

Acknowledgement

I would like to express my gratitude towards my guide *Prof. Dr. B.P.Kapadnis*, for his guidance and critical evaluation of the work included in this thesis. I am thankful to him for encouragement, support and kindness. Without his constant inspiration, and support it was never possible to complete the Ph.D.

I am thankful to *Prof. Dr. R.L. Deopurkar*, Head of the Department and *Prof. Dr. B.A. Chopade*, Department of Microbiology, University of Pune, for help and support.

I would like to acknowledge the support of University Grants Commission, Nepal for providing fellowship. I am grateful to the Vice-chancellor, Tribhuvan University, Kathmandu, Nepal for granting me study leave to pursue the Ph.D work. This study was partly supported by WHO, Nepal and WHO GSS programme, WHO collaborating centers in Denmark and Thailand. I acknowledge the support of Director General, National Institute of Health, Department of Medical Sciences, Ministry of Public Health, Thailand for authentication of *Salmonella* serovars by serotyping, and phage typing. The help of Head, Department of Microbiology, Tribhuvan University, Kathmandu Nepal, Head, Food Technology Division, Bhaba Atomic Research Centre (BARC) Mumbai, and National Center for Cell Sciences, Pune is gratefully acknowledged. I am grateful to Prof. Dr. H.W. Ackermann, University of Laval, Canada for providing Electron Micrography facility and technical guidance for phage identification.

I am especially grateful to my wife and my father in-law and mother in law for looking after my daughters in my absence. Without their support it was not possible to complete the work.

I am grateful to my parents and other family members who directly or indirectly supported me to complete the work. I am grateful to Madam Kapadnis and other family members for their every possible help and support. I am very much thankful to research scientist Dr. Neelu Nawani, S.J Sathe, Amol, Kedar, Saba and all other research colleagues and non-teaching staffs of Department of microbiology, University of Pune who have directly or indirectly helped me during my research. I am thankful to General Manager, Nepal Water Supply Corporation for helping me during the field study.

Finally I would like to thank University of Pune for admitting me to the Ph.D. Programme.

Dwij Raj Bhatta