

**COST-BENEFIT ANALYSIS OF AVIAN INFLUENZA
CONTROL PROGRAMMES AND SOME ASPECTS OF ITS
SOCIO-ECONOMIC IMPACT ON POULTRY FARMERS IN ENUGU STATE**

**A DISSERTATION SUBMITTED TO THE DEPARTMENT OF
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THE REQUIRMENTS FOR THE AWARD OF THE DEGREE OF MASTER
OF SCIENCE IN VETERINARY PUBLIC HEALTH AND PREVENTIVE
MEDICINE**

BY

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MARCH 2012

DECLARATION

I declare that the work described in this dissertation is my original work and has not been previously submitted for any degree to any university or similar institution either in part or complete.

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CERTIFICATION AND APPROVAL

This is to certify that Dr. Uchendu, Goodhead Okechukwu, a post-graduate student in the Department of Veterinary Public Health and Preventive Medicine, Faculty of Veterinary Medicine, University of Nigeria, Nsukka and with the Registration Number PG/MSc/07/48022, had satisfactorily completed the requirements for research work for the award of degree of Master of Science in Veterinary Public Health and Preventive Medicine. The work embodied in this dissertation is original and has not been submitted in part or full for any other degree of this or any other university. The dissertation has therefore, been approved for the award of Master of Science in the Department of Veterinary Public Health and Preventive Medicine, University of Nigeria, Nsukka.

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DEDICATION

This dissertation is dedicated to the Almighty God, in whom I live and move and have my being, who inspired this work and strengthen me to carry it out. I also dedicate it to my lovely daughter, Nkem Uchendu.

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ABSTRACT

The outbreak of AI in Nigeria attracted the intervention of the federal government and international organisations. Large sums of funds were spent for the AI Control Programmes. These control programmes brought some positive results. However, it is important to investigate the profitability of these control programmes and also some of the impacts of the disease on the farmers and the outcome of the intervention. The objective of this study was to carry out a benefit-cost analysis of the avian influenza control programme, and also to assess some of its socio-economic impacts on poultry farmers in Enugu State, Nigeria. This study was a cross sectional study carried out on AI affected poultry farms, meat shop operators, veterinarians and government agencies. Primary data for determining the benefit\cost ratio (BCR) of the control programmes and the socio-economic impact of AI on farmers were sourced through direct observation and also using structured questionnaires. Secondary data was abstracted from relevant records at the Nnamdi Azikiwe Library of the University of Nigeria, Nsukka, the Avian Influenza Control Programme (AICP) Desk Office Enugu, and the Enugu State Ministry of Agriculture. Fifteen Local Government Areas (LGAs) in Enugu State were purposively selected because they recorded the AI outbreak. Ten farms were randomly selected for survey in each LGA, giving a total of 150 farms. The population for the study included mainly existing\functional and closed\non-functional (those that closed down because of the impact of the outbreak), small, medium and large scale farms. A non-participatory observation scheme and an in-depth interview of the non-literate respondents was additionally utilised in sourcing primary data. The benefit\cost (B/C) ratio was analysed by simple division of total benefits by the total cost of conducting the control programme. The socio-economic impacts of HPAI on farmers were assessed using the cross referencing method. Data obtained from the study was analyzed using descriptive statistics, multivariate regression and Students' t- test. The result of the cost-benefit (B/C) ratio of the HPAI control programme in Enugu State was 2.7, showing that the control programme was highly beneficial and efficient thus the alternative "to control" the outbreak is 2.7 times preferred to the alternative "not to control. In addition to the financially quantifiable benefits accruing from avoided loss in production and decrease in cost of production, there are other sublime benefits like restoring consumer confidence, saving of the poultry industry in Nigeria and avoidance of loss of human life. So, in all ramifications, the control programme was very beneficial. The HPAI outbreak had negative impact on the mean

selling price of poultry products, mean farm size, the number of employees and the mean volume of poultry products sold. The percentage expenditure (PE) on recurrent farm input, unit cost of production and the selling age of the products increased during the periods of the outbreak but dropped after its containment although these impacts were significant ($p>0.05$). The overall mean percentage loss in revenue during the period of HPAI was significant ($p<0.05$). With 40% of the farmers laying off their employees, 63% becoming grossly indebted to financial institutions and 14% of farms being closed down. The negative impact of HPAI on the poultry industry was significant ($p<0.05$). Socioeconomically, the outbreak affected the farmers' total wellbeing; economically, emotionally, socially and psychologically. Under the condition of this study, the benefit\cost ratio of the control programme shows that the programme was cost efficient and financially beneficial. However, these control programmes were unable to cushion some fundamental socioeconomic impacts of these outbreaks on the livelihood patterns of the poultry farmers in the state. Thus, based on this result, there is a strong policy advocacy in favour of "controlling" poultry and livestock disease outbreak over and above "not controlling" in an event of a subsequent outbreak. It is further recommended that the government, policy makers and donor agencies should ensure that the processes of disease monitoring, surveillance, prevention and control as well as delivery of intervention strategies. This will help in early detection of diseases and thus avert possible epidemics.