#### بسم الله الرحمن الرحيم

### قال تعالى:

(قُل لَّوْ كَانَ الْبَحْرُ مِدَادًا لِّكَلِمَاتِ رَبِّي لَنَفِدَ الْبَحْرُ قَبْلَ أَن تَنفَدَ كَلِمَاتُ رَبِّي وَلَوْ جِئْنَا بِمِثْلِهِ مَدَدًا \* قُل إِنَّمَا أَنَا بَشَرُ مِّثْلُكُمْ يُوحَى إِلَيَّ أَنَّمَا إِلَهُكُمْ إِلَهُ وَاحِدٌ فَمَن كَانَ يَرْجُو لِقَاء رَبِّهِ فَلْيَعْمَلْ عَمَلًا صَالِحًا وَلَا يُشْرِكُ بِعِبَادَةِ رَبِّهِ أَحَدًا).

صدق الله العظيم سورة الكهف الآية 109-110

# **Dedication**

For the soul of my father, for my mother,
My brothers, my sister and dear daughter Marowa.

+

# **Ackno** gement

A part from the effort of myself the success of any project depends largely on the encouragement and quinines of many others. I take this opportunity to express my gratitude to the people who have been instrumental in the successful completion of this work.

I would like to show my greatest appreciation to Prof. Babiker El-Haj Ali. I can't say thank you enough for his tremendous support and help without his encouragement and guidance this project would not have materialized.

I am grateful to Prof Dr. Shadia, Dr. Eman El-Nasree, Prof Dr. Sobhi ahmed Veterinary Research Laboratory – Soba and grateful to Prof Dr. Mohammed Abdelsalam, Prof Dr. Amal, , Dr. Nagwa, Dr. Shams Eldeen – of College of Veterinary Medicine, Sudan University of science and technology to the Coral Co. Ltd Dr. Maha. My thanks to Dr. Hassan, Dr. Abakar and Dr. Gehan.

My special thanks are to the technical assistance Miss. Salwa, Mis Abdallah.

My special appreciation to all my friends especially Rania Basheer, Asra babeker, Rane Abd Alkareem, Wigdan Ali Amana Mallka Dowaka.

Lastly I express my great thanks to my family my dearest mother and father, my sisters: Ebtesam, Soha, Sarra, Fatama, Eman, Razan my brothers: Amar, Mosab and my daughter Marwa for their great help patience and encouragement.

Ш

#### Abstract

This study was conducted to investigate avian influenza among the traditional back yard poultry in Southern Sudan – Wau during 2007 2008. Blood samples were collected from chickens in back yard from ten villages around Wau. The serum samples were separated from the blood samples were tested using indirect ELISA to detect antibody for avian influenza type A in chicken sera. A total of (207) test serum samples were examined by indirect ELISA and 39 (18.8%) were found positive. The 39 Group specific sera to AI virus were reexamined for the detection of H<sub>7</sub> and H AI subtype by HI test using inactivated H7and H5 antigens. The results showed that 7 out of 39( 17.9%) serum samples were found positive to subtype H7 and 1 serum was found positive to subtype H5.

Although the presence of AI subtype H5 and H7 were detected in this study by using specific H5 and H7 antigens haemagglutination test but there was no indication of pathogenical disease virulence of AI infection.

#### ملخص الأطروحة

تم جمع العينات التأكد من وحود أضداد الفويوس موض أنفؤ توا الطور و للتأكد من وحود في منطقة و او غوب بحر الغوال بجؤب المودان في الفؤة من 4 للتأكد من وحده في منطقة و العينات من 11 حتى شهر 12و من 2 حتى شهر 4 و من شهر 5 المي شهر 6 .

الأمصال التي جمعت تم فحصها و اسطة اختبار المقايسة المناعية الو تبطة بالانظيم غير المباشر لفحص الاضداد في مصل الدجاج. ثم اختبار 207 مصل و اسطة اختبار المقايسة المناعية الو تبطة بالانظيم غير المباشر (18.8%) . كانت و جبه . من جملة الأمصال الو جبة بفحص المقايسة المناعية تم اختبارها و اسطة تثيبط التلان الدوي باستخدام مستضدات ميتة H و H و كانت النتائج من 45 مصل 7 (17.9%) و جبة Hو من 39 مصل 1 (39.0%) و جبة Hو من 39 مصل 1 (39.0%) و جبة طبة طبة طبة طبة عن المناعية المناعية المناعية المنابع من المقايسة المناعية المنابع من 40 مصل 1 (39.0%) و جبة 40 مصل 1 (39.0%)

هذه الواسة سجلت لأل موةو جود أجسام مضادة له H5 و H5 في أمصال الدجاج في منطقة غوب بحر الغوال و او بجو ب المودان .

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#### List of abbreviations

AI Avian Influenza

AVI Avian Influenza Virus

ELIS Enzyme linked Immunosorbent Assays

NAI Notifiable Avian Influenza

LPAI Low Pathogenicity Avian influenza

HA Haemagglatinin

NA Nucleocapsidase

NC Nucleocapsid Proteins

M Matrix Proteins

RNA Ribonucleic Acid

HEF Hemagglutinine Sterase fusion protein

HAT Haemagglutination test

HIT Haemagglutination inhabitation test

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