Technical Appendix S1

Questionnaire for the case-control study to identify risk factors associated with avian influenza subtype H9N2 on commercial poultry farms in Pakistan

- This section must be filled in before completing the questionnaire:

<table>
<thead>
<tr>
<th>Date:</th>
<th>Questionnaire No.:</th>
</tr>
</thead>
<tbody>
<tr>
<td>District:</td>
<td>Farm Code:</td>
</tr>
<tr>
<td>Land Area / Farm Area (Sq. meter) :</td>
<td></td>
</tr>
</tbody>
</table>

- Tick only one answer:

SECTION 1 (LOCATION OF FARM)

| Latitude: | Longitude: |

1. Distance of the farm from main road:......................................................... (km)
2. Distance of farm from nearest commercial poultry farm:...................... (km)
3. Distance from nearest case (infected) farm: ........................................ (km)
4. Is this a rice/wheat growing area? ................................................................. Yes □ No □

SECTION 2 (BIOSECURITY)

5. Is there a pond (s)/water reservoir inside/near your farm? ............... Yes □ No □
6. If yes, do you see any wild/migratory birds come to the pond(s)/reservoir? ................................................................. Yes □ No □
7. Can wild birds enter into the shed? ................................................................. Yes □ No □
8. Is the farm fully fenced to prevent entry of wild animals? ................. Yes □ No □
9. Do you disinfect the area around sheds? .................................................. Yes □ No □
10. If yes, how often do you disinfect the area around sheds?

.......................................................................................................................... regularly □ not regularly □

11. Do you wash and disinfect the cages before re-introduction into the farm?

.......................................................................................................................... Yes □ No □

12. Do you share the farm equipment with other farms? ...................... Yes □ No □

13. Do the workers change rubber boots or soak them in foot bath before entering the bird area? .......................................................... Yes □ No □

14. Do the workers change cloths or spray disinfectant on them before entering the bird area? .......................... Yes □ No □

15. Do visitors change rubber boots or soak them in foot bath before entering the bird area? .......................................................... Yes □ No □

16. Do you have foot bath/dipping area at the entrance of farm?  ....... Yes □ No □

SECTION 3 ( FLOCK HISTORY )


17. What was the mortality (%) on your farms? ............

18. Do you vaccinate your birds against H9N2 AIV strain? ............ Yes □ No □

19. Age of flock: .................................................. (days)

20. Capacity of farm: .................................................. (no. of birds)

21. Was the flock affected by infectious bursal disease? ............ Yes □ No □

22. Was the flock affected by E. Coli infection? ......................... Yes □ No □

SECTION 4 ( FARM MANAGEMENT )


23. Do you raise backyard poultry/pet birds at your farm? ............ Yes □ No □

24. Do you see rodents in the sheds? ............................................. Yes □ No □

25. Can truck/large vehicle enter the farm? .................................. Yes □ No □

26. Do you sell your birds/eggs directly to retail shop? .................. Yes □ No □

27. Do you sell culled birds directly to retail shop? ....................... Yes □ No □

28. Do you store water? .................................................. Yes □ No □

29. If yes, do you have cover for your water tank(s)? ..................... Yes □ No □
30. How do you dispose waste from shed after cleaning? ...........................................
.................................................................properly disposed of □ not properly disposed of □
31. How do you dispose of the dead birds? .................................................................
.................................................................properly disposed of □ not properly disposed of □
32. Which type of sheds do you have.....windowless □ open □ semi-windowless □
33. What kind of ventilation system is used on your farm? ...........................................
.................................................................fan ventilation □ natural □
34. How does your flock get their drinking water? ................ automatic □ manual □
35. How does your flock get their feed? ........................................ automatic □ manual □
36. What kind of floor cover is in the sheds? ................................. concrete □ saw dust □
37. Egg/bird catching collection system: ................................. automatic □ manual □