4. Results

*Salmonella* species are widely distributed in the environment and cause a diverse spectrum of diseases in human and animals. Motile *Salmonella* serotypes are often referred to as paratyphoid (PT) Salmonellae which found throughout the world. These organisms can infect a very wide variety of hosts including wild animals, domestic animals, and humans, in some instances resulting in relatively asymptomatic intestinal carriage and in other instances producing clinical disease. Very recently, PT Salmonellae have been the subject of intensified interest as agents of food borne disease in humans.

The present study revealed a total of 130 different samples obtained from poultry units covering the major cities in Tamil Nadu, India during 2008 to 2009 in which *Salmonella typhi* strains were isolated. They were subjected to antibiotic sensitivity test and MDT analysis in which the potential multi drug resistant strains (MDR) were picked up for studies. Molecular characteristics of MDR *S. typhi* were studied through DNA binding nature, gene construct of PhoP/Q and protein expression pattern. Molecular characteristics were modified through Genetic Engineering techniques towards inhibition of virulent proteins of MDR *S. typhi*. 