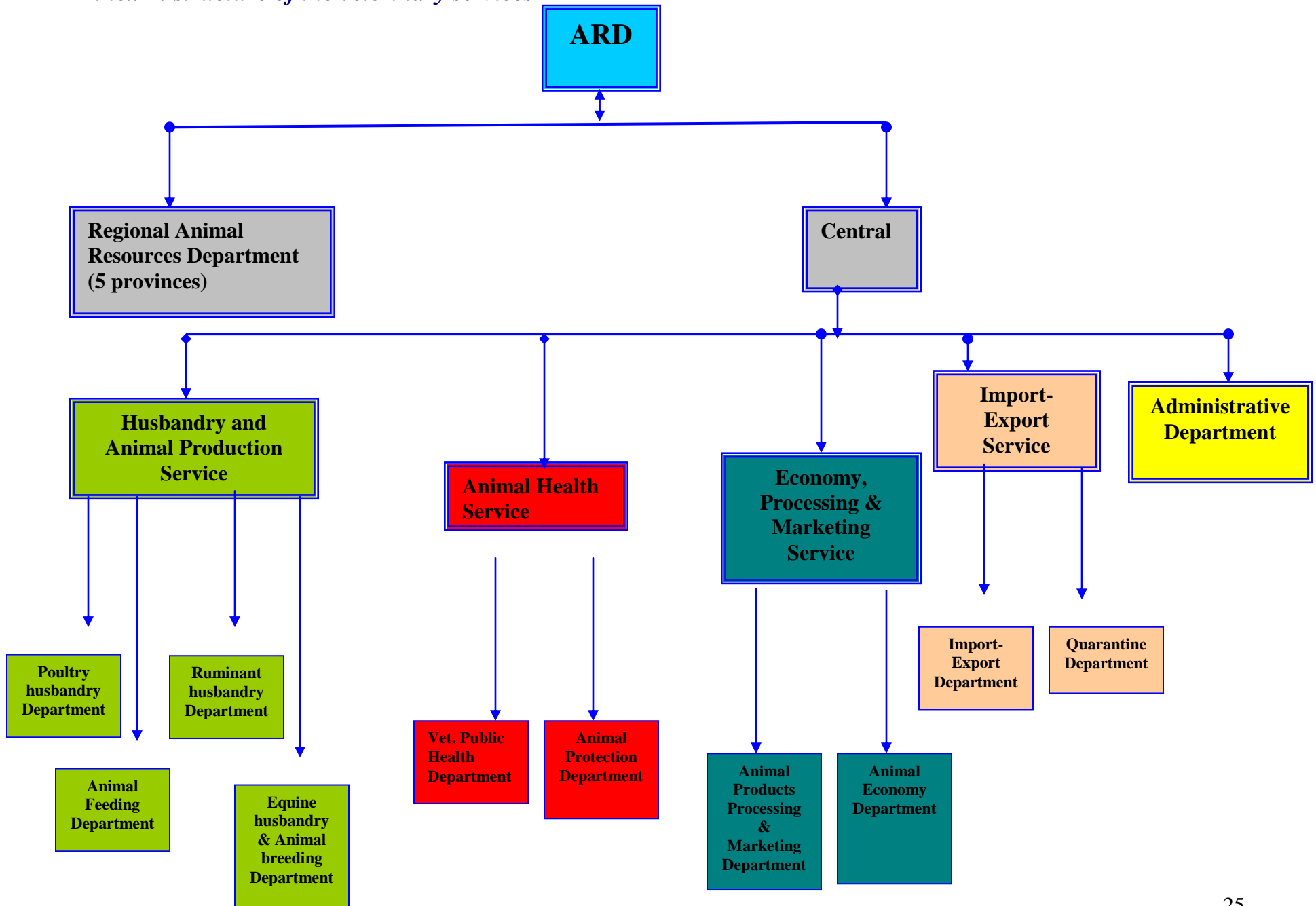
Annex 1

Poultry population:

- Around 60 million broilers/ five to six cycles/year
- 3, 200, 085 layers
- 606, 164 parent stock
- Around 1 million are raised in backyard farms
- Turkey production is very limited, and consists of one commercial flock per year raised from September to December.
- A sporadic production of water fowls occurs every now and then by amateurs, and consists mainly of Muscovy ducks and/or Mallard. There is also a commercial duck farm that export fattened duck livers and duck meat.
- A couple of ostrich farms in the southern area include around 1,200 heads



Annex 2: structure of the veterinary services -ARD



1. ARD Central Administration:

Structure of the Directorate of Animal Resources

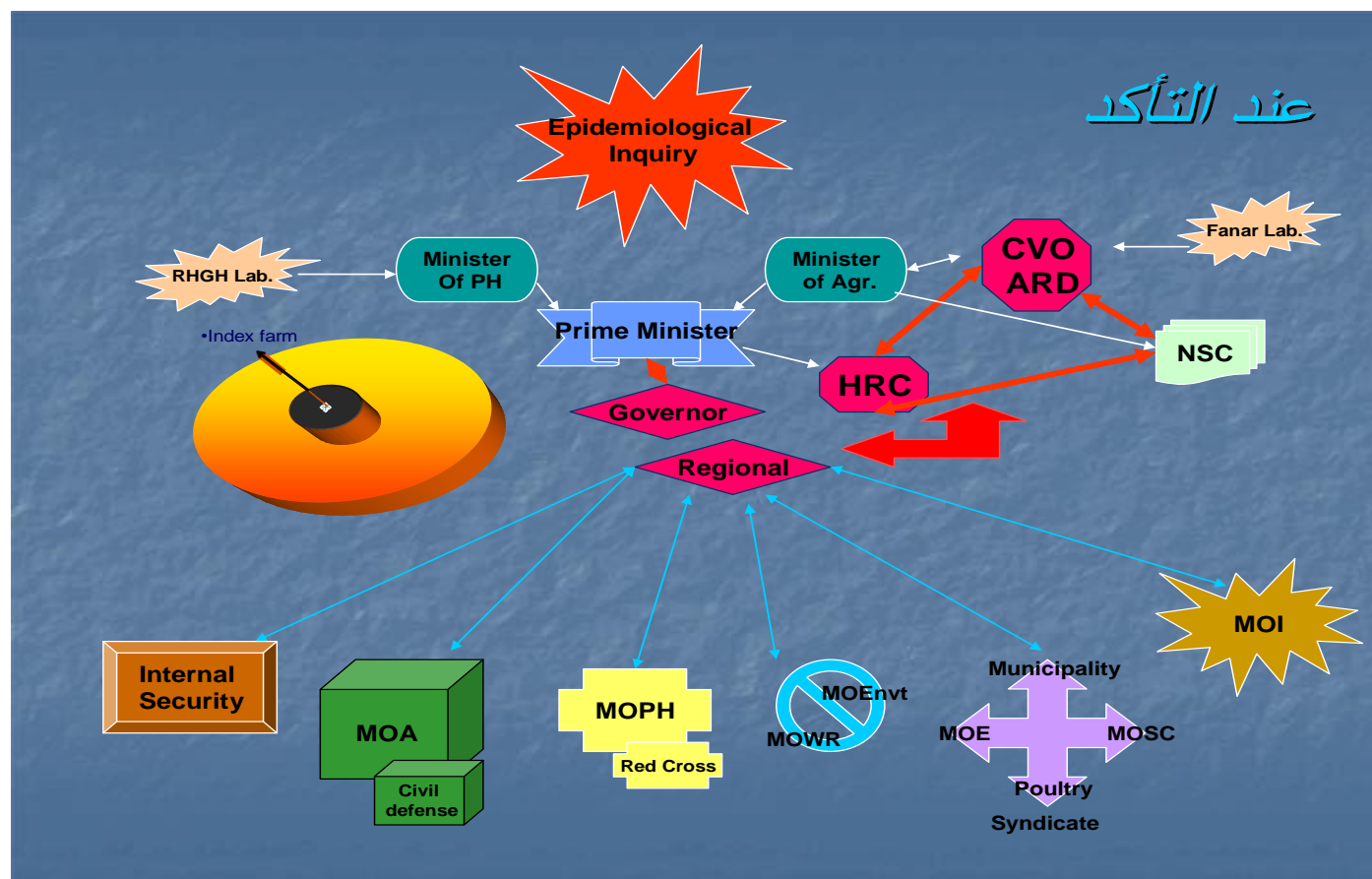
The Animal Resources Directorate (ARD) represents the official veterinary services.

Service	Department	Function of Service
Animal Health Service	1. Veterinary Public Health Department 2. Animal Protection & Welfare Department	Animal disease control, public health protection from zoonosis, veterinary drugs & vaccines registration, vaccination program, slaughterhouse control, laboratory diagnosis, meat and animal origin products inspection.
Husbandry and Animal Production Service	1. Animal Feeding Department 2. Ruminants husbandry Department 3. Poultry husbandry Department 4. Equine husbandry & Animal breeding Department	Farm organizing and management, identification of animals, registration, control of systems of management and production.
Economy, Processing & Marketing Service	1. Animal Products Processing & Marketing Department 2. Animal Economy Department	Establishing norms and standards for animal origin in close collaboration with Libnor to improve quality of products for trade.
Import-Export & Quarantine Service	1. Import-export Department 2. Quarantine Department	Control safety and sanitary conditions on Import/export, implementing rules and regulations concerning sanitary measures on imports/ exports related to animal and public health requirements.
* Regional Animal Resources Departments	1. Animal Resources Services (5 Provinces) 2. Quarantine Station & Border Check Points	They are responsible for the enforcement of the veterinary policy and decisions taken at the central level, related to the vaccination campaigns and disease control and control, and inspection of all animal products on premises.
Administrative Department	-	All administrative work of the directory including personal, documentation

ARD Regional Administration:

- **Veterinary Services** are present in each province as a regional animal resources department. Their structure consists of veterinary officers, animal production engineers and veterinary technicians. They are responsible for the enforcement of the veterinary policy and decisions taken at the central level, related to the vaccination campaigns and disease control, and inspection of all animal products on premises. Job description of each department is established according to law-decree number 5246 dated 20/6/1994.

Annex 3: Chain of Command:



HRC: High Relief Committee

Animal outbreak:

- If an animal outbreak took place, the Minister of Agriculture will inform the Prime Minister, who is the president of the National Steering Committee, who in turn will inform the Minister of Public Health and the HRC to take action and implement the action plan with the teams.

Human outbreak:

- If a human outbreak took place, the Minister of Public Health will inform the Prime Minister, who is the president of the National Steering Committee, who in turn will inform the Minister of Public Health and the HRC to take action and implement the action plan with the teams.

The team consists of representatives from:

1. HRC-president of the team
2. Ministry of Agriculture
3. Ministry of Public Health
4. Ministry of Internal Affairs and Municipalities
5. Ministry of Environment
6. Ministry of Water Resources
7. Ministry of Economics
8. Ministry of Social Affairs
9. Red Cross Association
10. Poultry Syndicate

Annex 4

Hotline of the ARD (during official working hours)

- Central office –ARD- 01/848445- 01/849624- 01/849634
- Mount Lebanon Animal Resource Department 01/288379
- Animal Resource Department in the North 06/433754-06/432407-06/433729
- Bekaa Animal Resource Department 08/822856-08/818572-08/540305
- Animal Resource Department in the South 07/720026-07/723531-07/723379
- Nabatiyeh Animal Resource Department 07/765018-07/760018

Hotline (24/24)

- ARD-Animal Resource Director **DR. Nabih Ghosh 03/305382**
- Mount Lebanon Animal Resource Department-**Dr. Nabih Ghosh 03/305382**
- Animal Resource Department in the North - **Dr. Ikbal Ziada 03/828312**
- Bekaa Animal Resource Department- **Dr. Nadim El-Tilyani 03/855218 / Dr. Ali Raad (Baalback-Hermal)03/212017**
- Animal Resource Department in the South - **Dr. Zaki Aboud 03692642**
- Nabatiyeh Animal Resource Department - **Eng. Hadi Makki 03/396782**

Annex 5: Vaccination & monitoring:

Vaccination

Vaccination is a national option which could not be considered as an alternative to biosecurity measures or to stamping out of infected farms. It is considered as a complement to control measures (biosecurity, movement control, & stamping out).

1. Vaccination prerequisites:

Vaccines must be produced in accordance with OIE standards.

- 1) Farm registration: (GIS for Commercial farms and a special version for backyard poultry)-already done
- 2) Evaluation of biosecurity levels: already done. Not forgetting to mention that in case of an adoption of a vaccination strategy, whether ring, or blanket vaccination, it is essential to maintain a high biosecurity level.
- 3) Presence of a monitoring program
- 4) Movement control of vaccinated birds accompanied with slaughter permit which is a restrictive measure which includes the approval of the ARD on transport of vaccinated birds to markets or slaughter houses after laboratory tests (Serological tests).
- 5) Vaccine used should be validated by the ARD and applied & supervised by the veterinary service.
- 6) Cost / efficiency study which should be done before permitting vaccination includes value of vaccines used, cost of control & monitoring, and cost of laboratory diagnostics needed along with the presence of vaccination exit strategy-already done
- 7) Predetermination of vaccination strategy, whether ring vaccination or Blanket vaccination. –already done

2. The proposed vaccination program:

The program is obligatory for all poultry population in the area & in accordance to the scenario used.

3. Vaccines used

The vaccine used should be registered at the MOA-ARD-Veterinary drug bureau, and permitted to be imported & used only under the approval & supervision of the ARD. Vaccine administration will be only implemented by the official veterinarians & under the supervision of the head of the RARD.

4. Stockpiling of vaccines

The amount of vaccine stockpiled under the supervision of the ARD and the company isn't allowed to sell or distribute the vaccine without a written permission from the ARD.

Monitoring

It includes control of vaccine efficacy & control of epidemiological situation in the farm.

- Vaccine efficacy: To test the efficacy, 20 blood samples /month are taken from 30 vaccinating farms chosen by the ARD to be tested by HI tests to determine the protective titer
- Epidemiological situation: Tests are done every 60 days for parent stock and commercial layers. Broilers are tested before slaughter.
- Presence of 20-50 sentinel birds / farm is a must. (Protocol prepared between OVS and vaccinating farms)
- Ten blood samples are taken from each farm for Sero-surveillance
- Dead birds are subjected to virological diagnosis

Sentinel birds:

As mention before, presence of sentinel birds is essential for the control of epidemiological situation in the vaccinating farms in spite of the fact that special attention and management should be provided for these sentinel birds. Conditions to be fulfilled are:

- Identification or caging is essential for sentinel birds.
- Sentinel birds should be kept in close contact with the vaccinated birds in the poultry house.
- Sentinel birds should be protected against diseases as the vaccinated birds except for AI vaccination.
- Sentinel birds should be of the same breed and age of the vaccinated birds.
- An obligatory protocol for sentinel birds should be issued by ARD before permitting vaccination against AI.

Annex 6: PPE & Equipments

All teams will be equipped with the required preventive clothing in accordance to their jobs. In addition to cleaning equipments (shovels, forks, thick nylon bags,...)& disinfectants (Virkon, Formaldehyde, Castle H 110, NaOH) and their sprayers, there are the following equipments & materials:

- poklain
- The CO2 containers with special movable plastic covered barrels with appropriate connections for inducing euthania in birds
- Small carts to be used inside the poultry houses.
- Disinfecting troughs and containers
- Quick lime
- Cleaning soaps & detergents
- Thick Nylon sheets for covering windows & doors (in case CO2 is used inside the house)

PPE

- Conical bottom tube 15ml
- Conical bottom tube 50ml
- Scissors
- Forceps
- Sampling swabs
- Syringe 2.5 ml
- Syringe 3ml
- Syringe 5ml
- Disposable sterile needle 21G
- Disposable sterile needle 19G
- Disposable sterile needle 18G
- Gloves
- Vacutainer set consisting of pet tube + Sterile needle 21G +disposable holder
- Travel bag
- N95 masks
- Dust musk with a valve
- Regular Masks
- Boot cover
- Personal Protective Equipment kits - overall
- Head cover
- Protective eyeglasses
- Blood tubes
- Swap
- Disinfectant (Virkon S)
- Disinfectant (Formaldehyde)
- Disinfectant (Castle H 110)
- Disinfectant (NaOH)
- Knapsack Mist Blower

- Sprayer
- Vaccines carriers (boxes for transport)
- Autopsy kits
- Samples shipment boxes
- Culling bags

Annex 7

Sampling

- **Targeted sampling methods**

Procedures of target sampling:

- Reporting on all visited farms
- Samples are only taken from suspected farms
- With respect to broilers, tracheal swabs are taken
- In case of suspicion, reporting include clinical symptoms, death rate...
- In low morbidity with few clinical symptoms and no mortality for more than a week, blood samples are taken, if less than week swabs must be taken.
- In severe clinical symptoms with mortality, priority for tracheal swabs for PCR are Taken
- With respect to dead wild birds, rectal swab samples are taken
- Live wild birds if caught are sampled by tracheal or rectal swab
- Dead wild birds are sent to the Fanar Laboratory for PM.
- Water (lakes, ponds, susceptible to migrating birds is being sampled periodically), but preferable to take samples from Feces found around resting points of wild & migratory birds, because the virus titer might be diluted in water.

Sampling size:

- Back yard: village as an epidemiological unit, (Suspected, 20/ village). If the number of backyard poultry is less than 20 in an epidemiological unit all birds are sampled.
- Commercial: Farm as an epidemiological unit (Suspected, 20/farm).
- Wild and migrating birds: All caught alive or dead
- Periodically, 1-3 swabs from a farm with healthy flock for surveillance purposes.

Transport of the samples

1. Blood samples, cloacal and tracheal swabs must be transported within 48 hours of sampling in sterile tube with 1 ml of PBS & kept at a temperature of (+2 to +8 °C). If samples are to be kept for more than 4 days, they should be frozen at (-80 °C)
2. Feces and organs must be transported in sterile boxes.

Suggested sampling methods for wild and migratory birds are recommended to be as follows:

- **Sampling of Live Birds - Waterfowl**

Migratory waterfowl in Lebanon are restricted to a limited number of well-known wetlands, and the total numbers of migrants are generally low. The most abundant species in Lebanon are garganeys, mallards, teals, pintails and shovelers. Their potential capture methods include rocket nets (gun nets) and baited fixed traps. Netting or trapping would likely also result in capture of feral mallards and native, non-migratory grebes, coots and moorhens. Because these species could be secondarily infected by arriving migrants, they could act as sentinel species. Sampling of all birds captured, regardless of species, would increase the chance of detecting H5N1 as well as other avian influenza subtypes. Capture activities should coincide with the arrival of migratory ducks, because shedding of avian influenza in waterfowl occurs over a relatively brief period following infection. The target period would be March-April for Lebanon. Diving ducks such as the Tufted duck, Goldeneye, Grebes require more

specialized trapping methods than do dabbling ducks and the success rate is likely to be lower.

- **Sampling of Live Birds – Shorebirds**

As a group, shorebirds represent an important potential source of information regarding the early detection of H5N1 in Lebanon. The primary target species of shorebirds in the Lebanon are not expected to be sampled in large numbers at continental sites, so surveillance of these species at PalmIslands locations will be an important aspect of the national effort. As with waterfowl, capture of sufficient numbers of shorebirds for sampling will require deployment of dedicated crews, as the only banding program currently in Lebanon is a small research endeavor which bands less than 100 birds annually. Cheikh Zennad Salt Pans in North Lebanon offers also a good opportunity to capture plovers, stints, stilts and ruffs. Golden-plovers aggregate in predictable locations and can be netted either using rocket nets or mist nets. Turnstones usually forage in small flocks or individually in predictable locations. Concentrations of this species could be captured with rocket nets. Both species, and other species that occur in lesser numbers, might be most efficiently sampled by fecal collection (see Environmental Sampling, below). Baited walk-in traps are quickly discovered and exploited by passerines and doves and do not achieve useful capture rates in most locations.

- **Sampling Sentinel Wild Birds**

Sentinel birds, which are domestic fowl monitored for infections originating in wild birds with which they have contact, are potential tools for H5N1 surveillance. Due to the high lethality of this virus for chickens, good reporting and sampling of mortality events in backyard flocks would appear to be a more cost-effective monitoring tool than obtaining swabs from apparently healthy chickens. Regular weekly sampling of captive sentinel ducks could detect H5N1 in selected wetlands. Placement of disease-free domestic ducks into water bodies frequented by migratory species could result in higher detection probabilities than sampling wild birds, because regular sampling is more likely to catch the brief period of virus shedding.

- **Environmental Sampling**

An approach based on fecal sampling could be immediately implemented and may be the only reasonable approach in areas where bird capture is not practical.” The dispersed nature of shorebirds in Lebanon suggests this method as a preferential alternative to capture programs, especially if it is desired to sample birds in a compressed timeframe upon their arrival in the country. Such timing would probably coincide with maximal shedding of avian influenza viruses and thus detection probability. Careful observation of individual shorebirds for defecation could eliminate fecal identity issues and permit calculation of prevalence rates. In species such as the golden-plover, where nighttime single-species aggregations are predictable and observable, sampling of fresh feces in the morning could be an efficient technique, although multiple defecations per individual would obviate prevalence calculations.

Implementation of fecal sampling would require dedicated observers to collect feces deposited by foraging individual shorebirds. For species that aggregate, identification of loafing sites would be needed. Sampling, shipping and analysis protocols for fecal samples parallel those of cloacal swabs. This technique could also be used to sample feces from any waterfowl observed loafing on land.

Samples from the infected Farm will be taken in order to be sent to an international reference laboratory through the MOA & international organizations for further confirmation.

Annex 8: epidemiological inquiry

انفلونزا الطيور التحقيق الوبائي

التاريخ: ---/---/---

الطبيب البيطري: -----
تلفون: -----
نوع العينات المشتبه بها: -----
عددتها: -----
أخذت العينات من قبل: -----
بتاريخ: -----
نتيجة الفحص المخبري: -----
تاريخ الفحص: -----

اسم المزرعة: -----
عنوان المزرعة: -----
المحافظة: -----
البلدية: -----
القضاء: -----
تلفون: -----

رقم المزرعة لدى وزارة الزراعة – مديرية الثروة الحيوانية: -----

المالك: -----
عنوانه: -----
تلفون: -----
المربي: -----
عنوانه: -----
تلفون: -----

أعطيت المعلومات من قبل -----
طبيب المزرعة البيطري: -----
تلفون: -----

معلومات عن المزرعة

نوع المؤسسة:

☐

بيتية

☐

تجارية :

نظام التربية: ☐ مفتوح

☐ شبه مقفل

☐ مقفل

مساحة المزرعة: ----- عدد العنابر: -----

نوع الانتاج:

☐ امهات لحم

☐ امهات بياض

☐ فروج

☐ بياض

عدد الطيور الموجودة في المزرعة وأنواعها

☐ فروج لاحم العدد:-----

☐ بياض العدد:-----

☐ امهات بياض العدد:-----

☐ امهات لاحم العدد:-----

☐ حبش العدد:-----

☐ بط العدد:-----

☐ حمام العدد:-----

☐ وز العدد:-----

☐ فري العدد:-----

☐ طاووس العدد:-----

☐ دجاج فرعوني العدد:-----

☐ نعام العدد:-----

☐ النوع:----- العدد:----- أخرى

تاريخ إدخال الفوج ---/---/--- الجنس:----- العمر:-----

---/---/--- الجنس:----- العمر:-----

منشأ الفقاسة:

مالك الفقاسة:----- اسم الفقاسة:-----

عنوانها:-----

محافظة:----- قضاء:----- مدينة / قرية:-----

هاتف:----- فاكس:-----

نظام التربية

مفتوح ☐ قل ☐

طريقة التهوية:

طبيعية:-----

طبيعية مع مراوح:-----

اصطناعية:-----

دجاج بيتي: نعم ☐ عدد:-----

كلا ☐

شبكة: نعم ☐ كلا ☐

امكانية الاحتكاك مع طيور برية:

نعم ☐ لا ☐

نوع الطيور البرية:-----

طيور أخرى موجودة في المزرعة:

نعم ☐ لا ☐

نوع الطيور:-----

وجود برك مائية أو مستنقعات قريبة:

نعم ☐ لا ☐

كلا ☐

خزانات مياه مكشوفة:

نعم نوعها:-----

كلا ☐

وجود خنازير:

كلا ☐ نعم عددها:-----

حيوانات أخرى:

كلا ☐ نعم نوعها وعددها:-----

ملاحظات:-----

مسح المزرعة

يجب وضع خريطة للمساحة الموبوءة على أن تكون مرسومة بوضوح بحيث تظهر وحدة الإنتاج ، الحيوانات داخل النبيت، وتظهر الطرق الرئيسية بـلتجاه الموقع.

تحركات الطيور

أ - دخول الطيور من مؤسسات أخرى/فقاسة/مزارع
☐ كلا ☐ نعم
(20 يوما" قبل العوارض السريرية الأولية أو بدء النفوق)

تاريخ الدخول:----/----/---- اسم الفقاسة / المزرعة:----- أنواع-----
☐ مزرعة ☐ فقاسة
اسم المزرعة----- رقم التسجيل:-----
عنوان-----
بلدية----- محافظة----- قضاء-----

ب - دخول الطيور من المعارض/الأسواق
☐ كلا ☐ نعم
(20 يوما" قبل العوارض الأولية أو بدء النفوق)

تاريخ:----/----/---- رقم التسجيل:----- أنواع-----
مصدر: معرض ☐ سوق ☐
بلدية----- محافظة----- قضاء-----

ت - خروج الطيور/البويض الى مزارع أخرى/مؤسسات/فقاسات/مسالخ
☐ كلا ☐ نعم

(خلال فترة 20 يوم قبل ظهور العوارض السريرية الاولى واليوم الذي وضعت فيه المزرعة تحت الحظر)
تاريخ:----/----/---- رقم التسجيل:----- أنواع-----
وجهة الارسال:
مزرعة ☐ أخرى فقاسة ☐ مخ غير ☐
اسم المؤسسة----- رقم التسجيل:-----
عنوان-----
بلدية----- محافظة----- قضاء-----

ث - خروج الطيور/البويض الى الأسواق/ المعارض
☐ كلا ☐ نعم

(خلال فترة 20 يوم قبل ظهور العوارض السريرية الاولى واليوم الذي وضعت فيه المزرعة تحت الحظر)
تاريخ:----/----/---- رقم التسجيل:----- أنواع-----
مرسلة الى: معرض ☐ سوق ☐
عنوان-----
بلدية----- محافظة----- قضاء-----

تحركات الناس: عدة طرق لدخول أو نشر العدوى

كلا نعم ☐ لا ☐

تاريخ:----/----/---- الإسم:-----

طبيب بيطري ☐ مساعد فني ☐

غير ☐ حدد:-----

عنوان:-----

بلدية:----- محافظة:----- قضاء:-----

هاتف:-----

زيارة مسبقة للمزرعة أخرى: إسم المزرعة:-----

بلدية:----- محافظة:----- قضاء:-----

وسيلة المواصلات الداخلة الى المزرعة:

(1) توصيل حيوانات

(2) علف

(3) بيض

(4) حيوانات نافقة

(5) محروقات

(أخرى) حدد:-----

(خلال فترة 20 يوم قبل ظهور العوارض السريرية الاولى واليوم الذي وضعت فيه المزرعة تحت الحظر)

تاريخ الدخول	وسيلة النقل	اسم المؤسسة	هاتف	اسم السائق	هاتف
--------------	-------------	-------------	------	------------	------

5/4/3/2/1/أخرى

اتصال غير مباشر بمؤسسات دواجن :

☐ نعم ☐ كلا

(مشاركة بالمعدات، وسائل نقل، علف، عمال، خلال فترة 20 يوم قبل ظهور العوارض الاولى واليوم الذي وضعت فيه المزرعة تحت الحظر)

تاريخ: -----/-----/-----

اسم المؤسسة أو مزرعة: -----

رقم تسجيل المزرعة: -----

عنوان: -----

بلدية ----- محافظة ----- قضاء -----

هاتف -----

الانواع الطيور الموجودة في المزرعة: ----- عددها: -----

مشاركة ب:

المعدات ☐ وسائل نقل ☐ عمال ☐ جمل ☐ عادة تكرير الفرث ☐

مزارع أخرى ملك المربي:

☐ نعم ☐ كلا

رقم المزرعة: -----

عنوان: -----

بلدية ----- محافظة ----- قضاء -----

هاتف -----

الانواع الطيور الموجودة في المزرعة: ----- عددها: -----

☐ ثلاثة فارغة ☐

مزارع دجاجة قريبة من المزرعة المصابة:

☐ نعم ☐ كلا

رقم المزرعة: -----

عنوان: -----

بلدية ----- محافظة ----- قضاء -----

هاتف -----

الانواع الطيور الموجودة في المزرعة: ----- عددها: -----

☐ ممتلئة فار ☐

معلومات عن تاريخ أعراض المرض السريرية

النفوق الاسبوعي:

(المعلومات بخصوص نسبة النفوق تؤخذ قبل 6 اسابيع من ظهور أعراض المرض السريرية)

الاسبوع	من	الى	عدد الطيور النافقة

ملاحظات: -----

تاريخ ظهور الأعراض السريرية -----/-----/-----

تاريخ بدء النفوق: -----/-----/----- عدد النفوق اليومي: -----

الأعراض السريرية التي لاحظها المربي: -----

هذه المعلومات يجب أن تؤخذ عندما وضعت المزرعة تحت الحظر مع ذكر الأعراض والنفوق منذ الاشتباه

مجموع طيور المزرعة المحظورة (حي / نافقة)	عدد الطيور المريضة في المزرعة المحظورة	عدد الطيور النافقة في المزرعة المحظورة	عدد الطيور التي ستتلف
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تلقيح الطيور

- هل يوجد برنامج لتلقيح الطيور؟

☐ نعم ☐ كلا

تاريخ التلقيح	نوع اللقاح (حي- ميت)	الاسم التجاري	طريقة التحصين
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- فريق التلقيح:

☐ العائلة ☐ عمال ☐ فريق خارجي ☐ أخرى ☐ -----
ملاحظات: -----

- أدوية بيطرية أخرى:

خلال 15 يوم قبل اكتشاف المرض ☐ كلا ☐ نعم ☐ حدد: -----

- الفريق المسؤول عن اعطاء الدواء البيطري:

☐ العائلة ☐ عمال ☐ فريق خارجي ☐ لرون ☐ -----
ملاحظات: -----

تحري عن الاعراض السريرية لدى كل نوع:

نوع الطيور: -----

☐ خمول ☐ عراض تنفسية: طفيفة

☐ شديدة

☐ تدني في انتاج البيض ☐ ريف في الاحشاء، الحنجرة،
القصبة الهوائية، المعدة الغدية

☐ إسهال ☐ أعراض عصبية ☐ أعراض معوية:

أخرى -----

معطيات عامة:

☐ التهاب الانف والجيوب ☐ التهاب القصبة: مخاطي

☐ دموي

☐ التهاب الأكياس الهوائية ☐ ريف: التامور

☐ بطانة القلب

☐ القانصة

☐ الحويصلات المبيضية

☐

التهاب الامعاء: مخاطي ☐ التهاب البكرياس

☐ دموي

أعراض أخرى: -----

ملاحظات: -----

الاسم الطبيب البيطري: -----

توقيعه: -----

انفلونزا الطيور

بطاقة عينة

المحافظة _____ القضاء _____ البلدة/القرية _____
 الطبيب البيطري _____
 هاتف _____ فاكس _____ تاريخ ____/____/____

-

المزرعة: تابعة لبلدية _____ قضاء: _____

محافظة: _____ هاتف _____

رقم المزرعة _____

المالك _____

عنوان _____

هاتف _____

نوع الطيور الموجودة في المزرعة
وبرنامج التحصين

☐ حبش عدد ____ ☐ لحم حبش عدد ____
☐ امهات لاحم عدد ____ ☐ امهات بياض عدد ____
☐ بياض عدد ____ ☐ لاحم عدد ____
☐ طيور أخرى (حدد) _____ عددها _____

اللقاحات:

اسم اللقاح	تاريخ التلقيح	اسم اللقاح	تاريخ التلقيح
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

جمع العينات من /الى

☐ بؤرة وبائية مشتبه بها تاريخ التبليغ ____/____/____

☐ بؤرة وبائية مؤكدة

☐ تحقيق وبائي لمزرعة في منطقة المسح الوبائي المكثف (محيط 3 كلم – وسطها المزرعة الموبوءة):
اسم المزرعة _____ رقمها _____

☐ تحقيق وبائي لمزرعة في منطقة المسح الوبائي (محيط 10 كلم – وسطها المزرعة الموبوءة):
اسم المزرعة _____ رقمها _____

☐ حظر انتقال الحيوانات من /الى المزرعة الموبوءة

☐ برنامج مراقبة

☐ برامج أخرى _____

معلومات عن تاريخ أعراض المرض السريرية

نوع الطيور	بداية ظهور الأعراض	نسبة الموت % الأعراض السريرية	من/الى
-----	-----	-----	-----
-----	-----	-----	-----
-----	-----	-----	-----
-----	-----	-----	-----
-----	-----	-----	-----
-----	-----	-----	-----
-----	-----	-----	-----
-----	-----	-----	-----

نوع الطير	نوع العينة	عدد العينات	الأجسام مضادة	لفحص الفيرس
-----	-----	-----	----- <input type="checkbox"/>	<input type="checkbox"/>
-----	-----	-----	----- <input type="checkbox"/>	<input type="checkbox"/>
-----	-----	-----	----- <input type="checkbox"/>	<input type="checkbox"/>
-----	-----	-----	----- <input type="checkbox"/>	<input type="checkbox"/>
-----	-----	-----	----- <input type="checkbox"/>	<input type="checkbox"/>
-----	-----	-----	----- <input type="checkbox"/>	<input type="checkbox"/>

تعريف العينة

عدد العنابر نوع الطير نوع العينات – رقمها التسلسلي

الاسم الطبيب البيطري: -----

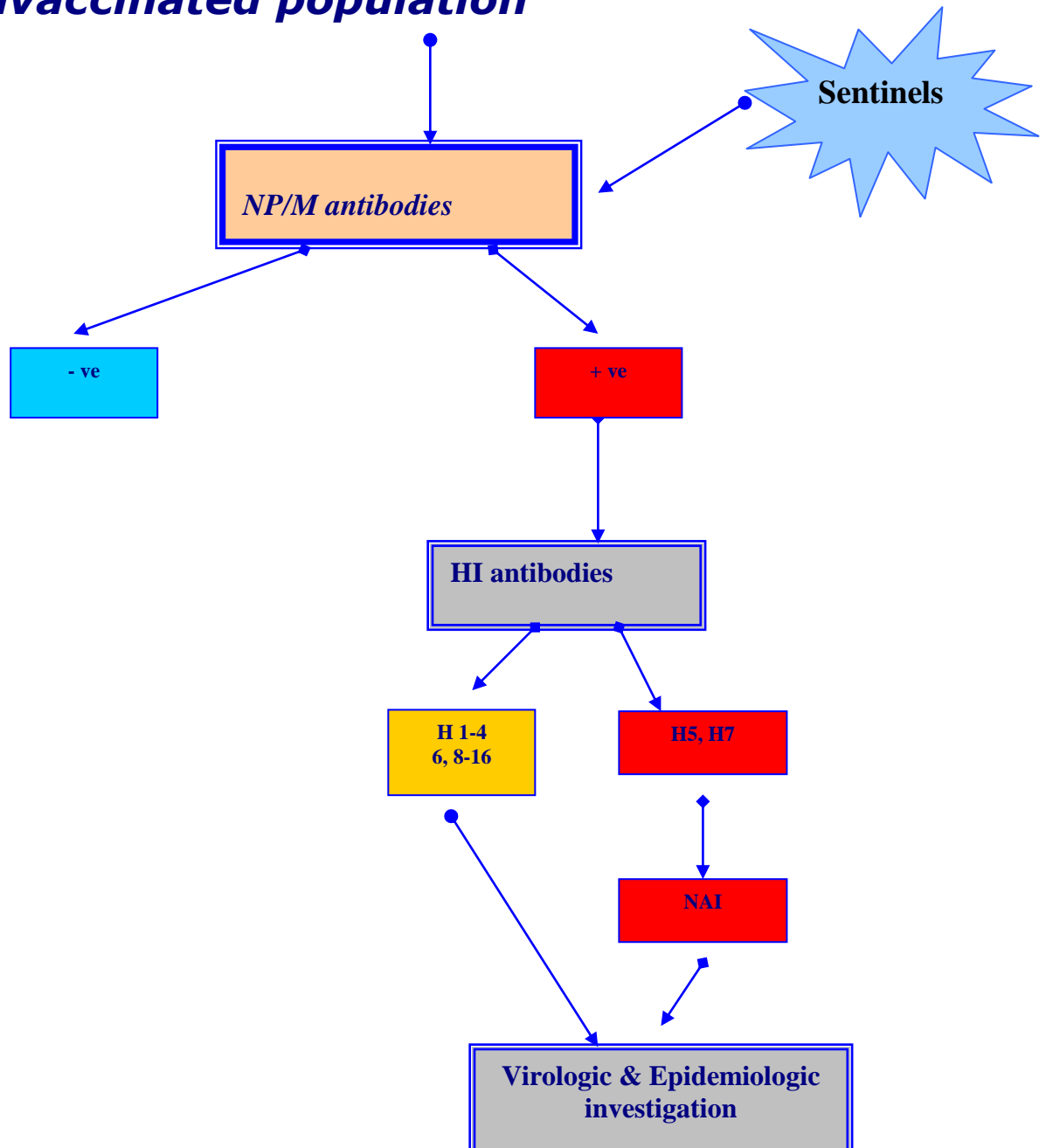
توقيعه: -----

Annex8: list of disinfectants

Table 1: Specifications and modes of usage of presently available disinfectants

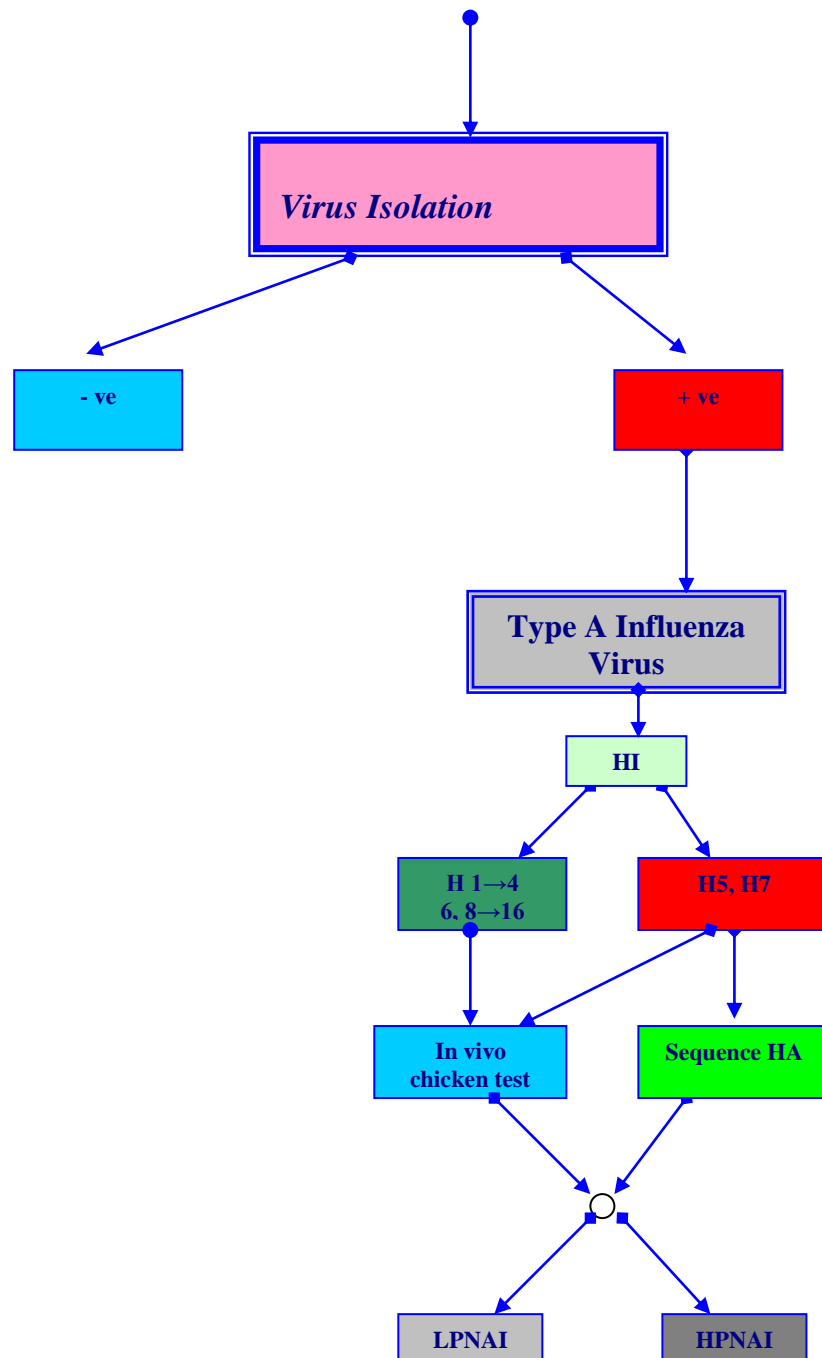
Name	Concentration	Minimum contact time	Usage
Detergent	Appropriate	10 minutes	Cleaning
Virkon S	1 Kg/ 200 liter water	10 minutes	Farm & equipment disinfection
Formaldehyde	<ul style="list-style-type: none">○ For washing → 1/100○ For fumigation → 10g potassium permanganate/20ml formaldehyde in 20ml water for 1m³	<ul style="list-style-type: none">○ –○ 15-24 hours	<ul style="list-style-type: none">○ Farm & equipment disinfection.○ Fumigation utensils (clay) should be distributed all over the poultry house
Castle H110	1 part /64 parts of water	10 minutes	Floor disinfection
NaOH	8/1000 -2%	-	Farm & equipment disinfection
Chlorine water	10-20/100	-	Farm & equipment disinfection
Phenol	3/100	-	Farm & equipment disinfection

***Required laboratory tests according to OIE guidelines:
OIE Guidelines for Surveillance for Avian Influenza:
I) Unvaccinated population***



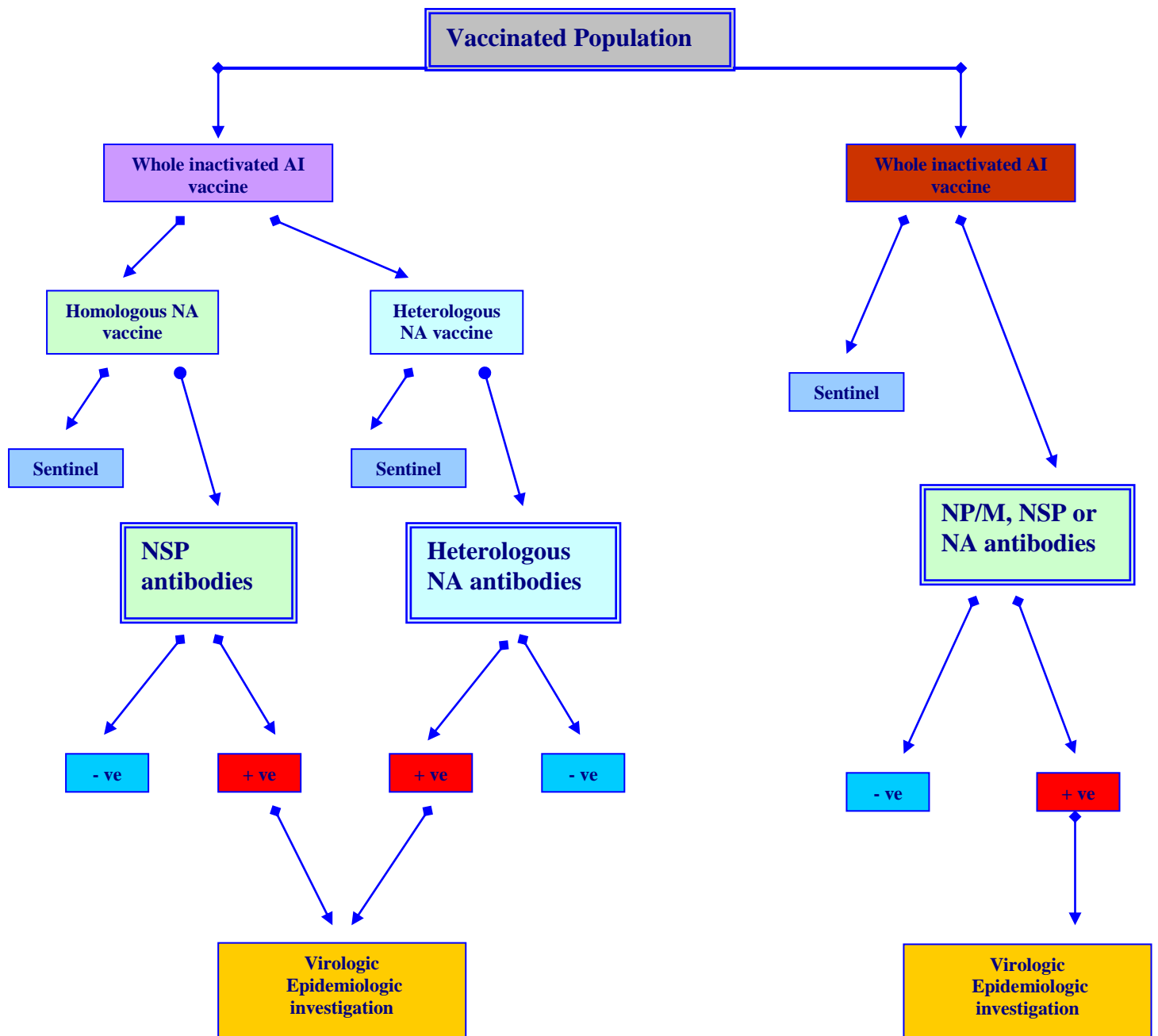
Diagnostic process for serologic testing in unvaccinated population

II) Unvaccinated population



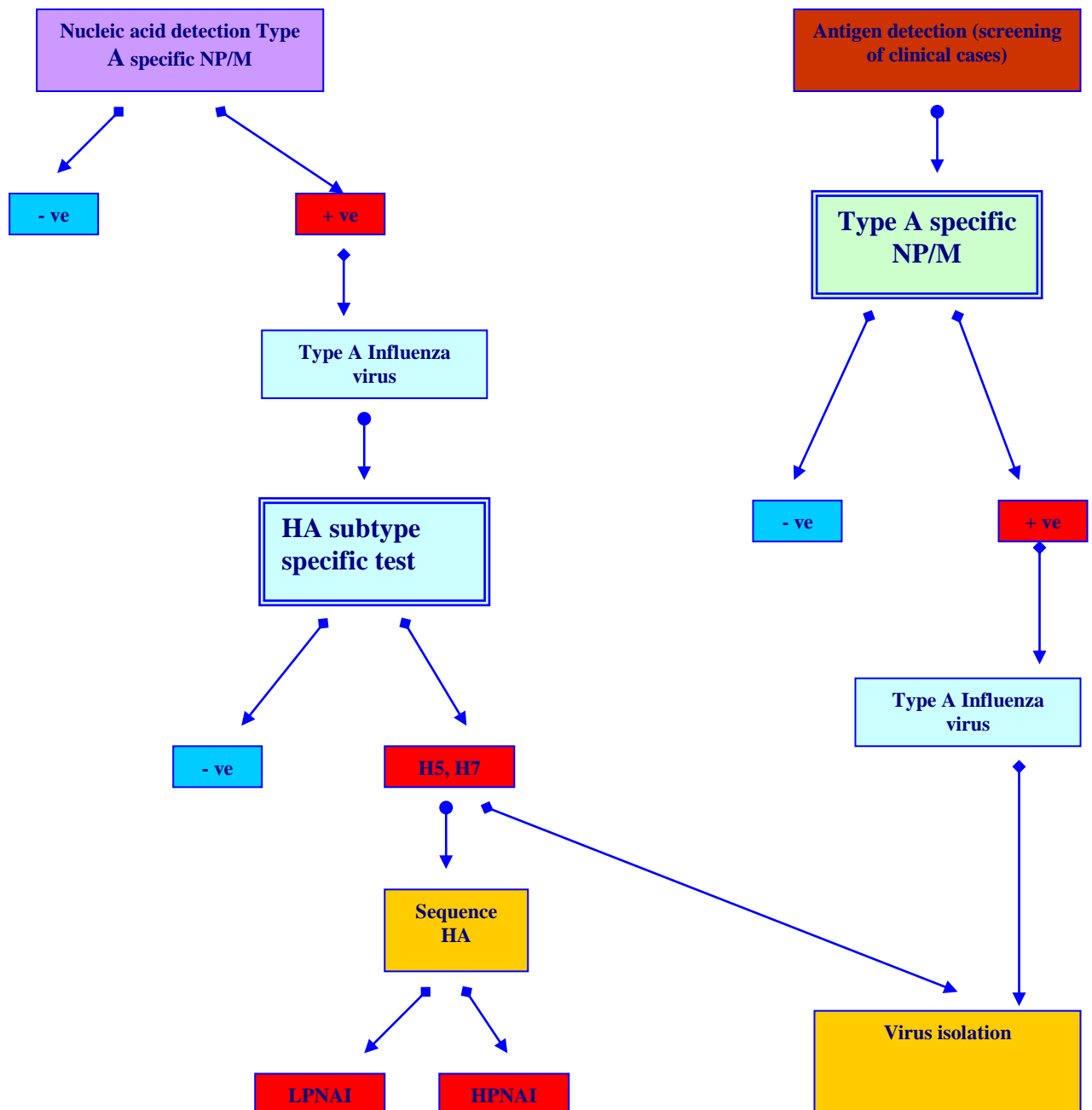
Diagnostic process for Virologic testing using virus isolation

III)



Diagnostic process for Serological testing in vaccinated population

IV)



Diagnostic process for Virologic testing using nucleic acid detection or antigen detection