Environmental pollution had been an unpleasant fact for many centuries but it became a real problem since the start of the industrial revolution. It matters primarily because it has negative impacts on crucial environmental services such as provision of clean air and clean water and many others without life on Earth become extinct. Environmental pollution is a problem in both developed and developing countries. Factors such as population growth and urbanization invariably place greater demands on the planet and stretch the use of natural resources to the maximum.

It has been argued that the carrying capacity of Earth is significantly smaller than the demands placed on it by large numbers of human populations. Moreover, overuse of natural resources often results in nature’s degradation. It is interesting to note that natural resources had been stored virtually untouched in the Earth for millions of years. But since the start of the industrial revolution vast amounts of these resources had been exploited within a period of just a couple of hundred of years at unimaginable rates, with all the waste from this exploitation going straight into the environment and seriously damaging its natural processes.

Water pollutants include insecticides and herbicides, food processing waste, pollutants from livestock operations, volatile organic compounds, heavy metals, chemical waste chiefly from tannery and distillery industry poses severe threats. In addition, it has been recently noted that packaging of products sold in supermarkets and other retail outlets is far too excessive and generates large quantities of solid waste that ends up either in landfills or municipal incinerators leading to soil contamination. Residential sector is another significant source of pollution generating solid municipal waste that may end up in landfills or incinerators leading to soil contamination.

It is also important to mention synergistic effects of pollutants on the environment. While interacting with each other, pollutants can produce greater
impacts than when acting individually. There is no doubt that excessive levels of pollution are causing a lot of damage to human and animal health, plants and trees including tropical rainforests, as well as the wider environment. The effects in living organisms may range from mild discomfort to serious diseases such as cancer to physical deformities. Experts admit that environmental pollution effects are quite often underestimated and that more research is needed to understand the connections between pollution and its effects on all life forms. We know that pollution causes not only physical disabilities but also psychological and behavioral disorders in people.

Waterborne diseases such as Typhoid, Amoebiasis, Giardiasis, Ascariasis, Hookworm etc. are caused by waste pollution in addition, in the womb this may cause neurological problems including slower reflexes, learning deficits, delayed or incomplete mental development, autism and brain damage. In adults, Parkinson's disease, multiple sclerosis, Alzheimer's disease, heart disease, and even death. Water pollution may also result from interactions between water and contaminated soil, Damage to people may be caused by fish foods coming from polluted water, Damage to people may be caused by vegetable crops grown with polluted water. Soil contamination causes cancers including leukemia, Lead in soil is especially hazardous for young children causing developmental damage to the brain, Mercury can increase the risk of kidney damage; cyclodienes can lead to liver toxicity, neuromuscular blockage as well as depression of the central nervous system also causes headaches, nausea, fatigue, eye irritation, and skin rash. Contamination of crops grown in polluted soil brings up problems with food security, since it is closely linked to water pollution; many effects of soil contamination appear to be similar to the ones caused by water contamination. Soil contamination coupled with water contamination may also alter metabolism of microorganisms and arthropods in a given soil environment; this may destroy some layers of the primary food chain, and thus have a negative effect on predator animal species. Small life forms may consume harmful chemicals that may then be passed up the food chain to larger animals; this may lead to increased mortality rates and even animal extinction.
Environmental pollution is causing a lot of distress not only to humans but also to animals, driving many animal species to endangerment and even extinction. Pollution is Not Glamorous, everything on our planet is interconnected, and while the nature supplies us with valuable environmental services without which we cannot exist, we all depend on each other’s actions and the way we treat natural resources. It’s widely recognized that we are hugely overspending our current budget of natural resources – at the existing rates of its exploitation, there is no way for the environment to recover in good time and continue performing well in the future.

Perhaps we should adopt a holistic view of nature – it is not an entity that exists separately from us; the nature is us, we are an inalienable part of it, and we should care for it in the most appropriate manner. Only then can we possibly solve the problem of environmental pollution. In this respect as an environmentalist, we identify vermi based solution for the response evoked by the environment to different pollution concentrations, both linear effect and Threshold effect have been solved with this methodology, and the treated wastes have been suggested in the following pages, indeed, it is our responsibility.

The entire thesis have been narrated in such a way that it begins with detailed introduction to vermitechnology in chapter I and with a detailed literature survey on vermitechnology which provides a real insight into the vermi based solution for various environmentally contaminated soil and agricultural advancement with revolutionary technology in these landfills or incinerators are elucidated in chapter II. Then we have identified a research problem, which is sought to be critical in present status based on the literature survey. The research background has been demonstrated with hypothesis and major objectives in chapter III following to this a suitable protocol was designed to evaluate the proposed hypothesis, in the array chapter IV gives insight explanation with regard to the materials and methods handled in the entire course of study. The results of soil and microbial dynamics have been stated with individual attention to tannery in chapter V, distillery in chapter VI, poultry waste management in chapter VII and municipal waste management in chapter VIII. The histological studies of tannery and distillery sludge
treated with earthworms in Chapter IX. The successful treatment and detoxification of these contaminated soil further drives us to study the feasibility of these soil in the agriculture. As a pilot study, we have accessed the rate of plant growth in these soils with four different plant species *viz.* Black gram, Bengal gram, Horse gram, and Ladyfinger, the results and detailed discussion obtained had been documented in chapter X. Overall summary and Conclusion emphasizing vermitechnology as a revolutionary remedial technology. Following this, the thesis closes with the references and end of reagent preparations.

Although, I have given my formal acknowledgement at the beginning, once again, I would like to whole-heartedly thank all the loving and caring hearts for successful completion of this research thesis.

*Selladurai . . .*