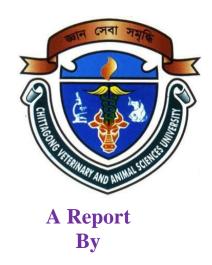
CATTLE WASTE AND THE IMPACTS OF WASTE MANAGEMENT PRACTICES ON PUBLIC HEALTH



Mishuk Shaha

Roll No: 12/38

Reg. No: 00767

Intern ID: D - 34

Session: 2011 – 2012

A production report submitted in partial satisfaction of the requirements for the degree of

Doctor of Veterinary Medicine

Faculty of Veterinary Medicine
Chittagong Veterinary and Animal Sciences University
Khulshi, Chittagong, Bangladesh

December 2017

CATTLE WASTE AND THE IMPACTS OF WASTE MANAGEMENT PRACTICES ON PUBLIC HEALTH



Approved as to style and content by

(Signature of Supervisor)

Professor Ms. Shahnaz Sultana

Department of Agricultural Economics and Social Sciences Faculty of Veterinary Medicine

Faculty of Veterinary Medicine
Chittagong Veterinary and Animal Sciences University
Khulshi, Chittagong, Bangladesh

December 2017



TABLE OF CONTENTS

Content	Page
List of tables	V
List of figures	V
List of abbreviations	VI
Abstract	VII
Chapter 1: Introduction	1-5
Chapter II: Materials and Methods	6-8
2.1. Steps of study	6
2.2. Selection of study area	6
2.3. Duration of the study	6
2.4. Selection of sample and sampling procedure	6
2.5. Source of population	7
2.6. Preparation of questionnaire and Pre-testing	7
2.7. Methods of data collection	7
2.8. Statistical analysis	8
Chapter III: Results and Discussion	9-14
3.1. Economic condition of the farm	9
3.2. Farm characteristics	9
3.3. Manure management system	9
3.4. Occurrence of disease to farm personnel	11
Chapter IV: Limitation of the present study	15
Chapter V: Conclusion	16
References	17-18
Appendix	19-21
Acknowledgements	22
Biography	23

LIST OF TABLES

Tables	Title	Page
Table 1	Potential presence of organisms in manure and illness caused by	4
	them in humans	
Table 2	Distribution of respondents according to their education level,	10
	drainage system of the farm, passage of animal waste, waste material	
	disposal, chance of water and food contamination, use of any	
	disinfectant, biogas plant, use of any gloves during handling cow	
	dung	
Table 3	Disease affected from farm manure in the study area	11

LIST OF FIGURES

Figure	Title	Page
Figure 1	Sources and transmission pathways of pathogens to humans from	3
	animal agriculture	
Figure 2	Data collection from farm owner by personnel interview through	5
	farm to farm visit	
	a) Diganto Dairy farm, Begumgonj Upazila	
	b) Hasan Dairy farm, Sitakhunda Upazila	
	c) Miraz dairy farm, Sitakunda Upazila	
	d) Ma Dairy farm, Anowara Upazila	
Figure 3	A) Manure Management system in dairy farm (using small hand Shovel	12
	and bark of tree)	
	B) Pond contamination through cow dung from manure	
	C) Water collection from contaminated pond	
	D) Unhygienic manure disposal	
	E) Some skin problem in hand and leg of farm personnel	
Figure 4	Economic condition of the farm	13
Figure 5	Floor type of selected dairy farms	13
Figure 6	Management percentage of cattle manure by livestock personnel	14

LIST OF ABBREVIATIONS

Abbreviation	Elaboration
CVASU	Chittagong Veterinary and Animal Sciences University
SPSS	Statistical Package for the Social Sciences
Et al	and others
N	Total number
%	Percentage

ABSTRACT

Cattle manure harbors microbial constituents that makes it a potential source of pollution in the environment and infections in humans. Knowledge of, and microbial assessment of, manure is crucial in a bid to prevent public health and environmental hazards through the development of better management practices and policies that should govern manure handling. This report presents information on zoonotic pathogens in animal wastes, how they contaminate the water, food and causing disease to farm workers. To assess the public health risk from cattle farm manure and other waste material, data were collected from thirty (30) dairy farms, where 10 from the Begumgonj Upazila, Noakhali and 15 from the Anowara district, Chittagong and rest of the 5 from Sitakunda Upazila, Chittagong. investigated manure management practices among the dairy farms in Chittagong and Noakhali district, to identify risk behaviors' and socio-economic aspects associated with the handling of manure. The study revealed that more than 70% of the farmers did not think diseases could be transmitted from livestock manure. The study also revealed that 56% farm personnel were affected by skin problem, 4.9% by respiratory problem and 15% by some gastrointestinal problem. There is evidently a need for further knowledge support to the livestock keepers to promote good management practices.

Keywords: manure handling, public health, skin problem