SUMMARY AND CONCLUSION

This study for the first time provides experimental evidence to suggest that allotment of proper plucking section to the pluckers according to their stature and tea bush height may improve their on-field productivity. This study also proposes that exposure of the tea processing workers to high intensity noise possibly was responsible for the generation of increased free radicals, which possibly caused cochlear damage and metabolic changes.

CHAPTER-II

- Results of Chapter-II indicate that Stature-Bush Height Ratio (SBHr) of pluckers in a tea garden may be a crucial factor to influence their performance and discomfort as evidenced from the results of correlation study between stature bush height ratio (SBHr) and total yield (TY) and between stature bush height ratio (SBHr) and body part discomfort frequency severity (BPDFS).
- Also, the overall changes in the joint angle of the plucker increased with duration of work, which ultimately increases the BPDFS. Increase of BPDFS with the duration of work may further be responsible for the decrease in total yield as evidenced from the result of correlation study between BPDFS and TY.
- Thus, allotment of working segment to pluckers with proper SBHr justification may improve plucking performance (i.e., total yield) and will also reduce the discomfort of the pluckers.
- The results of the independent test series was in good agreement between the predicted and the observed values. This suggests the utility of the regression equations of different interacting variables derived in our study for supervision of the tea pluckers engaged in plucking operation in tea gardens.

CHAPTER-III

- This study helped to determine an optimal range of SBHr for on-field productivity improvement of the 202 pluckers studied, and thus justified our earlier speculation that SBHr of pluckers in a tea garden may be a crucial factor to influence their performance and discomfort.
Additionally, this study also helped to identify the physical and physiological variables (BPDFS, heart rate and energy expenditure) that are possibly interrelated with improvement of on-field productivity. This study may be a model for on-field productivity improvement in tea industries.

Results of psychomotor test (Eye-Hand Coordination Test) of this study further confirmed that, after completion of two hours of plucking operation, pluckers showed significant signs of fatigue and lack of motor coordination in the phalangeal and hand muscles. Results indicated that development of fatigue during two hours of plucking operation possibly had a direct influence upon their on-field productivity and performance.

CHAPTER-IV

The result of socio-economic survey study indicated that a good plucker was one who not only responded favorably to an incentive wage package but also maintained good health, opts for a smaller family, gives due weight to children's education and avoids needless absenteeism.

However, this study also revealed few important facts that require immediate attention. These are (a) better training facility of the pluckers to increase plucking efficiency, (b) reduction of household activities of the pluckers, which affects their on-field productivity, (c) periodic medical check up of the pluckers, and (d) transport facilities to the pluckers in remote plucking sections.

CHAPTER-V

This study with randomly selected subjects of a tea processing unit proposed that, compared to office workers, the audiometric threshold levels were much higher in factory workers and the average estimated excess risk of hearing impairment also was higher in this group of subjects.

It was speculated that generation of increased free radicals possibly was responsible to cause cochlear damage and metabolic changes, which possibly were responsible for excess risk of hearing impairment.

Additionally, this study emphasized the need for introduction of hearing conservation programme for tea processing factory workers.
It further highlighted the importance of periodic checking of the factory workers for determining their auditory threshold shift, and also to monitor their adverse health effects regularly and to provide noise-insulated area during work-rest cycle.

In brief, this study helped to identify the physical and physiological variables that are possibly interrelated with improvement of on-field productivity. This study also showed that workers who work in a noisy environment could develop signs of hearing impairment and oxidative damage including hepatic dysfunction. The applied aspect of this study is that, allotment of pluckers to their plucking fields according to proper stature and bush height justification will increase their performance.