

CURRICULUM VITAE

Name **SULTAN AHMED ISMAIL, Ph.D, D.Sc.**

Present Positions: Director
Ecoscience Research Foundation, Chennai 600041, INDIA

Former
Head, Department of Biotechnology
The New College, Chennai 600014, INDIA

Research Director (Honorary)
Dr MGR Janaki College, Chennai 600028, INDIA

Head, Department of Zoology and Vice Principal,
The New College, Chennai 600 014, INDIA

Director, Institute of Research in Soil Biology and Biotechnology,
The New College, Chennai 600014, INDIA

Date of birth: October 9, 1951

Educational Qualifications

Course	Year	Subject	University
Matric	1968	General	Madras, India
Pre University	1969	NPC	Madras, India
B.Sc.,	1972	Zoology	Madras, India
M.Sc.,	1974	Zoology (Fish Biology)	Madras, India
M.Phil.	1978	Zoology (Marine Ecology)	Madras, India
Ph.D.,	1984	Zoology (Soil Ecology)	Madras, India
D.Sc.,	2001	Zoology (Soil Ecology)	Madras, India
Diploma in Higher Education	1986	Education (University First Rank)	Madras, India

Teaching Experience:

Undergraduate: 27 years
Post Graduate: 39 years
M.Phil: 22 years
Ph.D.: 17 years

Faculty Positions Held:

1974-75	Demonstrator in Zoology, The New College, Chennai.
1975-87	Lecturer in Zoology, The New College, Chennai.
1987-90	Reader in Zoology, National Council of Educational Research and Training (NCERT), Government of India, <i>on lien of service</i> .
1990-01	Reader in Zoology, The New College, Chennai.
1999-01	Head, Department of Zoology, The New College, Chennai.
2000-01	Vice Principal, The New College, Chennai
2000 (May)	Principal I/C for 40 days The New College, Chennai
1986-01	Director, Institute of Research in Soil Biology and Biotechnology, The New College, Chennai (additional charge)
2001-02	Deputy Director, Shri A M M Murugappa Chettiar Research Centre, Chennai 600113
2002-13	Research Director (Honorary), Dr MGR Janaki College, Chennai 600028, INDIA
2004-13	Head, Department of Biotechnology, The New College, Chennai

Research:

Papers published

National & International Journals and Proceedings:	67
General Articles:	Several

Research Supervision for scholars of

<u>M.Phil.</u>	
Completed (Degrees awarded):	32
<u>Ph.D.</u>	
Completed (Degrees awarded):	17

Collaborations

University of Lancaster, UK:	1983, 1996
Tata Institute of Fundamental Research:	1982, 1983
B.J. Medical College, Pune:	1987-1988
C.L.R.I., Chennai:	1991-1992
ARISE, India:	1992 -2003
Auroville, India:	1992 -2005
EXNORA International, India:	1992+
Miyazaki Medical College, Japan:	1993 -2005
M S Swaminathan Research Foundation:	1993 -2000
Soil & Water Research Institute, Iran:	1997
Miyazaki University, Japan:	1999 -2000
CPCSEA, Government of India:	1999 -2002

Computer Software

Educational Software on "*BLOOD CELL COUNT*" on the BBC micro for NCERT

Books And Booklets

Aspects of Behaviour (Ismail, S.A., and Alawdeen, S.S., ed), The New College, Chennai, India. 161 pp. 1987.

Environmental Studies for Class I (Gopalan, R., Sundaram, V., and **Ismail, S.A.**), Tata McGraw Hill Publishing Company Ltd., India. 60 pp. 1994.

Environmental Studies for Class II (Gopalan, R., Sundaram, V., and **Ismail, S.A.**), Tata McGraw Hill Publishing Company Ltd., India. 59 pp. 1994.

Composting through earthworms (**Ismail, S.A.**, Seshadri, C.V., Jeeji Bai, N., and Suriyakumar, C.R.), M.C.R.C., Chennai, India. 38 pp. 1994.

Vermitech (vermicompost and vermiwash) (**Ismail, S.A.**), Aju's wormery, Chennai, India. 10 pp. 1996.

Vermitech (mannpuzhu uram mattrum mannpuzhu serivuttapatta neer) In Tamil, (**Ismail, S.A.**), Aju's wormery, Chennai, India. 11 pp. 1996.

Usar sudhar khetu vermiculture tatha vermiwash ka utpadhan In Hindi. (**Ismail, S.A.**). Uttar Pradesh Land Development Corporation, Lucknow, India. 07 pp. 1996.

Vermitech: Worm powered technology (ed **Ismail, S.A.**), Council for Advancement of People's Action and Rural Technology, New Delhi, India. 40 pp. 1997.

Vermicology: The Biology of Earthworms, (**Ismail, S.A.**) Orient Longman. 92pp. 1997.

Mannpuzhu: Valarppum, Tozhilnutpamum, Payankalum (In Tamil) (**Ismail, S.A.**) Orient Longman. 115pp. 2001.

The Organic Farming Reader. (Alvares, C., Shiva, V., **Ismail, S.A.**, Vijayalakshmi, K., Mathen, K., and Declercq, B. editors) ARISE and Other India Press, India. 1999. 298 pp.

The Earthworm Book, (Ismail, S.A.), Other India Press, Goa. 2005. 101 pp (**also translated into Tamil and Chinese, in translation in Persian**)

Audio-Visual Aids

Local coordinator for the preparation of **28 Video Lessons in Zoology** for the **UNIVERSITY GRANTS COMMISSION**, Government of India. Each 26 mts.

Vermitech: Harnessing earthworms for the benefit of mankind. Audio Visual Aids, Chennai 28 mts.

Vermitech (Hindi) Audio Visual Aids, Chennai 18 mts.

Vermitech (Tamil) Audio Visual Aids, Chennai 16 mts.

AWARDS

- Vocational Service Award 1992-93 by the Rotary Club of Madras Metro.
- Exnora's Friend of the Environment Award for 1993 presented by the Chief Minister of Tamil Nadu.
- Commonwealth Association of Science Technology and Mathematics Educators (CASTME) Award for 1994-95.

- Australia International Education Foundation's Visiting Fellowship for 1996.
- Award received from CPR Environmental Education Centre 1998-1999
- Environmental Award by Green India Foundation 1999
- Award for Vocational Excellence, Rotary Club of Besant Nagar Chennai, 2002
- Conferred with the Arignar Anna Award by the Department of Environment, Government of Tamil Nadu, India for environmental education and awareness 2005
- Agriculture Leadership Award by the Bangalore University and the National Council for Organic farming, Government of India. January 2009
- Award of Excellence presented by His Excellency Governor of Jharkhand, Dec 2010.

Awareness to Children:

Associated with the Department of Science and Technology, Government of India, New Delhi, in the development of a module on vermicomposting as a sustainable ecological practice for children.

Conducted a project for the Department of Science and Technology, of implementing vermicomposting in 50 schools in Chennai (Madras)

Delivered several lectures (may be about 10000 people so far) including more than 200 schools across the country creating awareness on environment, solid waste management and vermicomposting

*Coordinated in the development of **SIMPLE TASKS GREAT CONCEPTS** consisting of 100 life-science based experiments for children that any child can do even without a laboratory (2010).* Could be viewed on www.simpletasksgreatconcepts.wordpress.com

Biographical citations:

The World Who is who and does what in Environment and Conservation 1997. Earthscan Publications, UK.

Other activities completed:

- Vice President, EXNORA International.
- Member, New York Academy of Sciences, USA
- National Expert on Composting, UNIDO, Asia Programme
- Member CPCSEA, Ministry of Social Justice and Empowerment, Govt. of India
- Committee member, Environmental Society of Madras, Chennai India
- Chairman, Agricultural Renewal in India for a Sustainable Environment (ARISE)
- **Member (Environment) High Level Committee for study of Rivers and Riverbeds as a result of sand quarrying. Government of Tamil Nadu.**
- **Chairman High Court committee for wetland recognition (Tamil Nadu).**

Computer Skills

Very proficient in basic computer usage such as Word Processing, Microsoft Word, Excel, and Power Point, and in MAC Keynote.

Specialisation

Ecology, Environmental Biology and Environmental technology with special reference to solid and liquid waste management through decentralized processes. Trainer in Communication skills and soft skills.

World's First Reports

Anti-inflammatory properties of Earthworms
Ultra structure of the penial setae of earthworms
Electrobioluminescence of earthworms

Technology Developed

Vermitech extremely popular with farmers and urbanites. Used to recycle garbage into extremely valuable fertilizer using local varieties of earthworms.

Symposia Organised

Organised the **All India Symposium on Animal Behaviour** at The New College, Chennai as Organising Secretary (June 21 - 23, 1985).

Organised a ten day Awareness-cum-training programme on **Vermitech in Organic Farming** funded by CAPART (January 13 - 22, 1997)

ARISE National Workshop on Sustainable Organic Farming, The New College, Chennai. Jan 24-27, 1998.

Organic Home Gardening Workshop. The New College, Chennai. January 31, 1999

On-the-job Training Programme for the students of Bharathi Women's College, Chennai. The New College June 1-30, 1999.

Conducted a five day workshop-cum-Taining Programme on **Practices in Organic Farming** for CAPART (East Zone) from 28 January 2000 to 1 February 2000, at the Institute of Research in Soil Biology and Biotechnology, The New College, Chennai.

Regular workshops at least 12 to 15 every year through the Science City/ Tamilnadu State Science and Technology Centre in Chennai for Home makers, NGOs, Students and public on waste management and on the theme "wealth from wastes".

One of the few Resource Persons for the **Children Science Congress** conducted every year by the Department of Science and Technology, Government of India.

Other Positions

Committee member, Agricultural Renewal in India for a Sustainable Environment (ARISE), India. 1992-1998

Advisor, Environmental Objectives, EXNORA International, Chennai, India. 1994-98

Member, New York Academy of Sciences, USA. 1995-1998

Committee member, Environmental Society of Madras, Chennai, India. 1995-97

Senator, Environmental Objectives, EXNORA International, Chennai, India. 1996-1997

Vice President, EXNORA International, Chennai, India. 1997-98

National Expert on composting for the United Nations Industrial Development Corporation (UNIDO), Asia Programme. 1998-2000

Honorary Expert Consultant, Committee for Purpose of Control and Supervision of Experiments on Animals (CPCSEA), Ministry of Social Justice and Empowerment, Government of India. September 1999 - February 2000.

Member, Committee for Purpose of Control and Supervision of Experiments on Animals (CPCSEA), Ministry of Social Justice and Empowerment, Government of India. 2000 - 02

Expert to draft chapters for the vermicompost manual being prepared by UNICEF (2001)

National Convener: Alliance for Waste Management (2003)

Advisor, Organic Farming Association of India (OFAI) (2009 +)

REVIEW ARTICLES

Ismail, S.A., 1994. Vermitech: The use of local species of earthworms in agriculture. *Changing Villages*, 13: 27-31.

Ismail, S.A., 1994. Vermitech - Harnessing earthworms for the benefit of mankind. *Wake Up India*, 17: 18-20.

Ismail, S.A., 1994. Vermiculture in India. *Organic Matters* (Philippines). 17: 23-28.

Ismail, S.A., 1995. Vermitech for natural farming. *Kisan World*. 22(2): 27-28.

Ismail, S.A., 1995. Earthworms in Soil Fertility Management. In *Organic Farming* (ed Thampan, P.K.). Peekay Tree Crops Development Foundation, Cochin, India. pp: 77-100.

Ismail, S.A., 1995. Vermicompost and vermiwash. *Proceedings of the National Workshop on Tropical Organic Farming*, UPASI, Kottayam, India. pp. 35-38.

Ismail, S.A., 1996. Vermiwash - A foliar spray . *Organic Matters* (Philippines). 22: 25-28.

Ismail, S.A., 1996. Vermicompost and Vermiwash. In *The Organic Farming Source Book* (ed Claude Alvares). The Other India Press, Mapusa, Goa, India. pp: 170-171.

Ismail, S.A., 1997. Vermiwash - Vermicomposting tea, Indian style. *Worm Digest* (USA). 15: 23-25.

Ismail, S.A. 1997. Vermitechnology for sustainable agriculture. Technical Papers presented at the *Workshop on Vermitechnology organised by Anand Chapter of ISSS and ARISE, Auroville*. November 21, 1997. Gujarat Agricultural University, Anand. pp: 1-9.

Ismail, S.A., 1999. Raising of earthworms (vermitech) for environmentally-sound uses. In *Sharing Innovative Experiences. Volume 3. Examples of Successful Economic,*

Environmental and Sustainable Livelihood Initiatives in the South. United Nations Development Programme. pp: 243-255.

Ismail, S.A., 2002. Who gives whom a chance? *Wastelands News* 18 (1): 17-18

Ismail, S.A., 2002. Mother earth, give us a chance. *Financing Agriculture* 34(4) 19-22

ORIGINAL RESEARCH PAPERS

Kaleemurrahman, M. and **Ismail, S.A.**, 1981. Earthworm - An index of the physical nature of the soil. *Progress in Soil Biology and Ecology in India* (ed. Veeresh, G.K.), Univ. Agri. Sci., Bangalore, pp: 60-63.

Zaman, M.H. and **Ismail, S.A.**, 1981. Earthworms - Their phototactic behaviour when illuminated. *Biology* 3: 18-20.

Ismail, S.A. and Kaleemurrahman, M., 1981. Report on the occurrence of bioluminescence in the earthworm, *L. mauritii*. *Curr. Sci.* 50: 555.

Ismail, S.A., 1982. Scanning electron microscope observations of the penial setae of the earthworm *L. mauritii*. *Curr. Sci.* 51: 1000-1001.

Ismail, S.A. and Balajee. A.S., 1982. Oxygen consumption and ammonia excretion in *L. mauritii*. A physiological basis of behaviour. *Calicut University Research Journal, Spl. Conf. Numb.*, pp: 46-47.

Iqbal, S.M.M.N. and **Ismail, S.A.**, 1984. Study of energy flow in a paddy field at Cuddapah, Andhra Pradesh, India, *J. Curr. Bio. Sci.*, 1: 4-6.

Rahman, A.A. and **Ismail, S.A.**, 1984. Burrowing behaviour of the earthworm *L. mauritii* Kinberg. In *Studies in Animal Behaviour* (ed. Rao, B.S. and Shetty, P.S.) *Suppl. Bulletin ESI* 3: 47-52.

Kaleemurrahman, M. and **Ismail, S.A.**, 1984. Ethological implications in the ecology of the tropical earthworm *L. mauritii*. In *Studies in Animal Behaviour* (ed. Rao, B.S. and Shetty, P.S.) *Suppl. Bulletin ESI* 3: 99-102.

Ahmed, S.N. and **Ismail, S.A.**, 1984. Earthworms - Rhythms in oxygen consumption in *L. mauritii*. In *Studies in Animal Behaviour* (ed. Rao, B.S. and Shetty, P.S.) *Suppl. Bulletin ESI* 3: 111-114.

Ismail, S.A. and Santhanam, K.S.V., 1984. Electrobioluminescence of an earthworm. *Bioelectrochemistry and Bioenergetics.* 12: 535-540 (Section of *J. Electroanal. Chem.* 173).

Ismail, S.A., 1985. Scanning electron microscope observations on the copulatory and penial setae of the earthworm *Octochaetona pattoni* (Michaelsen) *Curr. Sci.* 54: 1082-1083.

- Ismail, S.A.** and Murthy, V.A., 1985. Distribution of earthworms in Madras. *Proc. Indian Acad. Sci. (Anim. Sci.)* 94: 557-566.
- Ismail, S.A.**, Limaye, N.M. and Santhanam, K.S.V., 1985. A glowing earthworm electrode: Electron injection mechanism, *Bioelectrochemistry and Bioenergetics* 14: 405-416. (Section of *J. Electroanal. Chem.* 192).
- Habibullah, A.M. and **Ismail, S.A.**, 1985. Preference to soil fractions and the effect of soil compaction on the casting and burrowing behaviour of the earthworm *Lampito mauritii*. *J. Soil. Biol. Ecol.*, 5: 26-32.
- Ismail, S.A.**, 1986. Earthworm resources of Madras. *Proc. Nat. Sem. Org. Waste Utiliz. Vermicomp. Part B: Verms and Vermicomposting.* (ed. Dash, M.C., Senapati, B.K. and Mishra, P.C.). Sambalpur University, Orissa. pp: 8-15.
- Alawdeen, S.S. and **Ismail, S.A.**, 1986. Stage of growth as a factor in harvesting the earthworm *Lampito mauritii* Kinberg. *Proc. Nat.Sem. Org. Waste Utiliz. Vermicomp. Part B: Verms and Vermicomposting.* (ed. Dash, M.C., Senapati, B.K. and Mishra, P.C.). *Sambalpur University, Orissa.* pp: 122-127.
- Magdoom, K.M.M. and **Ismail, S.A.**, 1986. Studies on Chemosensitivity of the megascolecid earthworm *Lampito mauritii*. *Pedobiologia* 29: 229-235.
- Magdoom, K.M.M. and **Ismail, S.A.**, 1987. Behavioural response of the earthworm, *Lampito mauritii* Kinberg to buffers of varying pH. In *Recent trends in Ethology in India* (ed. Balakrishnan, M. and Alexander, K.M.) Ethological Society of India, Bangalore. pp: 62-67.
- Khan, A.I. and **Ismail, S.A.**, 1987. Respiratory rhythm in the earthworm *L. mauritii* Kinberg. In *Aspects of Behaviour* (ed. Ismail, S.A. and Alawdeen, S.S.) pp: 121-125.
- Yegnanarayan, R., Sethi, P.P., Rajhans, P.A., Pulandiran, K. and **Ismail, S.A.**, 1987. Anti-inflammatory activity of total earthworm extract in rats. *Indian J. Pharmacol.*, 19: 221-224.
- Ismail, S.A.**, 1988. Biological rhythms in Earthworms. *Life Science Reviews. Vol. 1 Chronobiology* pp: 52-53.
- Yegnanarayan, R., **Ismail, S.A.** and Shrotri, D.S., 1988. Anti-inflammatory effect of two earthworm potions in carrageenin pedal oedema test in rats. *Ind. J. Physiol. Pharmacol.*, 32: 72-74.
- Ismail, S.A.**, Ramakrishnan, C., Anzar, M.M., 1990. Density and diversity in relation to the distribution of earthworms in Madras. *Proc. Indian Acad. Sci. (Anim. Sci.)* 99: 73-78.
- Ismail, S.A.**, 1991. Life science teaching; why not make it livelier? *School Science*, 29: 20-23.

Ranganayaki, M.D., Mary Babu, **Ismail, S.A.** and Mahendrakumar, 1991. A novel technique for the preparation of biofertilizers from proteinaceous solid wastes from tannery. *Chemical Weekly*, 37: 129.

Joseph, J., **Ismail, S.A.** and Sharief, S.D., 1992. Modified continuous flow respirometer to measure the effect of tannery effluents on the respiration of earthworms. *Bull. Environ. Contam. Toxicol.*, 49: 490-496.

Ismail, S.A., Pulandiran, K. and Yegnanarayan, R., 1992. Anti-inflammatory activity of earthworm extracts. *Soil Biol. Biochem.* 24: 1253-1254.

Ismail, S.A., 1993. Applied biology of earthworms. *Congress on Traditional Sciences and Technologies of India. Keynote Papers and Extended Abstracts.* IIT Bombay. pp: 10.27-10.30.

Anne Grace and **Ismail, S.A.**, 1994. Impact of earthworm inoculation on soil - A laboratory study. *J. Soil. Biol. Ecol.* 14: 140-143.

Mohan P.N.J., Geetha, K.S. and **Ismail, S.A.**, 1994. Distribution of earthworm fauna in natural and interfered ecosystems. *J.Zool.Soc.Kerala* 4: 27-30.

Sundaravadivel, S. and **Ismail, S.A.**, 1995. Efficacy of a biological filter unit in the treatment of distillery effluents. *J. Ecotoxicol. Environ. Monit.* 5(2): 125-129.

Ismail, S.A., 1998. Vermiculture Scope for Composting Urban and Rural Waste. In *Organic Farming Principles, Problems and Prospects* (ed Balasubramaniam A and Arunachalam N). Tamil Nadu Agricultural University, Coimbatore, India.

Ansari A.A. and **Ismail, S.A.**, 2001. Vermitechnology in organic solid waste management. *J. Soil Biol. Ecol.*, (1&2): 21-24

Ansari A.A. and **Ismail, S.A.**, 2001. A Case study on organic farming in Uttar Pradesh. *J. Soil Biol. Ecol.*, (1&2): 25-30.

Ansari A. A. and **Ismail S. A.** 2008. Biodynamic management in sodic soils. *J.Soil.Nature.* 2 (2):01-04.

Ansari A. A. and **Ismail S. A.** 2012. Earthworms and Vermiculture Biotechnology. In *Management of Organic Waste* (ed: Sunil Kumar and Ajay Bharti). InTech: 87-96.

Patents

A prefabricated vermicompost plant. Patent no. 181279 dated 08.03.1993.

Process of preparation of paste for an anti-inflammatory drug. Patent no. 178112 dated 05.04.1994.

Ph. D., Theses Supervised

1. Hamza Koya, 1994. Ecology and management of rodent pests in Kalpeni (Lakshadweep Islands, India) with special reference to coconut plantation.

2. Mohsina Akhthar, 1995. Therapeutic properties (anti-inflammatory and fibrinolytic) of earthworms (Annelida: Oligochaeta).
3. Anne Grace Isaac Seelam, 1996. Impact of earthworm introduction on the structure and fertility of soils.
4. Chitrlekha Hariharan, 1997. Role of tropical earthworms in the decomposition of leaf and litter of *Azadirachta indica*, *Eucalyptus globulus* and *Pisonia alba*.
5. Sosamma Oommen, K. 1995. Studies on bioprocessing of organic solid wastes applying vermitech and the efficacy of vermicompost and vermiwash in soil fertility.
6. Geetha, K. S. 1998. Bioecology and Bioenergetics of earthworm populations in natural and interfered ecosystems.
7. Radha, K.S. 1998. Application of earthworms (Oligochaeta: Annelida) in urban waste management systems (organic solid wastes and domestic gray water).
8. Sundaravadivel, S. 1998. Vermitech – a potential technology for soil management and productivity.
9. Jagan Mohan Reddy, P. 1998. Functional ecology of soil organisms, especially in Natural Park (Guindy) and interfered ecosystems (Paddy and sugarcane).
10. Sabitha, V. R. 1999. Interspecific variations in selected biochemical components between the epigeic *Perionyx excavatus* and anecic *Lampito mauritii* (Oligochaeta: Annelida) – A quantitative study.
11. Lalitha, R. 1999. Influence of earthworm activity on soil processes, microbial density and crop growth.
12. Abdullah Adil Ansari, 2002. Vermitech – A potential technology for reclamation of sodic soil.
13. Prakasam, T. 2002. “Vermicological” studies at the Guindy National Park, Chennai, India
14. Priscilla Jebakumari, 2006. Studies on the “microbiogeocoenose” of vermicompost and its relevance in soil health.
15. Thangaraj, R. 2006. Studies on the influence of “fauna based” biofertilizers (vermiwash, effective microorganisms, panchagavya) on plants
16. Naveed, M. I., 2007. Studies on some aquatic oligochaeta from Chennai, India.
17. Dhakshayani, C., 2008. Microbe-earthworm interactions, and impact of the exotic earthworm (*Eudrilus eugeniae* Kinberg) on endemic earthworms (*Perionyx excavatus* Perrier and *Lampito mauritii* Kinberg) based on microbial community structure. (external guidance)

MALAYSIAN EXPERIENCE

CONSUMERS ASSOCIATION OF PENANG: Associated with the Consumers Association of Penang for more than a decade on activities related to ecology, natural resources, waste management and organic farming.

UNIVERSITI SAINS MALAYSIA: Had been Visiting Professor to the School of Biological Sciences for a month in 2010 and at the School of Industrial Technology, USM from 10th May 2011 to 9th August 2011. During these visits I have guided students of Doctoral and Masters programs as well as delivered lectures to students of USM and also participated in the extension activities of the USM. I was closely associated with the CGSS (Centre for Global Sustainability at the USM) in setting up model waste management plants as well as in the preparation of audio-visual material for extension purposes.

TRAINER IN SOFT SKILLS AND COMMUNICATION SKILLS

Training people in soft skills and communications skills has been my passion. Had been a trainer for 3 years to the Staff of the Punjab Water and Sanitation Board. Trained a session for Unicorn Delhi on Recruitment and Hiring skills on behalf of MMMS. Trained a large number of teaching faculty from several schools and colleges such as Stella Maris College, Padma Seshadri, Meston Training, to name a few. More recently conducted two sessions for CIPLA staff in Chennai. To conduct massive program to teachers of TVS Schools at Madurai.

COUNTRIES TRAVELLED

Papua New Guinea, Pakistan, Australia, Denmark, United Kingdom, Singapore, Japan, Iran, Brunei Darussalam, Philippines, Malaysia, Sri Lanka, Kingdom of Saudi Arabia, Austria, Greece, Russia and the United States of America

CONSULTANCY ON SOLID WASTE MANAGEMENT

Sundaram Clayton, Harita-NTI, Futura Polyesters, Perfetti van melle, Greenlands, Hindustan Uni Lever, Goa, Agriculture departments of Brunei, Malaysia, Iran. University of Sciences Malaysia at Penang, Malaysia. Several municipalities and private organizations in India.

CORRESPONDENCE:

98, Baaz Nagar, 3/621 East Coast Road,
Palavakkam, Chennai 600 041, INDIA

Phone (Home)+ 91 44 3292 1051
+ 91 44 2492 0786

Handphone + 91 93848 98358

Email ID sultanismail@gmail.com

URL www.erfindia.org
www.simpletasksgreatconcepts.wordpress.com