

## **Curriculum vitae – Professor W.A.J.M. De Costa**

(Google scholar profile: <https://scholar.google.com/citations?user=xUqfaE4AAAAJ&hl=en>)

### **Personal Information**

**Name with initials:** W.A.J.M. De Costa

**Name in full:** Weeratunge Arachchige Janendra Mathalee De Costa

**Date of Birth:** 06 May 1961

**Nationality:** Sri Lankan

**Gender:** Male

**Marital status:** Married with one daughter (27)

**Schools attended:** Royal College, Colombo (Secondary Education); Dharmapala Vidyalaya, Pannipitiya (Primary Education)

#### **Address:**

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### **Professional Information**

**Designation:** Senior Professor of Crop Science (Chair)

**Area of specialization:** Crop Eco-Physiology

### **Profile**

An experienced University Professor and Senior Research Scientist on Eco-Physiology and Agronomy of Agricultural Crops, Agroecosystems, Forest Ecosystems and Agroforestry Systems and Climate Change and its Impacts on Agriculture and Forestry with excellent communication skills in spoken and written English and ability to work in a diverse range of subject areas and expertise related to the broad fields of Agriculture and Plant Eco-Physiology

### **Summary of Expertise**

Demonstrated expertise through research publications in the following areas,

- Crop Physiology,
- Stress Physiology,
- Agronomy,

- Environmental Interactions in Tropical Cropping Systems, Agroforestry Systems and Forest Ecosystems,
- Irrigation and Water Management in Agricultural Crops,
- Responses of Agricultural Crops and Forest Tree Species to Environmental Stresses (i.e. Drought, Heat, Salinity and Elevated Atmospheric Carbon Dioxide),
- Quantification of the Magnitude of Climate Change through Analysis of Long-term Climatic Data,
- Assessment of the Impacts of Climate Change on Agriculture and Forestry,
- Crop Simulation Modelling,
- Estimation of Carbon Sequestration in Agro-ecosystems, Natural and Plantation Forestry and Agroforestry
- Agricultural Research Management

### **Current Research Interests**

- (a) Assessment of the impacts of climate change on tropical rainforests of Sri Lanka
- (b) Assessment of climate resilient agronomic practices on tea plantations in Sri Lanka
- (c) Assessment of climate resilience and adaptation options to climate change in upland cropping systems of Sri Lanka
- (d) Assessment of the impacts of elevated CO<sub>2</sub> and temperature on sugarcane
- (e) Prediction of the impacts of climate change on upland crops through simulation modelling
- (f) Investigation of the physiological basis of drought and heat tolerance of rice and upland crops

### **Academic Qualifications**

#### **Doctor of Philosophy**

Obtained from the University of Reading, United Kingdom in 1992.

**(Area of Specialization:** Crop Eco-Physiology)

#### **Bachelor of Science (Agriculture)**

Obtained from the University of Peradeniya, Sri Lanka with Second Class (Upper) Division Honours and Seven Distinctions in 1986.

**(Area of Specialization:** Crop Science and Biometry)

### **Professional Qualifications**

#### **Certificate in University Staff Development**

Obtained from University of Kassel, Germany in July, 1998 and included intensive training on Organization Development and Management, Quality Assurance in Teaching and Learning and Research Management within the context of a University system.

### **Employment Record**

***From 15 February, 1987 to 29 January, 1988***

**Assistant Lecturer in Crop Science** at the Department of Crop Science of the Faculty of Agriculture in the University of Peradeniya, Sri Lanka.

***From 30 January, 1988 to 29 January, 1993***

**Lecturer in Crop Science** at the Department of Crop Science of the Faculty of Agriculture in the University of Peradeniya, Sri Lanka.

***From 30 January, 1993 to 22 January, 2002***

**Senior Lecturer in Crop Physiology** at the Department of Crop Science of the Faculty of Agriculture in the University of Peradeniya, Sri Lanka.

***From 23 January, 2002 to 22 October, 2004***

**Professor in Crop Science (Merit Promotion)** at the Department of Crop Science of the Faculty of Agriculture in the University of Peradeniya, Sri Lanka

***From 23 October, 2004 to 22 January, 2010***

**Professor of Crop Science (Chair)** at the Department of Crop Science of the Faculty of Agriculture in the University of Peradeniya, Sri Lanka

***From 23 January, 2010 onwards***

**Senior Professor of Crop Science (Chair)** at the Department of Crop Science of the Faculty of Agriculture in the University of Peradeniya, Sri Lanka

### **Academic Awards**

#### **Presidential Research Awards**

Award and commendation from the President of the Government of Sri Lanka for internationally recognized and cited research work carried out within Sri Lanka. Received this award for 1999, 2000, 2002, 2003, 2005, 2006, 2007, 2009, 2014, 2016 and 2020.

#### **CVCD Award for Research Excellence**

Awarded the Most Outstanding Senior Researcher - 2018 in the Field of Biological Sciences/Agriculture and Allied Sciences by the Committee of Vice Chancellors and Directors (CVCD), Sri Lanka.

#### **National Science Foundation Merit Award**

Awarded by the National Science Foundation, Sri Lanka in 2006 in the category of 'Agriculture & Food' for outstanding research carried out within Sri Lanka in the project

titled “Evaluation of sloping agricultural land technology on tea plantations in the humid sloping highlands of Sri Lanka”.

#### **Georg Forster Research Fellowship**

Awarded by the Alexander von Humboldt Foundation in Germany to carry out research on “**Salt resistance in hybrid maize**” at the Justus Liebig University, Giessen, Germany from October, 2004 to December 2005.

#### **Commonwealth Research Fellowship –**

Awarded by the Association of Commonwealth Universities to carryout post-doctoral research on “Modelling the Impacts of Climate Change on Forest and Agricultural Ecosystems of Sri Lanka” at the University of Exeter in the United Kingdom in 2012.

#### **National Research Council Merit Award**

Awarded for published research in 2015 and 2017.

#### **National Science Foundation Certificate of Commendataion**

Awarded by the National Science Foundation, Sri Lanka in 2013 in the category of ‘Biotechnology & Bioethics’ for outstanding research carried out within Sri Lanka in the project titled “Expression of candidate genes of salt tolerance in the Sri Lankan rice germplasm”.

#### **Special Award at the First World Congress of Agroforestry, 2004**

Received an award at the First World Congress of Agroforestry held in Orlando, Florida from 27 June to 01 July, 2004 as one of the 10 best poster presenters among a total of nearly 300 posters from participants of about 80 different countries.

#### **DAAD Postdoctoral Fellowships**

Twice received postdoctoral fellowships from the German Academic Exchange (DAAD) in 1995 and 1998 to carryout research at the University of Hohenheim and University of Kassel, Germany respectively.

#### **Commonwealth Postgraduate Scholarship**

Awarded by the Association of Commonwealth Universities to carryout postgraduate studies leading to PhD at the University of Reading in the United Kingdom from 1988 to 1992.

### **Major Research Grants Received**

#### **Principal Investigator in the following projects:**

Investigation on the role of water stress and climate change on forest dieback at Horton Plains granted by the Sri Lanka Council for Agricultural Research Policy (Forestry Subcommittee) (2021-2024) (**US \$ 36,000<sup>†</sup>**)

*(<sup>†</sup>An approximate value based on the current exchange rate)*

Quantification of the response of tropical rainforests of Sri Lanka to varying atmospheric temperature for prediction of the impact of future climate change on their carbon balance and biodiversity granted by the National Science Foundation, Sri Lanka (2018-2022) (**~US\$ 140,000**)

Research programme to assess the climate resilience and adaptation options to climate change in upland cropping systems of Sri Lanka granted by the Higher Education for Twenty First Century (HETC) Quality and Innovation Grants Window-3 (QIG-3) of the Ministry of Higher Education, Sri Lanka (2012-2015) (**~ US\$ 240,000**)

Research programme to produce rice varieties resistant to abiotic stresses (principally to drought stress and high temperature stress) and to predict the impacts of abiotic stresses on rice production in different agroecological zones of Sri Lanka (2008-2010) granted by the Sri Lanka Council for Agricultural Research Policy (**~ US\$ 25,000**)

Identification of drought resistant varieties in Rice (*Oryza sativa* L.) using physiological and molecular methods (2008-2011) granted by the National Science Foundation of Sri Lanka (**~ US\$ 30,000**)

Expression of candidate genes for salt tolerance in Sri Lankan rice germplasm (2007-2010) granted by the International Centre for Genetic Engineering and Biotechnology, Italy and National Science Foundation, Sri Lanka (**~ US\$ 65,000**)

Estimation of carbon sequestration capacity of different forest types of Sri Lanka (2004 – 2008) granted by the National Science Foundation of Sri Lanka (**~ US\$ 12,000**)

Investigation of the effects of elevated atmospheric carbon dioxide on physiology, growth and productivity of the Sri Lankan rice germplasm (2000-2004) granted by the Asia Pacific Network for Global Climate Change Studies and the Sri Lanka Council for Agricultural Research Policy (**~ US\$ 45,000**)

Evaluation of sloping agricultural land technology on tea plantations in the humid sloping highlands of Sri Lanka (1997-2002) granted by the National Science Foundation of Sri Lanka (**~ US\$ 15,000**)

Resource competition and soil conservation in contour hedgerow intercropping on sloping lands in the Upper Mahaweli Catchment of Sri Lanka (1997-2002) granted by the International Foundation for Science, Sweden (**~ US\$ 19,680**)

Investigation of the physical and physiological control of water use of different tree species in mixed forests of Sri Lanka (1999 - 2002) granted by the National Research Council of Sri Lanka (**~ US\$ 20,000**)

Determination of optimum water management of dry-season grain legumes in the dry zone of Sri Lanka (1994-1996) granted by the Sri Lanka Council for Agricultural Research Policy (**~ US\$ 5,500**)

#### **Co-investigator in the following projects:**

Investigation of the response of tea (*Camellia sinensis* (L.) O. Kuntze) to environmental change with special emphasis on anatomical and physiological adaptations of stomata across an altitudinal range (2010 – 2012) granted by the National Science Foundation of Sri Lanka (**~ US\$ 20,000**)

Investigation of salt tolerance of grain legumes in the dry zone of Sri Lanka (2005-2007) granted by the Sri Lanka Council for Agricultural Research Policy (~ **US\$ 10,000**)

Studies on the status of phosphorus and potassium nutrients in soil and with the rice plants during the growing season to enhance their efficiency granted by the National Research Council of Sri Lanka (2012 – 2015) (~ **US\$ 20,000**)

### Summarized Publication Record

**Google scholar h-index = 23; i10-index = 41; Total Citations (up to 14.10.2021) = 1679**  
(<https://scholar.google.com/citations?user=xUgfaE4AAAAJ&hl=en>)

Full-length papers in peer-reviewed journals – 106

Books – 5

Book chapters - 10

Full-length papers in conference proceedings – 27

Abstracts in conference proceedings – 92

Consultancy reports - 3

Editorships of journals – 1

Editorships of conference proceedings - 5

Membership in Editorial Boards – 2

Articles in Newsletters and Bulletins - 3

### LIST OF SCIENTIFIC PUBLICATIONS

#### Full-Length Papers in Peer-Reviewed Journals

(† - Publications in indexed journals)

†De Silva, A.L.C., Senarathna, H.A.K.N. Nishadi and **De Costa, W.A.J.M. (2021)**. Genotypic variation of the interactive effects of elevated temperature and CO<sub>2</sub> on leaf gas exchange and early growth of sugarcane. *Physiologia Plantarum*, 1–14. Available from: <https://doi.org/10.1111/ppl.13578>.

†De Silva, A.L.C., **De Costa, W.A.J.M.** and Suriyagoda, L.D.B. (2021). Effects of elevated temperature and CO<sub>2</sub> on biomass and sucrose accumulation of selected sugarcane germplasm. *Tropical Agricultural Research* 33 (Accepted and In Press).

†Devika M. De Costa, **Janendra M. De Costa**, Manasee T. Weerathunga, Kandeeparoo Pan Prasannath and Virajini N.D. Bulathsinghalage (2021). Assessment of management practices, awareness on safe use of pesticides and perception on integrated management of pests and diseases of chilli and tomato grown by small-scale farmers in selected districts of Sri Lanka. *Pest Management Science*. <https://doi.org/10.1002/ps.6542>.

†Madhumali, R.M.C., Wahala, W.M.P.S.B., Sanjeewani, H.K.N., Samarasinghe, D.P. and **De Costa, W.A.J.M. (2021)**. Response of canopy leaf area index and architecture of tropical rainforests in Sri Lanka to climatic variation along an altitudinal gradient. *Tropical Agricultural Research* 32 (1): 1-16.

†Sanjeewani, H.K.N., Samarasinghe, D.P., Jayasinghe, H.D., Gardiyawasam, P.H., Wahala, W.M.P.S.B., Wijetunga, W.M.G.A.S.T.B., Ukuwela, K.D.B., Gomes, P., and **De Costa, W.A.J.M.**

(2020). Response of tree community composition, plant diversity and aboveground tree biomass in tropical rainforests of Sri Lanka to variation in altitude. *Tropical Agricultural Research* 31 (1): 87-101. DOI:<http://doi.org/10.4038/tar.v31i1.8346>.

Pathiranage, S.R.W., Wijeratne, M.A. and **De Costa, W.A.J.M.** (2020). Field performance of locally available motorized tea harvesters (accepted to be published in Tea Bulletin – Volume 29 of 2020)

†Malika, L.Y., Deshabandu, K.S.H.T., **De Costa, W.A.J.M.**, Ekanayake, S., Herath, S. and Weerakoon, W.M.W. (2019). Physiological traits determining tolerance to intermittent drought in the *Capsicum annuum* complex. *Scientia Horticulturae* 246: 21-33. [doi.org/10.1016/j.scientia.2018.10.047](https://doi.org/10.1016/j.scientia.2018.10.047)

**De Costa, W.A.J.M.** (2018). Raising crop yields: The missing links from molecular biology to plant breeding. *Ceylon Journal of Science* 47(3): 213-220. DOI: <http://doi.org/10.4038/cjs.v47i3.7528>

†Abhayapala, Ruvini, **De Costa, Janendra**, Malviarachchi, Wasantha, Kumara, Aruna, Suriyagoda, Lalith and Fonseka, Ramya (2018). Exploitation of differential temperature-sensitivities of crops for improved resilience of tropical smallholder cropping systems to climate change: A case study with temperature responses of tomato and chilli. *Agriculture, Ecosystems & Environment* 261: 103-114. doi.10.1016/j.agee.2017.10.027.

†Caldera, H.I.U., **De Costa, W.A.J.M.**, Woodward, F.I., Lake, J.A. and Ranwala, S.M.W. (2017). Effects of elevated carbon dioxide on stomatal characteristics and carbon isotope ratio of *Arabidopsis thaliana* ecotypes originating from an altitudinal gradient. *Physiologia Plantarum* 159: 74 - 92. DOI: 10.1111/ppl.12486.

†Somaweera, K.A.T.N., Sirisena, D.N., **De Costa, W.A.J.M.** and Suriyagoda, L.D.B. (2017). Age-related morphological and physiological responses of irrigated rice to declined soil phosphorus and potassium availability. *Paddy and Water Environment* 15: 499-511. DOI 10.1007/s10333-016-0567-6.

†Suriyagoda, L.D.B., Sirisena, D.N., Somaweera, K.A.T.N., Dissanayake, A., **De Costa, W.A.J.M.** and Lambers, H. (2017). Incorporation of dolomite reduces iron toxicity, enhances growth and yield, and improves phosphorus and potassium nutrition in lowland rice (*Oryza sativa* L). *Plant and Soil* 410: 299-312. <https://doi.org/10.1007/s11104-016-3012-0>.

†Somaweera, K.A.N.T., Suriyagoda, L.D.B., Sirisena, D.N. and **De Costa, W.A.J.M.** (2017). Growth, root adaptations, phosphorus and potassium nutrition of rice when grown under the co-limitations of phosphorus, potassium and moisture. *Journal of Plant Nutrition* 40: 795-812. <https://doi.org/10.1080/01904167.2016.1201497>

Pathiranage, S.R.W., Wijeratne, M.A. and **De Costa, W.A.J.M.** (2017). The key factors responsible for yield reduction with mechanically harvested tea. *Tea Bulletin* 26(1 & 2) pp 24-28.

†Somaweera, K.A.T.N., Suriyagoda, L.D.B., Sirisena, D.N. and **De Costa, W.A.J.M.** (2016). Accumulation and partitioning of biomass, nitrogen, phosphorus and potassium among different tissues during the life cycle of rice grown under different water management regimes. *Plant Soil* 401: 169-183. <https://doi.org/10.1007/s11104-015-2541-2>.

†Malaviarachchi, M.A.P.W.K., **De Costa, W.A.J.M.**, Kumara, J.B.D.A.P., Suriyagoda, L.D.B. and Fonseka, R.M. (2016). Response of mung bean (*Vigna radiata* (L.) R. Wilczek) to an increasing natural temperature gradient under different crop management systems. *Journal of Agronomy and Crop Science* 202: 51-68. DOI: 10.1111/jac.12131.

Ahmed, T., **De Costa, W.A.J.M.** and Wijeratne, M.A. (2016). Effect of Different Plucking Systems on Yield and Root Starch Reserve in Two Cultivars of Tea (*Camellia sinensis* L.). *Journal of Environmental Science and Natural Resources* 9 (2): 91-95.

Wijeratne, M.A., Gamage, A.G. and **De Costa, W.A.J.M.** (2016). Role of shade trees in tea: low country perspective. *Tea Bulletin* 25 (1/2): 14-20.

†Ranasinghe, C.S., Kumarathunge, M.D.P., Jayaranjini, S. and **De Costa, W.A.J.M.** (2015). Photosynthetic irradiance response, canopy photosynthesis and their variation with canopy strata in tall and dwarf x tall coconut cultivars (*Cocos nucifera* L.). *Scientia Horticulturae* 189: 175-183.

Malaviarachchi, M.A.P.W.K., **De Costa, W.A.J.M.**, Fonseka, R.M., Kumara, J.B.D.A.P. and Suriyagoda, L.D.B. (2015). Can seasonal temperature extremes alter the growth and yield of mung bean (*vigna radiata* (L.) R. Wilczek)? An investigation with different agronomic management packages conducive for climate adaptation. *Tropical Agriculturist* 164 (Accepted and In press).

**De Costa, W.A.J.M.**, Wijeratne, M.A. and Herath, D.R.K.B.K. Herath (2015). Carbon trading and its application to the tea industry of Sri Lanka. *Sri Lanka Journal of Tea Science* 80 (1/2): 19-39.

†Suriyagoda, L., **De Costa, W.** and Lambers, H. (2014). Growth and phosphorus nutrition of rice when inorganic fertilizer application is partly replaced by straw under varying moisture availability in sandy and clay soils. *Plant and Soil* 384 (1-2): 53-68. DOI 10.1007/s11104-014-2049-1.

Wijeratne, T.L., **De Costa, W.A.J.M.** and Wijeratne, M.A. (2014). Carbon sequestration: an underexploited environmental benefit of tea plantations in Sri Lanka. *Tea Bulletin* 23 (1 & 2): 1 – 5.

Malaviarachchi, M.A.P.W.K., **De Costa, W.A.J.M.**, Fonseka, R.M., Kumara, J.B.D.A.P., Abhayapala, K.M.R.D. and Suriyagoda, L.D.B. (2014). Response of maize to a temperature gradient simulating long-term climate change under different soil management systems. *Tropical Agricultural Research* 25 (3): 327-344.

Abhayapala, K.M.R.D., **De Costa, W.A.J.M.**, Fonseka, R.M., Prasannath, K., De Costa, D.M., Suriyagoda, L.D.B., Abeythilakeratne, P.D. and Nugaliyadde, M. (2014). Response of potato to increasing growing season temperature under different soil management and crop protection regimes in the up-country of Sri Lanka. *Tropical Agricultural Research* 25 (4): 555-569.

Kumara, J.B.D.A.P., Suriyagoda, L.D.B., **De Costa, W.A.J.M.** and Malaviarachchi, M.A.P.W.K. (2014). Modelling canopy development, biomass and yield of maize (*Zea mays* L.) under optimal management. *Tropical Agricultural Research* 25 (2): 214-227.

†Zahra, A.R.F., De Costa, D.M. and **De Costa, W.A.J.M.** (2013). Identification of differentially-expressed genes in response to salt-stress in the salt-tolerant Sri Lankan rice variety At354. *Journal of the National Science Foundation of Sri Lanka* 41 (2): 93-112.

Navaratne, D.M.S., Perera, G.A.A.R. and **De Costa, W.A.J.M.** (2013). Effect of time from pruning on the chemical composition of flush and black tea of physiologically and morphologically different cultivars grown in Dimbula Region of Sri Lanka. *Sri Lanka Journal of Tea Science* 78 (1/2): 29-41.

Ahmed, T., De Costa, W.A.J.M. and Wijeratne, M.A. (2013). Effects of different plucking systems on shoot growth dynamics and yield in contrasting two cultivars of tea (*Camellia sinensis* L.). *Tea Journal of Bangladesh* 42: 1-9.



Zahra, A.R.F., De Costa, D.M. and **De Costa, W.A.J.M. (2012)**. Comparative expression analysis of two selected candidate genes for salt tolerance in rice variety At354 during two phases of salt stress development. *Sri Lankan Journal of Agricultural Sciences* 49: 75-85.

†**De Costa, W.A.J.M. (2012)**. Climate change research in Sri Lanka - Are we investing enough?. *Journal of the National Science Foundation of Sri Lanka* 40 (4): 281-282.

†**De Costa, W.A.J.M.,** Wijeratne, M.A.D. and De Costa, D.M. (2012). Identification of Sri Lankan rice varieties having osmotic and ionic stress tolerance during the first phase of salinity stress. *Journal of the National Science Foundation of Sri Lanka* 40 (3): 251-280.

†**De Costa, W.A.J.M.,** Wijeratne, M.A.D., De Costa, D.M. and Zahra, A.R.F. (2012). Determination of appropriate level of salinity for screening of rice for salt tolerance. *Journal of the National Science Foundation of Sri Lanka* 40 (2): 123-136.

†**De Costa, W.A.J.M.** and Suranga, H.R. (2012). Estimation of carbon stocks in the forest plantations of Sri Lanka. *Journal of the National Science Foundation of Sri Lanka* 40 (1): 9-41.

De Silva, A.L.C. and **De Costa, W.A.J.M. (2012)**. Growth and Radiation Use Efficiency of Sugarcane under Irrigated and Rain-fed Conditions in Sri Lanka. *Sugar Tech* 14 (3): 247-254 DOI: 10.1007/s12355-012-0148-y.

†**De Costa, W.A.J.M. (2011)**. A review of the possible impacts of climate change on forests in the humid tropics. *Journal of the National Science Foundation of Sri Lanka* 39 (4): 281-302.

De Silva, A.L.C., **De Costa, W.A.J.M.** and Bandara, D.M.U.S. (2011). Growth of root system and the patterns of soil moisture utilization in sugarcane under rain-fed and irrigated conditions in Sri Lanka. *Sugar Tech* Vol. 13(3), pp 198-205. DOI: 10.1007/s12355-011-0088-y.

Attaluri, S., Sangakkara, U.R. and **De Costa, W.A.J.M. (2011)**. Stability analysis for yield in sweetpotato (*Ipomoea batatas*) genotypes with special reference to orange-fleshed sweetpotato. *Indian Journal of Agricultural Sciences* 81 (7): 585-589.

Attaluri, S., Sangakkara, U.R. and **De Costa, W.A.J.M. (2011)**. Physiological adaptability of sweetpotato (*Ipomoea batatas*) genotypes as influenced by seasons with emphasis on orange-fleshed sweetpotato. *Indian Journal of Agricultural Sciences* 81 (1): 33-37.

Gamage, D.A.S., Wijesekara, S.S.R.M.D.H.R., Sarachchandra, G.W.N.L., Basnayake, B.F.A. and **De Costa, W.A.J.M. (2011)**. Estimation of nitrate and phosphate leaching from lysimeter simulation of rice straw landfill bioreactor and evaluation of fertilizer quality of resulting compost. *Tropical Agricultural Research* 22 (1): 220-228.

†**De Costa, W.A.J.M. (2010)**. Adaptation of agricultural crop production to climate change: a policy framework for Sri Lanka. *Journal of the National Science Foundation of Sri Lanka* 38 (2): 79-89.

†**De Costa, W.A.J.M. (2010)**. Investing in research [Editorial]. *Journal of the National Science Foundation of Sri Lanka* 38 (2): 77-78.

De Costa, D.M., Kishimoto, N. and **De Costa, W.A.J.M. (2010)**. Effects of elevated CO<sub>2</sub> on culturable epiphytic microbial populations on the phyllosphere of rice. *Sri Lankan Journal of Agricultural Sciences* 47: 1-23.

Wanduragala, P.S.B., Easwara, J.P. and **De Costa, W.A.J.M. (2010)**. The electromagnetic potential gradient, Ca<sup>2+</sup> and starch-statoliths on the uneven growth of plants. *Tropical Agricultural Research* 21 (3): 321-326.

Gamage, D.A.S., Sarachchandra, G.W.N.L., Basnayake, B.F.A. and **De Costa, W.A.J.M. (2010)**. Lysimeter simulation of paddy straw landfill bioreactor for optimum gas production. *Tropical Agricultural Research* 21 (2): 177-188.

†**De Costa, W.A.J.M.**, Navaratne, D.M.S. and Anandacoomaraswamy, A. (2009). Physiological basis of yield variation of tea (*Camellia sinensis* (L.) O. Kuntze) during different years of the pruning cycle in the Central Highlands of Sri Lanka. *Experimental Agriculture* 45: 429-450.

†Madurapperuma, W.S., **De Costa, W.A.J.M.**, Sangakkara, U.R. and Jayasekara, C. (2009). Estimation of water use of mature coconut (*Cocos nucifera* L) cultivars (CRIC 60 and CRIC 65) grown in Kurunegala series (Plintudults) and Kuliyaipitiya series (Typic Hapludults) of Low Country Intermediate zone using the Compensation Heat Pulse Method (CHPM). *Journal of the National Science Foundation of Sri Lanka* 37 (3): 175-186.

De Silva, A.L.C. and **De Costa, W.A.J.M. (2009)**. Varietal variation in stomatal conductance, transpiration and photosynthesis of commercial sugarcane varieties under two contrasting water regimes. *Tropical Agricultural Research and Extension*. 12(2): 97-102. <http://www.asiajol.info/index.php/record/view/23001>

†**De Costa, W.A.J.M. (2008)**. Climate change in Sri Lanka: myth or reality? – Evidence from long-term meteorological data. *Journal of the National Science Foundation of Sri Lanka* 36 (Special Issue): 83-109.

†**De Costa, W.A.J.M.**, Mohotti, A.J. and Wijeratne, M.A. (2007). Ecophysiology of tea. *Brazilian Journal of Plant Physiology* 19: 299-332.

†**De Costa, W.A.J.M.**, Zörb, C., Hartung, W. and Schubert, S. (2007). Salt resistance is determined by osmotic adjustment and abscisic acid in newly-developed maize (*Zea mays* L.) hybrids in the first phase of salt stress. *Physiologia Plantarum* 131: 311-321.

†Gunasekara, H.K.L.K., Nugawela, E.A., **De Costa, W.A.J.M.** and Attanayake, D.P.S.T.G. (2007). Possibility of early commencement of tapping in rubber (*Hevea brasiliensis* Muell. Arg.) using different genotypes and tapping systems. *Experimental Agriculture* 43: 201-221.

†Gunasekara, H.K.L.K., **De Costa, W.A.J.M.** and Nugawela, E.A. (2007). Genotypic variation in canopy photosynthesis, leaf gas exchange characteristics and their response to tapping in rubber (*Hevea brasiliensis* Muell. Arg.). *Experimental Agriculture* 43: 223-239.

†**De Costa, W.A.J.M.**, Weerakoon, W.M.W., Chinthaka, K.G.R., Herath, H.M.L.K. and Abeywardena, R.M.I. (2007). Genotypic variation in the response of rice (*Oryza sativa* L.) to increased atmospheric carbon dioxide and its physiological basis. *Journal of Agronomy and Crop Science* 193 (2): 117-130.

†**De Costa, W.A.J.M.**, Weerakoon, W.M.W., Herath, H.M.L.K., Amaratunga, K.S.P. and Abeywardena, R.M.I. (2006). Physiology of yield determination of rice under elevated carbon dioxide at high temperatures in a subhumid tropical climate. *Field Crops Research* 96:336-347.

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Wahala, W.M.P.S.B., **De Costa, W.A.J.M.** and Ranasinghe, D.M.S.H.K. **(2006)**. Current status of the forest canopy and its understorey light environment in selected areas of Sinharaja, Kanneliya and Knuckles Forest Reserves in Sri Lanka. Proceedings of the International Conference on Humid Tropical Ecosystems: Changes, Challenges and Opportunities. 04 – 09 December, 2006, Kandy, Sri Lanka. pp. 8.

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Science, Faculty of Agriculture, University of Peradeniya, Sri Lanka. (Eds.) N.A.A.S.P. Nissanka, L.K. Weerasinghe and U.R. Sangakkara. pp. 3-4.

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Wahala, W.M.P.S.B., Ranasinghe, D.M.S.H.K. and **De Costa, W.A.J.M. (2005)**. Determination of biomass production and carbon sequestration capacity of selected vegetation types in Yagirala forest reserve. Proceedings of the 61<sup>st</sup> Annual Session, Sri Lanka Association for Advancement of Science. pp. 47. (413/D)

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**De Costa, W.A.J.M.** and Surenthran, P. (2002). Evaluation of sloping agricultural land technology (SALT) as a means of ensuring sustainability of tea yields in the up-country wet zone (WU<sub>2</sub>) of Sri Lanka. Proceedings of the Eighth Annual Forestry and Environment Symposium 2002, University of Sri Jayewardenapura, Sri Lanka. pp. 35-36.

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**De Costa, W.A.J.M.** (2002). Resource utilization and soil conservation of contour hedgerows in the upper Mahaweli river catchment in Sri Lanka. *Proceedings of the 4<sup>th</sup> Asian Science and Technology Congress 2002. Held on 25-27 April 2002, Kuala Lumpur, Malaysia.* pp. B-7.

**De Costa, W.A.J.M.,** Amaratunga, K.S.P. and Udumullage, R.S. (2001). Transpiration of tree species in different vertical layers of a Kandyan Forest Garden. *Proceedings of the 7<sup>th</sup> Annual Forestry and Environment Symposium.* Research Innovations for the Deveopment of Forest and Environment Industries. Department of Forestry and Environmental Science, University of Sri Jayewardenapura, Sri Lanka. pp. 34.

**De Costa, W.A.J.M.** and Chandrapala, A.G. (2000). Partitioning of fertility and competition effects of a *Gliricidia sepium* x *Zea mays* agroforestry system on sloping highlands in the mid-country wet zone of Sri Lanka. *Proceedings of the 6<sup>th</sup> Annual Forestry Symposium.* Developments in Environmental & Forest Sciences in Sri Lanka. Department of Forestry and Environmental Science, University of Sri Jayewardenapura, Sri Lanka. pp. 22.

**De Costa, W.A.J.M.** and Chandrapala, A.G. (1997). Tree-crop interactions in agroforestry systems involving different tree species. (In) Developments In Forest Science in 1997. *Proceedings of the 3<sup>rd</sup> Annual Forestry Symposium.* (Ed.) H.S. Amarasekara. Department of Forestry and Environmental Science, University of Sri Jayewardenapura, Sri Lanka. pp. 15.

**De Costa, W.A.J.M.** and Chandrapala, A.G. (1997). Variation of stomatal conductance and its controlling factors of different species in a wet evergree forest in the mid-country wet zone of Sri Lanka. (In) Developments In Forest Science in 1997. *Proceedings of the 3<sup>rd</sup> Annual Forestry Symposium.* (Ed.) H.S. Amarasekara. Department of Forestry and Environmental Science, University of Sri Jayewardenapura, Sri Lanka. pp. 23.

### **Consultancy Reports**

Waidyanatha, U.P. de S., **De Costa, W.A.J.M.,** Weerahewa, H.L.J., Karunanayake, L. (2017). *Review of Research and Development of the Rubber Research Institute of Sri Lanka.* Consultant Report prepared for the Rubber Research Institute of Sri Lanka. 124 pp.

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Consultant Report prepared for the National Research Council, Presidential Secretariat, Government of Sri Lanka. 218 pp.

**De Costa, W.A.J.M. (2003).** *Review of Activities of the Science and Technology Institutions of Sri Lanka.* Specialist Consultant Report prepared for the National Science and Technology Commission, Ministry of Scientific Affairs, Sri Lanka. 366 pp.

### **Research Project Reports**

**De Costa, W.A.J.M. and De Costa, D.M. (2011).** Identification of Candidate Genes for Salt Tolerance in Rice. Final Report of the Research Project CRP/SRI 06-01 and RG/2007/BT/01, International Centre for Genetic Engineering and Biotechnology, Italy and National Science Foundation, Sri Lanka. 168 pp.

**De Costa, W.A.J.M. (2010).** *Determination of Biomass Production and Carbon Sequestration Capacity of Selected Forest Types of Sri Lanka.* Final Report of the Research Project No. RG/2003/FR/01, National Science Foundation and Department of Forest Conservation, Sri Lanka. 215 pp.

### **Editorship of Journals and Memberships of Editorial Boards**

**Editor-in-Chief** of the Sri Lankan Journal of Applied Statistics. 2000 & 2001 [ISSN 1391-4987]

**Member of the Editorial Board** of the Journal of the National Science Foundation of Sri Lanka (From April 2006 onwards), which is an international journal indexed in the Science Citation Index (Expanded) [1391-4588]

### **Editorships of Conference Proceedings**

**De Costa, W.A.J.M.,** Nissanka, S.P., Mohotti, A.J. and Weerakoon, W.M.W. (2009). *Proceedings of the First National Conference on Global Climate Change and Its Impacts on Agriculture, Forestry and Water in the Tropics.* 10 – 11 September 2009, Kandy, Sri Lanka. The CDM Study Centre, University of Peradeniya, Sri Lanka. 58 pp.

**De Costa, W.A.J.M. (2008).** *Crop Science Student Research Abstracts. Proceedings of the Final Year Students Research Session.* Department of Crop Science, Faculty of Agriculture, University of Peradeniya, Peradeniya. 116 pp.

Eeswara, J.P., **De Costa, W.A.J.M.,** Weerakkody, W.A.P. and Pushpakumara, D.K.N.G. (2007). *Crop Science Student Research Abstracts. Proceedings of the Final Year Students Research Session.* Department of Crop Science, Faculty of Agriculture, University of Peradeniya, Peradeniya. 118 pp.

Marambe, B., Sangakkara, U.R., **De Costa, W.A.J.M.** and Abeysekara, A.S.K. (2007). *Proceedings of the 21<sup>st</sup> Asian Pacific Weed Science Society (APWSS) Conference,* 2-6 October 2007, Colombo, Sri Lanka. 706 pp.

Gunasena, H.P.M. and **De Costa, W.A.J.M. (2002).** (Eds.) *Recent Developments in Conservation and Use of Medicinal Plants. Proceedings of the Eleventh Workshop on Multi-Purpose Trees.* 24 July, 2002, Kandy, Sri Lanka. [ISBN 955-9224-05-0]

### **Supervision of Postgraduate Research**

### Completed Research Degrees - PhD

**S. Pathiranage – Senior Supervisor - 2020**

**(Research title:** *Investigation of the response of physiology, growth and yield of tea (*Camellia sinensis*) to mechanical harvesting*)

Postgraduate Institute of Agriculture, University of Peradeniya

**J.B.D.A.P. Kumara – Supervisor – 2019**

**(Research title:** *Simulation modeling to predict the response of maize, mung bean and tomato to present and future climate across an environmental gradient*)

Postgraduate Institute of Agriculture, University of Peradeniya

**M.A.P.W.K. Malaviarachchi – Senior Supervisor - 2018**

**(Research title:** *Assessment of the climate resilience of maize and mung bean and increasing their adaptation capacity to long-term climate change in upland cropping systems in Sri Lanka*)

Postgraduate Institute of Agriculture, University of Peradeniya

**K.M.R.D. Abhayapala – Senior Supervisor 2017**

**(Research title:** *Assessment of climate resilience of tomato, chilli and potato in different agro-ecological zones of Sri Lanka and increasing their adaptation capacity to long-term climate change*)

Postgraduate Institute of Agriculture, University of Peradeniya

**T.L. Wijeratne – Senior Supervisor 2016**

**(Research title:** *Carbon sequestration and potential for carbon trading in tea plantations of Sri Lanka and their variation in response to future climate change*)

Postgraduate Institute of Agriculture, University of Peradeniya

**D.A. Gamage – Co-Supervisor 2015**

**(Research title:** *Development of nutrient management technologies for sustainable rice farming for mitigating water and atmospheric pollution*)

Postgraduate Institute of Agriculture, University of Peradeniya

**Toufiq Ahmed – Senior Supervisor 2014**

**(Research title:** *Investigation on endogenous and environmental factors controlling shoot growth dynamics of mature clonal tea under higher temperature regimes at low elevations in Sri Lanka*)

Postgraduate Institute of Agriculture, University of Peradeniya

**W.K.B. Peiris – Senior Supervisor 2013**

**(Research title:** *Optimum water management for rice in yala season on the Non-Calcic Brown Soils in the Ampara District of Sri Lanka*)

Postgraduate Institute of Agriculture, University of Peradeniya.

**P.S.B. Wanduragala – Senior Supervisor 2013**

**(Research title:** *Determining the effect of electromagnetic potential gradient on the uneven distribution of auxins in plants*)

Postgraduate Institute of Agriculture, University of Peradeniya

**W.M.P.S.B. Wahala – Senior Supervisor 2013**

**(Research title:** *Estimation of the carbon sequestration potential of different forest types of Sri Lanka*)

Faculty of Graduate Studies, University of Sri Jayewardenepura

**H.I.U. Caldera – Senior Supervisor 2012**

**(Research title:** *Investigating the response of Arabidopsis thaliana and Camellia sinensis (L.) O. Kuntze to environmental change with special emphasis on anatomical and physiological adaptations of stomata across an altitudinal range*)  
Faculty of Graduate Studies, University of Colombo

**A.R.F. Zahra – Co-Supervisor 2012**

**(Research title:** *Identification and determination of the expression of candidate genes for salt tolerance in rice*)  
Postgraduate Institute of Agriculture, University of Peradeniya

**W.S. Madurapperuma – Senior Supervisor 2010**

**(Thesis title:** *Variation of growth, physiological and biochemical parameters of two contrasting coconut genotypes in different agro-ecological regions and land suitability classes of Sri Lanka and their relationship to drought tolerance*)  
Postgraduate Institute of Agriculture, University of Peradeniya,

**H.D. Sumanaratne – Senior Supervisor 2009**

**(Thesis title:** *Response of greengram (Vigna radiate (L.) Wilczek) to salinity and its varietal variation*)  
Postgraduate Institute of Agriculture, University of Peradeniya,

**H.K.L.K. Gunasekara – Senior Supervisor 2005**

**(Thesis title:** *Possibility of Exploitation at a younger growth stage through improved tapping systems and its impact on economic performance, girthing and physiology of some new Hevea clones*)  
Postgraduate Institute of Agriculture, University of Peradeniya,

**S. Bandara – Co-supervisor 2012**

**(Thesis title:** *Effective irrigation of tea in the low-country of Sri Lanka*)  
University of Adelaide, Australia

**A. Srikanth – Co-Supervisor 2009**

**(Thesis title:** *Evaluation of the performance and adaptability of new sweetpotato genotypes to different agro-ecological conditions of Orissa, India*)  
Postgraduate Institute of Agriculture, University of Peradeniya,

**O.R. Weerasinghe – Co-Supervisor 2006**

**(Thesis title:** *Molecular breeding of hybrid tomatoes (Lycopersicon esculentum Mill.) for dry zone conditions of Sri Lanka*)  
Postgraduate Institute of Agriculture, University of Peradeniya,

### **Completed Research Degrees - MPhil**

**R. Eeswaran – Senior Supervisor 2018**

**(Research title:** *Adaptive research to test a climate change-resilient agronomic, soil management and integrated pest management package for selected upland annual crops in farmer fields of the Northern Province of Sri Lanka*)  
Postgraduate Institute of Agriculture, University of Peradeniya

**A.J. Gamage – Senior Supervisor 2011**

**(Thesis title:** *Determination of optimum shading levels for low-country tea in Sri Lanka*)  
Postgraduate Institute of Agriculture, University of Peradeniya

**D.M.S. Navaratne – Senior Supervisor 2009**

**(Thesis title:** *Partitioning of assimilates in mature vegetatively propagated tea cultivars in the Up-Country of Sri Lanka and its variation during the course of a pruning cycle*)  
Postgraduate Institute of Agriculture, University of Peradeniya

**A.L.C. De Silva – Senior Supervisor 2006**

**(Thesis title:** *Investigation of growth, yield, ratooning ability and some important physiological attributes of a selected set of commercial sugarcane varieties in Sri Lanka planted in Yala season under irrigated and rainfed conditions*)  
Postgraduate Institute of Agriculture, University of Peradeniya

**W.G.D. Lakmini – Senior Supervisor 2006**

**(Thesis title:** *Screening of different genotypes of coconut for drought tolerance based on physiological characters*)  
Postgraduate Institute of Agriculture, University of Peradeniya

**W.M.P.S.B. Wahala – Co-Supervisor 2004**

**(Thesis title:** *Determination of biomass production and carbon sequestration capacity of Yagirala forest reserve*)  
Faculty of Graduate Studies, University of Sri Jayewardenepura

**A.G. Chandrapala – Senior Supervisor 2001**

**(Thesis title:** *Resource competition and productivity of annual crops under different hedgerow tree species in sloping agricultural land technology*)  
Postgraduate Institute of Agriculture, University of Peradeniya

**K.N. Shanmugathan – Senior Supervisor 2001**

**(Thesis title:** *Effects of irrigation at different physiological stages on the growth and yield determination of mungbean and soybean in the low country dry zone of Sri Lanka*)  
Postgraduate Institute of Agriculture, University of Peradeniya

**R.A.D.T.K. Ranasinghe – Senior Supervisor 2001**

**(Thesis title:** *Effects of variety and planting time on the growth and yield of maize (Zea mays L.) and yard-long bean (Vigna unguiculata L. sub spp. Sesquipedalis) intercropping system*)  
Postgraduate Institute of Agriculture, University of Peradeniya

### **Completed Research Degrees - MSc**

**K.R. Edirisinghe – Senior Supervisor 2001**

**(Thesis title:** *Effectiveness of modified atmosphere packaging and the 'hydrostore' moist bag in extending the storage life of lettuce (Lactuca sativa L.)*)  
Postgraduate Institute of Science, University of Peradeniya

**S. Ratnarajah – Senior Supervisor 2001**

**(Thesis title:** *Optimum nutrient management in protected culture of tomato (Lycopersicon esculantum)*)  
Postgraduate Institute of Science, University of Peradeniya

### **On-going Supervision of Research Degrees - PhD**

**A.L.C. De Silva – Senior Supervisor**

**(Research title:** *Varietal response of sugarcane to changing climate and soil conditions in Sri Lanka*)  
Postgraduate Institute of Agriculture, University of Peradeniya  
(Expected completion in 2019)



**S. Pathiranage – Senior Supervisor**

**(Research title:** *Investigation of the response of physiology, growth and yield of tea (*Camellia sinensis*) to mechanical harvesting*)

Postgraduate Institute of Agriculture, University of Peradeniya

(Expected completion in 2019)

**T.U.K. Silva – Senior Supervisor**

**(Research title:** *Assessments of the overall impact of the different bark consumption rates associated with additional days of latex harvesting on growth, yield and economic implications of rubber plantations (*Hevea brasiliensis* Mull.Arg.)*)

Postgraduate Institute of Agriculture, University of Peradeniya

(Expected completion in 2019)

**Supervision of Undergraduate Research**

I have supervised the final year research projects of nearly 120 undergraduates during the period from 1993 onwards. I have been the Senior Supervisor in about 90% of these research projects. As the Senior Supervisor, I was responsible for conceptualization of the projects, formulation of its methodology, supervision of the execution, analysis of data and their interpretation and correction of project reports. The students had the opportunity to work with me at close quarters in all the above activities. This provided them with a very good training to carry out research independently upon graduation.

**Contributions to National Development in Sri Lanka through Outreach Activities****(a) Council member of the National Research Council (NRC)**

I have functioned as a Council Member (one of 15 members) of the National Research Council (NRC) from 2005 to 2018. The sole criterion for appointment to the NRC is excellence in scientific research as demonstrated by publications in the Science Citation Index.

The National Research Council of Sri Lanka (NRC) was founded by H. E. the President Chandrika Bandaranaike Kumaratunga on 20 April 1999. In July 2007, His Excellency the President, Mahinda Rajapaksa, issued a warrant by gazette notification formalizing the establishment of the National Research Council as a Special Agency functioning under the Presidential Secretariat, exercising the powers vested in him by Article 33 of the Constitution. In 2016, the NRC was made a statutory body under the Ministry of Science, Technology and Research of the Democratic Socialist Republic of Sri Lanka by an Act of Parliament.

The NRC is the apex body that plans and co-ordinates research in Sri Lanka. It facilitates research in the public sector Scientific Research and Development Organizations and its researchers, principally through award of substantial research grants. In addition, it conducts several activities to build and strengthen research in Sri Lanka in order to derive the maximum benefit for the country's economic development, and the social welfare of its people.

As a council member of the NRC, I have been involved in the following activities:

- Evaluation of research proposals submitted for award of grants in the areas of Agriculture and Plant Sciences
- Evaluation of progress of awarded research grants in the above areas



- Review of research activities of the public-sector research institutions

#### **(b) Commission member of the National Science and Technology Commission (NASTEC)**

The NASTEC is the apex government body for policy formulation on science and technology (S & T) in Sri Lanka. I have functioned as one of six commission members from 2016 to 2018. The Commission functions as the governing board of NASTEC.

#### **(c) Review of research of the Department of Agriculture (DoA) in Sri Lanka**

This activity has been undertaken in response to a presidential directive to the NRC. I was entrusted, by the NRC, with the responsibility of co-ordinating this task. I co-ordinated this activity from November 2009 until its completion in December 2010. I was responsible for selecting the team of expert reviewers and co-ordinating the whole review process. At the request of the NRC and the team of appointed reviewers, I functioned as a member of the review team as well. A comprehensive report was submitted to the Secretary to the President:

Waidyanatha, U.P. de S., **De Costa, W.A.J.M.**, Sanderatne, N.H., Marambe, B. and Fernando, B.R.L. (2010). *Review of Research and Development of the Department of Agriculture, Sri Lanka*. Consultant Report prepared for the National Research Council, Presidential Secretariat, Government of Sri Lanka. 218 pp.

#### **(d) Review of the Field Crops Research and Development Institute (FCRDI) of the Department of Agriculture (DoA) in Sri Lanka**

This is an activity undertaken on behalf of NASTEC and was undertaken from June 2016 to November 2016. I functioned as the Chairman of a five-member review team of experts reviewing the management and output of FCRDI.

#### **(e) Review of the Rubber Research Institute (RRI) of Sri Lanka**

This activity was undertaken in response to a request by the Rubber Research Institute of Sri Lanka in May 2017. I was a member of a four-member review team. In this review, I was responsible for reviewing the research progress in the Departments of Plant Science, Biochemistry & Physiology and Genetics and Plant Breeding. The review was conducted over a period of four months.

Waidyanatha, U.P. de S., **De Costa, W.A.J.M.**, Weerahewa, H.L.J., Karunanayake, L. (2017). *Review of Research and Development of the Rubber Research Institute of Sri Lanka*. Consultant Report prepared for the Rubber Research Institute of Sri Lanka. 124 pp.

#### **(f) Review of the Research Division of the Forest Conservation Department of Sri Lanka**

I was one of the two-member expert panel which reviewed the activities of the Research Division of the Forest Department of Sri Lanka in 2020.

#### **(g) Activities of the National Science and Technology Commission (NASTEC)**

From 2003 onwards, I have been closely involved in several activities of NASTEC. Some of these activities are listed below:

##### **i. Specialist Consultant to review activities of the public sector Science and Technology (S & T) institutions of Sri Lanka**

This task was carried out solely by me in 2003. The work involved review of activities of 18 S & T institutions which included both agricultural research and industrial development institutes. A comprehensive report was produced and this report is still used by the NASTEC as a benchmark in their S & T review activities:

**De Costa, W.A.J.M. (2003).** *Review of Activities of the Science and Technology Institutions of Sri Lanka.* Specialist Consultant Report prepared for the National Science and Technology Commission, Ministry of Scientific Affairs, Sri Lanka. 366 pp.

#### **ii. Member of steering committees of the Biennial Conference for Science and Technology (BICOST) in 2004 and 2008**

BICOST is a national conference organized by NASTEC on a biennial basis, which brings together scientists, industrialists and policy makers from all sectors of Sri Lanka. I functioned as a member of the steering committee (consisting of 6 – 8 eminent personnel) of BICOST s held in 2004 and 2008.

I was the Chairman of one of the sub-committees (i.e. the sub-committee on Research) involved in preparing the draft of the National Science & Technology Policy document, which was presented at BICOST 2008.

In addition, I was a speaker at the BICOST s of 2006 and 2008. My presentation in 2006 was on the review of S & T in Sri Lanka (which was the theme of BICOST 2006). In 2008, I was one of the speakers presenting the contribution to the draft National S & T Policy document from the sub-committee that I chaired.

#### **iii. Member of the Advisory/Consultative Committee on Review of Science & Technology**

I have been appointed to the above committee (which consists of five members drawn from the academia, industry and research institutes) which functions in an advisory capacity to the NASTEC in the review of S & T activities of Sri Lanka. The appointment was made in 2009 and work of the committee commenced in 2010.

#### **iv. Member of the expert panel to formulate the National Research and Development Framework (NRDF)**

I functioned as a member of the expert panel on Food, Nutrition and Agriculture, which was one of the 10 expert panels which formulated the NRDF in 2015. The completed framework was presented to the President of Sri Lanka in May 2016.

#### **v. Appointed NASTEC Commission Member in May 2016**

I have been appointed by the President of the Government of Sri Lanka as one of six Commission Members of NASTEC in May 2016 for a period of three years. The six Commission Members along with the Chairman of NASTEC function as the Governing Board of NASTEC overseeing all its functions.

### **(h) Activities of the National Science Foundation (NSF) of Sri Lanka**

#### **i. Member of the editorial board of the Journal of the National Science Foundation of Sri Lanka**

I served as a member of the Editorial Board of the Journal of the National Science Foundation (JNSF) of Sri Lanka from April 2006 until December 2014. This journal is the only Sri Lankan journal, which is indexed in the Science Citation Index (Expanded).

As a member of the Editorial Board of the JNSF, I am collectively responsible (along with other members of the board) for the following functions:

- Formulation and periodic amendment of journal editorial policy
- Selection of reviewers for the submitted manuscripts
- Review of manuscripts in the areas of Agriculture and Plant Sciences
- Evaluation of the reviewer comments and recommendations on the submitted manuscripts
- Decision-making on the suitability for publication of the submitted manuscripts

The above functions are performed by participating in the monthly meetings of the Editorial Board and during the intervening periods between meetings.

**(i) Member of the Consultative Committee for Research (CCR) of the Tea Research Board of Sri Lanka**

I have been serving in the Consultative Committee for Research (CCR) of the Tea Research Board of Sri Lanka (TRBSL) from 2006 onwards. The CCR is an advisory body to the TRBSL on matters relating to research and development in the tea industry. It comprises of 12 eminent personnel from the academia, tea plantation management and industry. In 2018, I was appointed Chairman of this committee and currently function in this capacity.

In addition, I served in the three-member committee to evaluate research programmes of the Agronomy Division of the Tea Research Institute of Sri Lanka (TRISL) from 2009 onwards.

I also helped the Director/TRISL and his Deputy Director (Research), in my personal capacity, in streamlining the statistical aspects of research in all divisions of the TRISL.

**(j) Member of Annual Research Review Committees of the Coconut Research Institute of Sri Lanka**

I have been serving as a member in committees which conducted annual research reviews in the Divisions of Plant Physiology, Agronomy and Genetics and Plant Breeding of the Coconut Research Institute of Sri Lanka from 2008 onwards.

I certify that the information provided herein is true and accurate to the best of my knowledge.



Professor W.A.J.M. De Costa  
Senior Professor and Chair of Crop Science

05 October 2020