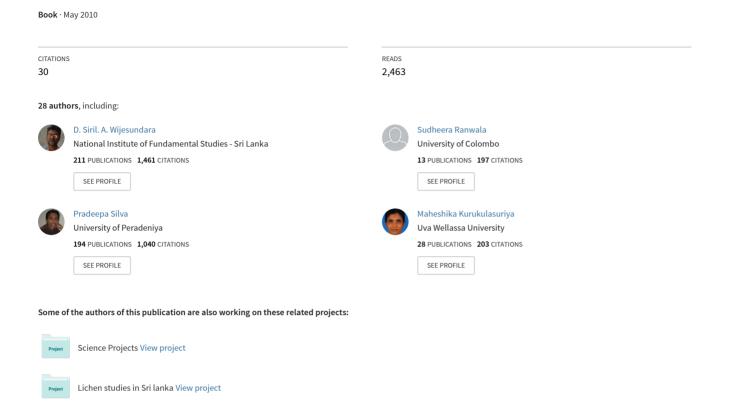
Invasive Alien Species – Strengthening Capacity to Control Introduction and Spread in Sri Lanka





Invasive Alien Species Strengthening Capacity to Control Introduction and Spread in Sri Lanka



Editors Buddhi Marambe, Pradeepa Silva, Siril Wijesundara and Nihal Atapattu



A Publication of Biodiversity Secretariat, Ministry of Environment, Sri Lanka

Supported by United Nations Development Programme (UNDP), Sri Lanka



Published by: Biodiversity Secretariat of the Ministry of Environment, Sri Lanka



Copyright: © 2010, Biodiversity Secretariat of the Ministry of Environment, Sri Lanka

Reproduction of this publication for educational or other non-commercial purposes is authorized without prior permission from the copyright holder

provided the source is fully acknowledged.

Citation: Marambe, B., Silva, P., Wijesundara, S. and Atapattu, N. (Editors) (2010):

Invasive Alien Species – Strengthening Capacity to Control Introduction and Spread in Sri Lanka. Biodiversity Secretariat of the Ministry of Environment, Sri

Lanka. 191 pp.

ISBN: 978-955-0033-17-1

Cover design

& layout:

Buddhi Marambe and Pradeepa Silva

Printed by: Sanduni Offset, Peradeniya, Sri Lanka.

Supported by: United Nations Development Programme (UNDP) – Sri Lanka.



Editorial

Invasive alien species (IAS) are considered to be a main and a direct driver of biodiversity loss across the globe, and Sri Lanka is not an exception. These IAS have been estimated to cost our economies enormously every year and is a major threat to sustainable development. All alien species will not become invasive or threaten the environment. However, aliens always will have the nag with their potential to become invasive once escaped from human management. A clear policy approach is hence required for a country in order to effectively deal with the wideranging negative impacts of IAS, including the financial costs and irreversible effects on the environment.

Sri Lanka is a signatory to the Convention on Biological Diversity (CBD), which clearly articulates the role play of the countries (article 8(h), to overcome the threats of IAS to the biodiversity. IAS are a problem in diverse ecosystems of Sri Lanka. The Biodiversity Secretariat of the Ministry of Environment of Sri Lanka, being the focal point for implementing the CBD in the country, has taken a keen interest in activities focusing on IAS control at various levels in the society. The national action plan for the *Haritha Lanka* programme published in 2009 by the National Council for Sustainable Development (NCSD) of the Presidential Secretariat of Sri Lanka has identified management and control of IAS as a necessity under its activity 8.2, while the Cabinet of Ministers of Sri Lanka has approved (on 15th January 2009) the formulation of a Invasive Species Control act, thus indicating the high priority given by the country in this subject. However, still, it is evident that a proper coordinating mechanism with authority, responsibility and accountability, together with capacity building of stakeholders across all sectors, is a must for achieving the country's long term goals in overcoming the impacts of IAS.

This publication is aimed at providing up-to-date information to the scientists, academics, policy makers and other interested parties in understanding various aspects of IAS in Sri Lanka. This book comprises of 20 chapters out of which 13 chapters are devoted to assessing the present status in terms of definitions, national lists, risk assessment protocols, institutional arrangements, legal and policy frameworks, education and awareness strategies, IAS control efforts, etc., while the remaining 7 chapters deal with recent research activities on IAS. It is our fervent hope that this publication will provide useful information to all those who are proactively taking part in the country's efforts to free the ecosystems from the menace of IAS.

Professor Buddhi Marambe (bmarambe@pdn.ac.lk)

Dr. Pradeepa Silva (pradeepas@pdn.ac.lk)

Dr. Siril Wijesundara (siril.wijesundara@gmail.com)

Dr. Nihal Atapattu (nihalt@gmail.com)

Editors May 2010



Table of Contents

Editorial		iii
Chapter 1	Defining invasive alien species	1
Chapter 2	S. Wijesundara Invasion – A tool of evolution	7
Chapter 3	T. Jeyasingam	
Chapter 4	Risk assessment for invasive alien species S. Ranwala	15
Chapter 4	Invasive alien plants in Sri Lanka S. Wijesundara	27
Chapter 5	Invasive alien fauna in Sri Lanka: Introduction, spread, impacts	
	and management P. Silva and M. Kurukulasuriya	39
Chapter 6	Institutional coordination, legal regime and policy framework for	-
Chapter 7	management of invasive alien species in Sri Lanka B. Marambe and J, Gunawardana	63
Chapter 7	Economics of managing invasive alien species in Sri Lanka K. Wickramasinghe and A. Senaratne	77
Chapter 8		
	A conceptual framework for quantitative assessment of the invasiveness of alien species in Sri Lanka G. Pushpakumara, R. Thattil, B. Marambe, P. Silva, S. Athauda and D. Weerakoon	87
Chapter 9		
	A strategic framework for communication, education, and training on invasive alien species D. Weerakoon	95
Chapter 10		
	Review of databases on invasive alien species L. Manawadu	105
Chapter 11	Invasive alien species of agricultural Importance in Sri Lanka: Have we managed them properly? A. Wijesekara	115
Chapter 12		100
	Management of <i>Salvinia molesta</i> in Sri Lanka P.T. Bandara	123

Chapter 13	Is tilapia becoming and invasive fish in Sri Lanka? S. Athauda	127
Chapter 14	5. Attiduud	
·	Is Caribbean pine invading grasslands in the Knuckles range? W.W.M.A.B. Medawatte, K.U. Tennakoon, P.E. Hulme, C.V.S. Gunatilleke, and I.A.U.N. Gunatilleke	131
Chapter 15	Micidentification of Dtaridium revolutum (Dlume) Nakai as an invasiva	
	Misidentification of <i>Pteridium revolutum</i> (Blume) Nakai as an invasive alien in Sri Lanka	141
Chamban 1C	R.H.G. Ranil, G. Pushpakumara, C.R. Fraser-Jenkins and S. Wijesundara	
Chapter 16	Some eco-physiological characters of <i>Austraeupatorium inuilifolium</i>	454
	(Kunth) R.M. King & H. Rob. I. Piyasinghe, S.M. Weerasinghe and J. Gunatilake	151
Chapter 17	i. Piyasingne, S.M. Weerasingne and J. Gunathake	
	Predicting invasiveness of fish: An eco-morphological approach W.S. Weliange	161
Chapter 18	-	
	Community-based management of giant African snail (<i>Achatina fulica</i>) populations in an agricultural landscape S. Lelwala, T. Ranasinghe, S. Wijesundara, K. Karunasena and C.N.B. Bambaradeniya	169
Chapter 19	onnis. Sumbaracemya	
·	Research in invasive alien plants in Sri Lanka: An analysis of past work B. Jayarathne and S. Ranwala	179
Chapter 20	,	
	Commercial use of invasive alien species as a consummative to control their distribution P.M. Perera and A.S.K. De Alwis	185
Corresponding Authors		189
Acknowledgements		191