

SSSSL Newsletter

SOIL SCIENCE SOCIETY OF SRI LANKA

P.O. Box 10, Peradeniya, 20400, Sri Lanka. e-mail: soilscisoclk@gmail.com Web : www.ssssl.org

Volume 17

No. 1 & 2

March 2014

Annual General Meeting 2013/2014

The 43rd Annual sessions and Annual general meeting of the Soil Science Society was held on 16th May 2013 at the Auditorium of the Hector Kobbekaduwa Agrarian Research and Training Institute (HARTI) with participation of 70 members. The customary Joachim Memorial Lecture was delivered by Dr. R.S. Dharmakeerthi, Principal Research Officer, Rubber Research Institute of Sri Lanka. The lecture entitled "Countering Soil Fertility Degradation through Biochar Application" was an eye-opener for fellow scientist about the potentials of Biochar as a soil amendment to enhance the soil fertility.

The Joachim Memorial Lecture was followed by the technical session. Three members of the soil science society made presentations. Dr. W. A. U. Vitharana, Senior Lecturer, University of Peradeniya introduced the "Harmonized World Soil Data Base" and involvements of the SSSSL on updating World Soil Data Base. This updating endeavor has been implemented by the Asia Soil Partnership under the Global Soil Partnership action pillar "Strengthening Soil Data and Information". Ms. U.K.P.S. Sanjeevani, Doctoral Researcher at Postgraduate Institute of Agriculture, University of Peradeniya presented her research findings on present status of soil heavy metal concentrations in a map unit of the Dry Zone of Sri Lanka. Her presentation titled "Establishment of Background Heavy Metal Concentrations in a selected mapping unit of the Dry Zone of Sri Lanka" was well received by the audience and the need of extending the study to other parts of Sri Lanka was highlighted. The involvement of the private sector in development of the Northern Region was presented by Mr. A.H. Kulasiri, Assistant General Manager, CIC Agribusiness (Pvt) Ltd. His presentation allowed the members to understand the present progress in Agriculture in the war-torn Northern part of Sri Lanka and the role of the private sector.

Field Visit to Matara

After the Annual General Meeting, members left on a field trip to Matara. Members got a valuable opportunity to explore the soil and land-scape variability on their way to Matara. About forty members participated for this event. The evening out at Thelijawila District Training Center opened up an enjoyable get-to-gather.

On the next day, the members observed Acid Sulphate Soils near Matara area. Mr. Indrajith Balasuriya, Assistant Director of Agriculture (Retired) shared his research experiences on the development and characteristics Acid Sulphate soils in the Nilwala River Basin those developed as a consequence of the Nilwala Flood Protection Scheme (NFPS). The members had an excellent opportunity to understand the socio-economic consequences of the development of acid Sulphate soils in paddy grown areas of Nilwala River Basin.



Mr. Indrajith Balasuriya describes the formation and characteristics of Acid Sulphate soils in Nilwala River Basin

Participants also visited a Cinnamon Processing Plant, Rathna producers at Kamburupitiya. This was a valuable chance for all to get acquainted with the manufacturing process of cinnamon quills which is unique to Sri Lanka.

The society is thankful to its members: Mr. Anura Weeragodarachchi, Research Officer, Regional Research Station, Ambalanthota and Dr. C.N. Samaraweera, Deputy Director (Research), Cinnamon Research Station, Matara for facilitating the field trip. The kind supports given by Mr. Indrajith Balasuriya and Mr. P. Ruhunage are highly appreciated. Their efforts helped to make the field trip a success. Further, the society acknowledges with gratitude the generous sponsorship provided by Korean Project on International Agriculture (KOPIA) for the field trip.



Participants of the Field trip to Matara

SSSSL Felicitate Dr. Kingsley A. De Alwis

The Soil Science Society felicitated Dr. Kingsley A. De Alwis, one of the senior members who made considerable contributions to the soil science nationally and internationally. The ceremony was held on 16th May 2013 prior to the AGM. To commemorate this event a felicitation volume was published as a special publication of the SSSSL. Prof. R. B. Mapa, Drs. C.S. Weeraratne and Dr. H. Somapala contributed by invitation to this publication. Three highly cited research articles by Dr. Kingsley A. De Alwis on Red-Yellow Latosols of Sri Lanka were reproduced in this book. The "Handbook of the Soils of Sri Lanka" published by Dr. Kingsley A. De Alwis with C.R.Panabokke is a milestone in survey and classification of soils of Sri Lanka. Prof. S.P Indraratne has provided an excellent review on this book. Delivering the Felicitation address, Prof. R. B. Mapa, Senior Professor in Soil Science, University of Peradeniya highlighted tremendous contributions made by Dr. Kingsley A. De Alwis on genesis, classification and characterization of Red-Yellow Latosols and also for land suitability evaluation endeavors in Sri Lanka. In honor of the services to soil science and devoted contributions, Dr. Kingsley A. De Alwis was conferred the Honorary Fellowship of the Soil Science Society of Sri Lanka.



Dr. Kingsley A. De Alwis addressing the participants of the felicitation ceremony

SSSSL New Office Bearers: 2013/2014

Following members were elected to the executive committee during the AGM for the year 2013/2014

President:	Dr. P. Weerasinghe
Vice President:	Dr. R.S. Dharmakeerthi
General Secretary:	Dr. M.G.T.S. Amarasekara
Treasurer:	Mr. Upali Yapa
Editor:	Dr. U. W. A. Vitharana
Auditor:	Dr. W. M. J. Bandara

Committee Members

Prof. Srimathi. P. Indraratne
Ms. Shifaya Maraikar
Dr. D.N. Samaraweera
Mr. L.R.M.C. Liyanage
Dr. I. Wijebandara
Dr. W.S. Dandeniya
Mr. A.H. Kulasiri
Mr. D. N. Sirisena
Mr. C.K. Wickramasinghe
Mr. Chamila Perera

SSSSL Represented ESAFS11 Conference

Dr. P. Weerasinghe, President, SSSSL participated the 11th International Conference of the East and Southeast Asia Federation of Soil Science Societies (ESAFS11) held in Bogor, Indonesia from 21st-24th October 2013. Representing the SSSSL, he presented the activity report of the society for the period 2011-2013. Moreover, the society fully funded the conference participation of its member, Dr. W.M.A.D.B. Wickramasinghe, (Director/NRMC) as an appreciation for his contribution in fund raising and organizing the ESAFS10 conference held in 2011 in Colombo, Sri Lanka. Further, he made an oral presentation on "prioritization of sub-watersheds for soil conservation using GIS and remote sensing in Victoria Reservoir catchment Sri Lanka".

Activities to Popularize Soil Science among Undergraduates

The Soil Science Society has taken steps to popularize the soil science among undergraduates of different Universities of Sri Lanka. This is an outcome of the fact-finding survey conducted by Prof. R.B. Mapa, on behalf of the soil science society. Proposed activities include workshops, seminars and poster competitions across different universities.

SSSSL Organized a Workshop on Environmental impact of potentially toxic heavy metals in soils

Soil Science Society of Sri Lanka and the Board of study in Soil Science of Postgraduate Institute of Agriculture (PGIA) jointly organized a workshop on "Environmental impact of potentially toxic heavy metals in soils". The workshop was held at the auditorium of the PGIA on 5th September 2013. This event provided a common forum to critically discuss soil contamination with potentially toxic trace elements and its significance on human wellbeing in Sri Lanka. Gracing this event as the chief guest, Vidyajothi Prof. C.B Dissanayaka clearly emphasized the importance of the holistic research approaches when addressing the issues pertaining to the contamination of soil and water resources by different contaminants. Prof. A. N. Jayakody (Faculty of Agriculture, University of Peradeniya), Prof. R. Chandrajith (Faculty of Science, University of Peradeniya), Prof. U. Samarajeewa (International Consultant on Laboratory Accreditation and Food Safety, UNIDO), Prof. S.P. Indraratne (Faculty of Agriculture, University of Peradeniya), Dr. A. Wijesekara (Pesticide Registrar/ Department of Agriculture), Mr. M.N.A. Mubarak (Industrial Technology Institute), Dr. S.K. Weragoda (National Water Supply and Drainage Board), Dr. P. Weerasinghe (Horticulture Research and Development Institute, Department of Agriculture), and Mr. S.M. Werahera (Ministry of Environment and Renewable Energy) served as resource persons and made informative presentations on different aspects related to the environmental impact of potentially toxic heavy metals in soils. The presentations were followed by a panel discussion where the resource persons answered and discussed the questions raised by the audience. The sessions were chaired by Prof. R.B. Mapa and Prof. A.N. Jayakody. Nearly 150 participants representing a number of government and private

sector organizations and higher education institutes participated for the event. Dr. W.S. Dandeniya, senior lecturer, University of Peradeniya served as the coordinator of the workshop.



Resource persons of the workshop on potentially toxic heavy metals in soil, participating the panel discussion

Mid Term Technical Excursion to study soils of Jaffna

The members of the SSSSL participated two day excursion in Northern region of Sri Lanka to study soils of Jaffna. This activity held on 26th and 27th September 2013. On the first day, participants had an opportunity to study on the theoretical aspects of the genesis, present status of mapping and characterization of soils in the Northern Region of Sri Lanka. Prof. R.B. Mapa led this discussion with a presentation. On the second day, participants described Calcic Red-Latasols and Calcic Yellow Latasols profiles at Point-Pedro in Jaffna peninsula. The society is thankful to its members Prof. R. B. Mapa and Mr. A.H. Kulasiri for their kind assistance to conduct a successful mid term technical excursion.



Participants of the mid-term excursion studying the soils of Jaffna

Fertilizer Day Program - 2013

The 9th Fertilizer Day program was held on 6th December 2013 at the SRICANSOL Resource Centre, Peradeniya. The technical session of the Fertilizer day was devoted for presentations by the members who completed their doctoral researches very recently. Dr. (Ms.) Indika Herath, Research officer, Coconut Research Institute made a presentation on the Use of water footprinting to quantify and reduce the impact of nutrient leaching on water resource. This was followed by a presentation by Dr. (Ms.) Wajira Balasooriya, Senior Lecture, Department of Biotechnology, Wayamba University. The title of her presentation was "The Diversity of active soil microbial community: using cell membrane fatty acids". Next, Prof. (emeritus) Kapila Dahanayake delivered a lecture on Rocks and Soils. This presentation paved a strong foundation for the field trip of the fertilizer day while integrating his expertise on the geology and soil scientists' knowledge on soil formation. After the technical session, participants visited Reddigama in Kurunegala to study Geology of the area where the world largest rock carved Buddha stature is being constructed. The SSSSL express the gratitude for Prof. Kapila Dahanayake for his contribution to conduct a successful field excursion.



Prof. Kapila Dahanayake describing the mineralogy of rocks present in the Kurunegala area

Address by Dr. Kingsley A. De Alwis to Soil Scientists in Sri Lanka

The address delivered by Dr. Kingsley A. De Alwis attracted the attention of the participants. The content of the presentation covered two main parts pertaining to soil science, i.e. interpretation of Soil Science as one of the most comprehensive and multi-faceted of scientific disciplines and the challenges facing Soil Science in Sri Lanka today. For the benefit of all soil scientists, a summary of his presentation is provided below.

Soil Science as a discipline

Soil Science as a discipline demands that one should be a complete scientist. To be a successful soil scientist one obviously needs to have knowledge of the basic sciences like Chemistry, Physics, Biology, and Mathematics. But a soil scientist would

also need specific knowledge of Soil Chemistry, Soil Fertility, Soil Physics, Soil Biology, Soil Microbiology, Soil Mineralogy, Soil Survey and Soil Classification, as well as Geology, Geomorphology, Climatology, Hydrogeology, Hydrology, and Remote Sensing, among others.

Depending one's specialization, one may need a more detailed knowledge of still other disciplines. As an example, if the objective of research in soil science is to improve agriculture and agricultural practices, a closer study of soil-crop relationships would be required. For Irrigation applications, studies of soil-water-plant relationships would be needed using techniques for measuring soil moisture, such as Tensiometers, neutron probes, time domain Reflectrometers, etc. Analysis of soil organic matter would require colorimetric methods. Thus research in Soil Science needs an interdisciplinary and multi-disciplinary approach and the use of many sophisticated techniques of analysis. At the same time, it is necessary to be constantly referring the detailed findings of the analyses and investigations to the relevant soils and soil behavior in the field. Admittedly, the best interdisciplinary thinking takes place in a single mind. However, to tackle complex problems in the real world, highly specialized studies in many different fields are needed. This requires a multi-disciplinary team approach. Although there is a place for research aimed at gaining a better understanding of the soils, if research in soil science is to have an impact on users of the soil, or to be the basis for policy recommendation to government or other authorities, the only sensible way is to take a problem-oriented multi-disciplinary team approach. This may have to include not only the relevant soil scientists but also scientists and specialists in other pertinent disciplines, as well as potential beneficiaries of the research, and any extension agents involved. In this connection, it is promising that the Soil Science Society has now opened its doors to scientists of other related disciplines as well.

Challenges facing Soil Science in Sri Lanka.

When discussing the immediate challenges facing soil science in Sri Lanka, we need to look at problems that concern not only soils, but also those in which *other* factors may play important roles. One of the most urgent problems is Chronic Kidney Disease of Unknown Aetiology, that is ravaging the North Central Province. Many farmers in Rajarata are dying from this disease at this very moment. It is imperative to determine the part played (if any) by soil, soil contaminants and groundwater in causing this disease. This requires a multi-disciplinary approach by soil scientists, medical scientists including epidemiologists, nephrologists, public health practitioners, geologists, hydrogeologists, hydrologists, analytical chemists, sociologists, as well as the farmers suffering from this condition.

Measuring, mapping, and drawing attention to, the *loss and degradation of the country's soil resources* through erosion, salinization, deforestation, desertification, pollution, water-logging and inundation, and urbanization including losses to the unplanned housing sprawl, industrial activity, road construction and construction of walkways. A plan for conservation of this vital resource based on such a survey and inventory is extremely

urgent. A neglected area in Sri Lanka has been the study of soil microbial communities, their roles in nutrient release and recycling, their potential as sources of medicines, their possible involvement in health hazards like the spread of salmonella and hookworm and their importance in the use of soil as a sink for chemical and biological wastes.

Studies on the behavior of soils under different uses and management practices needs to be an ongoing activity. Particularly important now would be studies of the contamination of groundwater by agricultural activities, particularly phosphates and nitrates. This would require collaboration with hydrologists, extension personnel and farming communities. Studies in the areal variability of soils and relating soil micro level characteristics to soils in the landscape would be another priority.

Soil scientists are a privileged group of individuals. Not only do we acquire the natural ability to think analytically and in a multi-disciplinary manner, but we also get to have a great outdoor life with plenty of exercise. Of course, I cannot promise that by taking up soil science you will become rich, but I can promise that you *will* have the privilege – dead or alive - of being buried in your work.

New Members

During last year professionals from different institutions have obtained life membership of the Society. We warmly welcome them to the society and expect their active participation in society activities and to popularize soil science in Sri Lanka. Details of the new members are:

No.	Name	Affiliation
1	Ms. G.N. Rupasinghe	Dept. of Agriculture, Research Station, Benthota
2	Mr. M.B.M. Uwaiz	Dept. of Irrigation, Ampara Range
3	Ms. D.G.P.S. Delpitiya	RARDC, Aralaganwila
4	Mr. A.D. Amaratunga	Environmental Studies Division, NARA
5	Dr. L.D.B. Suriyagoda	Dept. of Crop Science, University of Peradeniya
6	Dr. R.H.G. Ranil	Dept. of Crop Science, University of Peradeniya
7	Dr. C.K. Benaragama	Dept. of Crop Science, University of Peradeniya.



“The fate of the soil system depends on society's willingness to intervene in the market place, and to forego some of the short-term benefits that accrue from 'mining' the soil so that soil quality and fertility can be maintained over the longer term”

Eugene Odum (1993) *Ecology and our endangered life-support systems*

