5.0 CONCLUSIONS

Soils are fundamental to the well being and productivity of both agriculture and natural ecosystems. Soil is an integral system, which is to be maintained through sustainability. The continuous worldwide soil degradation by erosion, chemicals, acidification and physical abuse requires management in terms of soil quality. The use of organic amendments augmented with Vermitech could be adopted as a means for crop production and bio-remediation of affected soils like sodic soils.

The role of earthworms in such a process as an indicator and biomanager is critically important. Soils could be sustained through the use of organic amendments like vermicompost and inoculation of earthworms which facilitates humus formation and prevents leaching of nutrients from the soil by their slow release compared with conventional farming using chemical fertilisers (Rao, 1994; Thampan, 1995; Kale, 1996).

The present investigation concludes that the bio-remediation of sodic soils can be effective and the use of combinations of organic amendments such as vermiwash, green manure (S. aculeata), mulch (paddy straw), vermicompost and earthworm inoculation (L. mauritii and P. excavatus), can effectively bring about an improvement in soil quality, increase in microbial population and enhance crop productivity. This would be beneficial in the long term for the stability of crop production. Considering all aspects, such as studies on soil, soil health, yield of crops and cost effectiveness of the various treatments, it is concluded in the light of
the present investigation Vermitech could be applied for the successful sustainable bioremediation of sodic soils.

Organic amendments and vermicompost play an important role in improving soil fertility and nutrient availability, particularly for crops like paddy and vegetables. Vermitech is widely used in agriculture as a soil conditioner and as a substrate for vermicomposting.