

**11<sup>th</sup> International Symposium (IntSym 2023)**

**Managing Contemporary Issues for Sustainable Future  
through Multidisciplinary Research**

**Proceedings**

**03<sup>rd</sup> May 2023**



**South Eastern University of Sri Lanka (SEUSL)**

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## Message from the Vice Chancellor



The South Eastern University of Sri Lanka is a state university with six faculties, including the Faculty of Arts and Culture, Faculty of Management and Commerce, Faculty of Applied Sciences, Faculty of Islamic Studies & Arabic Language, Faculty of Engineering, and Faculty of Technology. The university provides an excellent and supportive learning environment with facilities such as laboratories, a library with amazing learning resources, and other amenities to help students succeed. Students can access many other services, including online research databases.

As part of its academic activities, the South Eastern University of Sri Lanka has been organizing the International Symposium (IntSym) annually since 2011. This year marks the 11th International Symposium organized by the university, demonstrating its continuous commitment to research and knowledge dissemination, even during economic crises in Sri Lanka. The theme of the 11th IntSym is "Managing Contemporary Issues for a Sustainable Future: Multidisciplinary Research Solutions," which is highly relevant for addressing current local and international crises.

It is my pleasure to welcome you and extend my congratulations for the book of abstracts for the 11th International Symposium, which will be held on May 3rd, 2023. I believe that this international conference will provide an excellent platform for you all to share your research findings, contributing to policy planning in the country. Therefore, I trust that you will take full advantage of this fantastic opportunity for research provided by SEUSL.

I would like to express my sincere gratitude to the distinguished invited keynote speaker, Prof. Dr. N. Panchanatham, Vice Chancellor of Tamil Nadu Teacher's Education University, Tamil Nadu, India, for his presence and contributions to the Symposium. I also thank the Coordinator, Prof. (Dr.) MBM. Ismail, and Secretary, Mr. RK. Ahmadh Rifai Kariapper, as well as all other faculty coordinators and reviewers, for their efforts in ensuring a rigorous review process to select high-quality papers. Finally, I sincerely hope that all the participants will benefit from the technical contents of this symposium and wish you a very successful symposium.

**Prof. (Dr.) A. Rameez**

Vice Chancellor

South Eastern University of Sri Lanka

## Message from the Coordinator - IntSym 2023



I am happy to write this message to the international conference abbreviated as IntSym 2023, which is conducted by South Eastern University of Sri Lanka under the guidance of Vice Chancellor, Prof. (Dr.) A. Rameez, South Eastern University of Sri Lanka.

This conference is very important because conference organisers have selected a very good theme for this conference. Theme of this conference is “Managing contemporary issues for sustainable future through multidisciplinary research”. Under this theme, research papers have been invited under the subthemes of humanities & social sciences, management & commerce, natural science & applied science, religious & cultural studies, engineering, computing & Information Technology and Library & Information Science which is expected to add value to this conference.

There are two basic reasons for conducting conference like this this. One is knowledge creation and the second one is knowledge dissemination. By conducting conference, knowledge is created by keynote address, panel discussion, technical sessions in different tracks and valedictory speeches. University is a place where knowledge is generated. This conference is conducted in our South Eastern University of Sri Lanka. Therefore, South Eastern University of Sri Lanka has generated knowledge.

Now, knowledge has been created. What is the evidence for knowledge creation? South Eastern University of Sri Lanka has documented research works submitted by various researchers in an abstract book and full paper proceedings which also add value to this conference.

Organizing an international conference is not an easy task. It needs the support of various personalities such as Vice Chancellor, Deans of the Faculties, Heads of the Departments, Professors, Senior Lecturers, Lecturers, administrative staff, financial staff and all others.

Conference needs the support of keynote speaker, guest panel speakers, foreign delegates, reviewers, researchers, paper presenters, participants, valedictory speaker and all others. Conference needs the support of Secretary, Assistant Secretary, Treasurer, track coordinators, all other committee members. As a coordinator, IntSym 2023, I give my sincere thanks to all the personalities those who have directly and indirectly involved in this international conference.

Best Wishes.

**Prof. (Dr.) MBM. Ismail**  
Coordinator / IntSym 2023

## Message from the Secretary - IntSym 2023



I am sharing this as the secretary of the 11th International Symposium of the South Eastern University of Sri Lanka. Our symposium, which will take place on May 3rd, 2023, has the theme of "Managing Contemporary Issues for Sustainable Future: Multidisciplinary Research Solution". As we all know, sustainability is a global concern that requires the collective effort of researchers from different fields. The symposium's theme is not only relevant to Sri Lanka but also resonates with the current global need for sustainable solutions. I believe that the symposium will provide a platform for researchers to share their ideas and solutions to contemporary issues. The multidisciplinary approach of the symposium will help identify comprehensive solutions that can create a sustainable future for all. The symposium will cover a wide range of topics, including environmental sustainability, economic sustainability, social sustainability, and technological sustainability. Our keynote speakers and distinguished guests will be presenting their research findings and sharing their insights on the different aspects of sustainability. I anticipate that the technical content of the symposium will provide all participants with valuable insights, new knowledge, and opportunities for collaboration. Our goal is to encourage an exchange of ideas and stimulate critical thinking that will lead to the development of practical solutions to contemporary issues. In addition to the technical sessions, the symposium will provide opportunities for cultural exchange, networking, and socializing. I hope that participants will take advantage of these opportunities to build new connections, exchange ideas, and explore the rich cultural heritage of Sri Lanka.

I am confident that this symposium will be a great success. I hope that all participants will benefit from the intellectual discussions, networking opportunities, and academic exchanges that will take place. Once again, I would like to extend my best wishes to all participants of the 11th International Symposium of the South Eastern University of Sri Lanka. May we continue to work towards a sustainable future.

**Mr. RK. Ahmadh Rifai Kariapper**  
Secretary / IntSym 2023

## Message from the Assistant Secretary - IntSym 2023



As the Assistant Secretary, I am privileged to write this felicitation message to the proceedings of the 11<sup>th</sup> International Symposium (IntSym 2023) themed on ***“Managing Contemporary Issues for Sustainable Future through Multidisciplinary Research”***, proudly organized by the South Eastern University of Sri Lanka. I am honored to have been a part of this incredible collaboration of some of the most brilliant minds in trending fields.

The IntSym 2023 provided a unique platform for scholars, researchers, and practitioners from across the globe to share their latest findings, research, and insights. It was a truly interdisciplinary event, bringing together a diverse range of perspectives and methodologies, and fostering lively discussions and debates on the most pressing issues.

I am very pleased to state that more than hundred and fifty research papers have been received from local and international research scientists covering a variety of disciplines and it has been filtered to around seventy paper to publish in this event through double blind review process. It is a great achievement and endorsement for the commitment extended by the South Eastern University of Sri Lanka due to its continuous involvement in the field of research and development for the sake of the society. The papers included in this volume represent the best of the research presented at the symposium, and cover a broad range of topics. These papers reflect the diverse interests and approaches of the symposium participants, and provide a snapshot of the latest thinking.

I would like to extend my deepest gratitude to all those who contributed to the success of this symposium, including, the Conference Chair Prof. (Dr.) A. Rameez, Vice-Chancellor South Eastern University of Sri Lanka, keynote speaker Prof. (Dr.) N. Panchanatham, Vice Chancellor, Tamil Nadu Teachers Education University, India, Coordinator Prof. (Dr.) MBM. Ismail, Secretary Mr. RK. Ahmadh Rifai Kariapper, Editor-in-Chief Prof. (Dr.) MH. Thowfeek and Co-Editors, Treasurer Mr. M. Siraji, Track Coordinators, Faculty Coordinators, International Advisory Board Members, session chairs, the presenters, volunteers, and sponsors. Your tireless efforts and dedication helped to make this event a truly memorable and rewarding experience for all.

Finally, I would like to encourage all readers to take full advantage of the insights and ideas presented in these proceedings. Whether you are a seasoned researcher or a student just starting out in the field, I am confident that the papers included in this volume will inspire you to continue to explore and advance our understanding.

Thank you all for your contribution in this 11<sup>th</sup> International Symposium 2023, and I look forward to seeing you at future symposia.

Sincerely,

**Mr. MJ. Ahamed Sabani**  
Assistant Secretary / IntSym 2023

## Message from the Keynote Speaker



Greetings to all. At the outset I congratulate Honb'le Vice Chancellor, South Eastern University of Sri Lanka, Prof.Dr.A.Rameez, Coordinator Prof. Dr. MBM Ismail and other members of Organizing committee of this international event. South Eastern University is doing yeoman service to the society since 1996. I appreciate the academic, research and extension activities of South Eastern University, Sri Lanka.

It is the duty of academicians, researchers and other stake holders of educational institutions to speak, deliberate and do research on various issues of sustainable future. These issues are not restricted to any single discipline but multidisciplinary in nature. Researchers need to concentrate on climate change which is considered to be a major threat to humanity. Similarly, many fold increase of energy consumption by people of the world will one day stop all activities of human being for want of energy. Therefore, energy consumption issue is to be addressed at the early as possible through various research activities in all disciplines pertaining to energy consumption. Waste production and threats to public health need to be viewed very seriously. Increasing types of new deceases will eliminate human being from this earth. Therefore, researchers need to continue to do multidisciplinary research to protect our dream of sustainable future. Poverty and all its consequences are considered to be a great threat to humanity and sustainable future is possible only by elimination of poverty from the world. Violence and other undesirable outcome of people relations may erupt as a consequence of social exclusion. Therefore, all social scientists need to address this issue of social exclusion by carrying out intensive research and implementation of research outcome.

Natural resources are very precious and addressing issues related to natural resources management is very important to achieve sustainable future. Scientists of various disciplines need to meet, discuss and do research on this field of management of natural resources. There is an urgent need to prevent the loss of biodiversity and land use. In order to have a sustainable future multidisciplinary research is inevitable. Therefore, this international event will make participants and others to think, discuss, do research and implement desirable outcome in order to achieve sustainable future.

My best wishes go with organizers and active participants.

### **Prof. Dr. N. Panchanatham**

Former Vice Chancellor, Tamil Nadu Teachers Education University  
Former Registrar and Head of Business School, Annamalai University India



## 11<sup>th</sup> International Symposium - 2023 (IntSym 2023)

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