Summary

1. The survey report emphasizes on the environmental conditions along with other information on management practices which were followed by different poultry farmers. Though these environmental conditions varied slightly from one scientifically managed farm to another but a marked variation was observed in unscientifically built farms. Besides these variations some flaws were observed in many cases.

2. In the fowl, coccidiosis may be caused by any one of at least five different species of *Eimeria* and it is often necessary to distinguish between them. Fecal matter examination of the birds infected with coccidiosis showed the presence of large number of immature oocysts. Upon maturation these revealed the presence of sporocysts each containing two sporozoites. On this basis, they could, at once, be placed in the genus *Eimeria* Schneider, 1975. Morphological variation categorized the observed oocysts into several types. The mature oocysts have justified to the coccidian as *Eimena maxima* Tyzzer, 1929; *Eimeria mitis* Tyzzer, 1929, *Eimeria necatrix* Jhonson, 1930 and *Eimeria brunetti* Levine, 1942. Apart from these, one new species, *Eimeria indiana* Bandyopadhyay et al. 2006 was also observed.

3. Results obtained from histopathological studies in the coccidiosis infected birds demonstrated a clear pathological and histological alterations in the *Eimeria tenella* infected birds. Furthermore, the data of the experiment revealed that the alterations were clear in different post infection periods (i.e. twenty four, seventy two and one hundred and forty four hours) and more prominent in the birds of higher post infection periods (one hundred
and forty four hours). Hemoglobin content, RBC and WBC count were twelve to twenty-one percent; twelve to twenty-five percent and five to twenty-seven percent reduced values in treated birds which indicated that *Eimeria tenella* is responsible for creating such biochemical conditions. Therefore, it can be concluded that the birds were more susceptible at one hundred and forty-four hours period of post infection exhibiting the high intensity of pathological and histological alterations by *Eimeria tenella*.

4. Result of the study illustrates the determination of optimum stocking density for broiler rearing in a small poultry house clearly revealed that the maximum production was encountered in the SD$_{33}$ (1.5 sq ft per bird) density of birds for forty-five days production cycle of broiler rearing. The relationship of production of bird with daily growth rate and food conversion index (FCI) indicated highest production at SD$_{33}$ when daily growth rate and food conversion index (FCI) remained 0.044 kg per day and 0.614, respectively, but growth of bird tended to decrease or mortality occurred with increasing density. Examination of cost-benefit ratio for production of birds indicated linear increase in the total production cost of bird as a direct function of the density of bird, the total revenue and profit being maximum at the density of birds of 33 (SD$_{33}$). The profit after the level of thirty-three density of bird tended to reduce with increasing density of bird exhibiting zero profit at density of forty-three birds and loss tended to increase steadily as the number of birds increased further.

5. On determination of the comparative efficacy of three medicinal plants as feed additive to assess the control on coccidiosis and broiler performance, it was observed that leaf of *Murraya koenigii* exerted inhibitory effects on *E. tenella* which significantly improved body weight gain and feed conversion ratio compared to the rest of the treatment groups. Reduced values of body weight gain, survival, feed intake, feed conversion index, caecal lesions and bloody diarrhea were apparent in *Psidium guajava* and
Syzygium cumini treated groups than that of the Murraya koenigii treatment group, which may be implied that the feed with Murraya koenigii leaves as feed additive, showed comparatively higher inhibitory effects on E. tenella than the rest two groups of treatment. Therefore, on the basis of these results, Murraya koenigii leaves have shown a positive effect on OPG reduction compared to the Syzygium cumini and Psidium guajava leaves.