

# GLOBAL ACADEMIC RESEARCH INSTITUTE

COLOMBO, SRI LANKA



## PROCEEDINGS

### GARI WINTER MULTIDISCIPLINARY SYMPOSIUM 2021

On 16<sup>th</sup> - 17<sup>th</sup> December 2021  
@ GARI Head Office, Colombo, Sri Lanka

ISSN 2659-2193 (Online)

ISBN 978-624-6068-02-8

**GLOBAL ACADEMIC RESEARCH INSTITUTE**

87/23A, Kohila Kotuwa Road, Neelammahara,

Maharagama, Colombo, Sri Lanka

Tel: +94-112-849-268 / Fax: +94-112-849-426

Mobile: +94-773-940-838 / +94-715-279-696

For Registration: [registration@gariteam.com](mailto:registration@gariteam.com)

For Help: [helpdesk@gariteam.com](mailto:helpdesk@gariteam.com)

WhatsApp / Viber: +94-773-940-838

Skype: [gari.conference](https://www.skype.com/join/gari.conference)

Web: <http://globalacademicresearchinstitute.com>

**Index-in**

Google Scholar, ROAD, ORCID, National Library of Sri Lanka, GDL

## **DISCLAIMER**

The responsibility for opinions expressed, in articles, studies and other contributions in this publication rests solely with their authors, and this publication does not constitute an endorsement by the Global Academic Research Institute of the opinions so expressed in them.

### **Official Conference website**

<http://globalacademicresearchinstitute.com>

Proceeding of the below Conference Papers

02<sup>nd</sup> International Conference on Science and Technology

07<sup>th</sup> International Conference on Ayurveda, Traditional Medicine, Siddha, Unani and Medicinal Plants

09<sup>th</sup> International Conference on Social Science and Humanities

04<sup>th</sup> International Conference on Sociology & Law

09<sup>th</sup> International Conference on Health and Medicine

07<sup>th</sup> International Conference on Language and Literature Studies

13<sup>th</sup> International Conference on Business Management and Economics

Edited by Global Academic Research Institute Publication Department

Copyright © GLOBAL ACADEMIC RESEARCH INSTITUTE

54 Pages

All right are reserved according to the code of intellectual property act of Sri Lanka, 2003  
Publish by: Global Academic Research Institute Publication Department

All rights reserved. No part of this publication maybe reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, recording or by any information storage and retrieval system, without permission in writing from the publisher.

## **PREFACE**

Global Academic Research Institute is proud to present GARI WINTER MULTIDISCIPLINARY SYMPOSIUM 2021 / 2022 which is a series of successful research symposium. The Inaugural Session and the Technical Sessions were conducted at Virtual in GARI Head Office, Colombo, Sri Lanka. The conference was organized into different disciplines which empirical, conceptual and methodological papers were received from academics, practitioners and public policy makers were accepted paying austere attention to the academic standards of the papers. To maintain consistency, authors were prescribed to follow the academic writing format of the GARI Publishers. The reviewing process was apparently transparent where papers underwent a double blinded review process by eminent subject specialists in respective areas. Thus refereed full papers selected to be presented at the conference were published here. We do not assume any responsibility for any errors or omissions in the research papers which rests solely with the authors.

Special thank goes to Key note addresses & Co-chairs made by Mr. Manoharan Kesavan (Faculty of Technology, Wayamba University of Sri Lanka), Dr. P. Vijitha (Unit of Siddha Medicine, Eastern University Sri Lanka), Dr. M. Hemanth Kumar (Institute of clinical research India and Himgiri Zee University Dehradun, India), Dr. S.A.D.H.N. Suraweera (Faculty of Social Sciences, University of Kelaniya), Dr. Deepak L. Waikar (Managing Partner of EduEnergy Singapore), The organizing committee special Appreciation Online Research Publications Partner NLSL's National Digital Library and Repository in Sri Lanka, an International Academic Affiliation with Jagadguru Kripalu University - India, Department of Community Medicine, Mysore Medical College and Research Institute - India, International Federation for Fitness Health, Physical Education & Iron Games - Saudi Arabia, Australasian Institute of Ayurvedic Studies - Australia, Kathmandu School of Law – Nepal.

Journal Partner as GARI Publishers and GARI International Journal of Multidisciplinary Research, SAP publisher, all other GARI affiliated academic partners, Further the support given by GARI Tours as Travel partner, Official Creative Partner Sameera Artco, Siththam Advertising & Sri Lanka Convention Bureau. The conference committee expresses deep gratitude to the panel of reviewers for the priceless service rendered. Finally the committee extends sincere thanks to the presenters and participants for the valuable contribution and active participation.

Conference Committee  
**WMS 2021 / 2022**

### **About GARI**

Global Academic Research Institute (GARI) is an International Scientific Research Conference Organizer in collaboration with International Universities & Institutions. GARI has brought together leading academic and industry experts from the global community who process diverse experience and expertise in verity of scholarly or scientific disciplines. We established on 2010 as independent service provider then wider range of experience GARI became a powerful arm of scientific research conference organizer in the industry.

## GARI AFFILIATIONS

National Digital Library and Repository – Sri Lanka



**NLSL**

The National Library is mainly a research and a reference library and it is the main library and information centre in Sri Lanka. It intends to provide library resources as well as information to all Sri Lankans through the National Library. Powers and responsibilities of the National Library were clearly spelled out for the first time and this was a fulfillment of a long felt need. It has become a herculean task to organize and introduce this new institution to the country and to the general public.

Jagadguru Kripalu University - India



Jagadguru Shree Kripaluji Maharaj envisioned a University that not only provides quality education but also aims at all-round personality development of the students, turning them into leaders in their chosen fields. The faculty at JKU are experts in their respective fields, with an intense desire to teach and guide the students to success. Regular interactions with industry leaders and opportunities to be part of various conferences and seminars broaden the students' horizons.

Kathmandu School of Law – Nepal



Kathmandu School of Law, established in 2000 AD as an affiliate of Purbanchal University, is a community-based, non-profit academic institution that upholds its unrestrained commitment for a pragmatic, research-based and community responsive legal education in the country. It was conceptualized within the ambit of non-profit movement dedicated to serve the need of an academically sound and functionally feasible legal education in Nepal.

#### Australasian Institute of Ayurvedic Studies – Australia



The Australasian Institute of Ayurvedic Studies is synonymous with quality and authentic education in Ayurveda. The Institute was founded in 1999 in Auckland, New Zealand and is proud to be the only training Institute in Australasia offering recognized Ayurvedic qualifications in both Australia and New Zealand.

#### International Federation for Fitness Health, Physical Education & Iron Games - Saudi Arabia



IFFPHPEIG was established in year 1995. It is one of the largest upcoming federation around the world. The Federation was established by the Honorary President Dr. Kaukab Azeem

## Table of Contents

<b>Scientific Team</b>	<b>09</b>
1. Excess air variation with particle size on Rubber wood combustion in a Packed Bed	10
2. Assessment of the Nurses' knowledge and practice regarding Diabetic foot care in two selected Teaching hospitals in Colombo, Sri Lanka	11
3. Health benefits of Rice Bran	12
4. Health impact of Soymilk as A Plant based Milk alternative: A Systematic Review	15
5. 'Tourism Killing Tourism': The Threat of Over-Tourism in Prominent attraction sites in Sri Lanka	19
6. Corporate Transparency and Firm Value: A Study of Listed Companies in Sri Lanka	25
7. The impact of composition of cash flow on the financial performance of Public Listed Manufacturing Companies in Sri Lanka	26
8. Impact of Leverage on Earning Per Share: Empirical Evidence from Hotels and Tours Firms Listed in Colombo Stock Exchange Sri Lanka	27
9. The Impact of Ownership Structure on Firm Performance of Listed Banks in Sri Lanka	28
10. Analysis of the Effectiveness of Selected International Labour Standards in Ensuring Employment Wellbeing in the aftermath of the Covid-19 Pandemic	29
11. Sensation, Perception and Governance	30
12. Necessity of incorporating a provision of right to life into the Constitution of Sri Lanka - A legal Analysis	33
13. Conceptual analysis on Theory of Public Policy	34
14. A new sound identity or substitute: Pronunciation of Sinhala speech sound consonant as a second language acquisition under the influence of English language (L1)	35
15. The Identity of Sri Lankan Poetry: Postcolonial or Post-colonial?	36
16. A Study on Big Data Analytics: Challenges faced in the Sri Lankan market	38
17. The Role of Ghiza (Diet) in Prevention and Survival in Sartan (Cancer) - A Unani Perspective	39
18. Literature review of Korosanai maaththirai in Suvaasa Noi	40
19. Efficacy of Vatha Sinthaamani Chooranam and Jeevaratnaathi Kulikai in all type of Moola Noi (Hemorrhoids) in Traditional Medicine in Srilanka	41

20. A Descriptive study on Etiological factors of Kabala Kanaapu (Sinusitis) among Patients in Kodikamam-J/327 GS Division, Jaffna District	42
21. Phytofabrication of Silver Nanoparticles using Five varieties of Hibiscus rosa-sinensis leaves extract and assessing their Antioxidant activities	43
22. Determination of the Phytochemical content and antioxidant activity of Cassava (Manihot esculenta Crantz) cultivated in Sri Lanka	44
23. Revitalizing CALP through Dual Skills Enhancement Programme (DSEP) of SLAC (A step towards developing the Academic Communication of the undergraduates through their SLAC)	48
24. A Study on the Role of Subject Verb agreement in Developing the Writing Skills of the Undergraduates of the Faculty of Arts	49
25. A Perception analysis of the Industry Associations on Recovery and Resilience Building of Sri Lanka Tourism against Covid-19 Pandemic	50
<b><i>Future Events</i></b>	<b>55</b>



## **SCIENTIFIC TEAM**

Dr. Abdul Rehman - University of the Punjab, Pakistan  
Dr. S Ramaratnam - Jagadguru Kripalu University, India  
Prof. Hend Ezzeldin - Ain Shams University, Egypt  
Dr. Mohammad Mujaheed B. Hassan - Universiti Putra Malaysia  
Prof. Dr.Rashmi Gujrati - Panjab University, India  
Dr. Chandana Kasthurarachchi - University of Colombo, Sri Lanka  
Prof. Dr. Dimiter Georgiev Velev - University of National and World Economy, Bulgaria  
Prof. Dhaval M. Dave - Bentley University, USA  
Dr. Seema Yadav - Galgotias University  
Prof. Aref Maalej - Engineering School of Sfax, Tunisia  
Dr. A. Arun Kumar - Osmania University, India  
Ratchaphon Amsuk - Valaya Alongkorn Rajabhat University, Thailand  
Prof. Luminita Andrei Cocarta - University of Iași, Romania  
Dr. P. Karthikeyan - Kongu Engineering College, India  
Dr. Milos D. Duric - University of Belgrade, Serbia  
Dr. Jill Nash - Bournemouth University, UK  
Dr. Jagbir Singh Kadyan - University of Delhi, India  
Dr. Terseer Hembem - University of Riverside, USA  
Prof. Dr. Ugur Demiray - Anadolu University, Turkey  
Dr. C.G. Shyamala - Mercy College, India  
Dr. Keratso Georgiadou - DUTH, Greece  
Dr. Narendra P. Parchure - Symbiosis Centre for Distance Learning, India

## EXCESS AIR VARIATION WITH PARTICLE SIZE ON RUBBER WOOD COMBUSTION IN A PACKED BED

<sup>1</sup>G.D.M. Rajapaksha, <sup>2</sup>Dr. Mahinsasa Narayana, <sup>3</sup>Gayathri Liyanage, <sup>4</sup>Kumudu Rajapaksha

<sup>1,2</sup>*University of Moratuwa, <sup>3</sup>Industrial Technology Institute, <sup>4</sup>University of Sri*

*Jayewardenepura, Sri Lanka*

<sup>1</sup>*gdmrajapaksha@gmail.com*

### **ABSTRACT**

In this study, the effect of particle size on the combustion of rubberwood in a packed bed was investigated experimentally using a laboratory-scale packed bed in batch mode. The model used a fixed batch of biomass and inlet air at room temperature. Rubberwood cubes having different particle sizes were combusted using an external heat source for the initial ignition. The combustion operation was maintained by the own heat emitted by the combustion reactor until the whole batch of biomass was finished. Mass loss rate, gas compositions of flue gases, and temperature profile at different bed locations were measured at a constant primary airflow rate. It was found that, at the operating conditions of the current study, the burning rate of biomass particles gets higher with the decrease of fuel size. The smaller size biomass particles were faster to ignite than the larger size biomass particles and had unique combustion stages. On the other hand, larger size biomass particles produced higher flame temperatures compared to smaller particles. Larger particles also caused the combustion process to become more transient, where the burning rate varied for most parts of the combustion process. The biomass combustion time (operational time) increased with increasing biomass particle size. The empirical data obtained from this model was used to evaluate the percentage of excess air. When the particle size increased, the amount of excess air release became high. Therefore, the rate of primary air supply needs to be controlled correctly when increasing of particle size of the fuel.

Keywords: Rubber wood, packed bed, particle size, temperature gradient, excess air

**ASSESSMENT OF THE NURSES' KNOWLEDGE AND PRACTICE REGARDING  
DIABETIC FOOT CARE IN TWO SELECTED TEACHING HOSPITALS IN  
COLOMBO, SRI LANKA**

<sup>1</sup>Nettasinghe N.A.R., <sup>2</sup>Kariyawasam K.H.A.Y., <sup>3</sup>Rangana A.A.D.

<sup>1</sup>*Department of Fundamentals of Nursing, <sup>2</sup>Department of Basic Sciences & Social Sciences,*

*<sup>3</sup>Department of Clinical Nursing,*

*Faculty of Nursing, University of Colombo*

**ABSTRACT**

As the prevalence of diabetes mellitus increases in developing countries, patients with diabetes mellitus should be educated to perform regular foot self-examination and self-care. Being an active member of the diabetes care team, Nurses are responsible to improve knowledge and practice regarding diabetic foot ulcer prevention and management which influence the quality of care provided. A descriptive cross-sectional study was conducted among 102 nurses at two selected teaching hospitals in Colombo, Sri Lanka to assess the prevailing knowledge and practice regarding diabetic foot care among nurses. The study sample was selected using the Scientific Sample Calculation Method. Data was collected using a validated questionnaire and collected data was analyzed using Statistical Package of Social Sciences (SPSS). Ethical clearance was obtained from ethical committee at Faculty of Medicine, University of Colombo and Ethical review committee at both hospitals. In this study majority were females (92%). 88.4% of nurses had more than three years clinical experience. Majority were had a diploma as their education qualification (70.5%). The mean score of the knowledge regarding Diabetic Mellitus was  $68.7\% \pm 13.1$  and knowledge and practice regarding diabetic foot care was  $50.7\% \pm 11.4$ . There was a significant difference between education level ( $p=0.002$ ), experience ( $p=0.03$ ) and knowledge and practice regarding diabetic foot care among nurses. A positive correlation was found between education level ( $p=0.001$ ), experience ( $p=0.003$ ) and nurses' knowledge and practice regarding diabetic foot care. Nurses' knowledge level scores regarding diabetic foot management were not adequate than the knowledge regarding disease condition. Therefore, the training in diabetic foot management given to nurses should organize as a separate training program instead of being given in general diabetes education programs. That will be help to build effective educational programs among patients that improve their quality of life.

Keywords: diabetic mellitus, foot care, knowledge and practice, nurses

## HEALTH BENEFITS OF RICE BRAN

Nilanka Gunasinghe, Danushika Nayomi, Shashidu Piyumantha

*Faculty of Science, Horizon Campus, Sri Lanka*

### **ABSTRACT**

Rice bran is a by-product of rice milling and accounts for about 10% of the total weight of paddy rice. The main components are aleurone, pericarp, the subaleurone layer and the germ. Rice bran is rich in vitamins, minerals, essential fatty acids, fiber and sterols, among others. There is a widespread scientific consensus on the many health benefits of fiber intake. Consumer attitudes towards healthy foods are improving and the market for functional foods is growing worldwide; Rice bran is increasingly used in the food, food and pharmaceutical industries. However, the potential food use of rice bran is limited by the instability caused by acidification caused by lipases acting on the oil during milling. Given the significance of rice bran, this review will concentrate on its functions and health benefits. High quality research studies from valid electronic sources such as ResearchGate, Google scholar, Hindawi, Scopus, Springer, Pub-Med, Sage pub, and ScienceDirect using the appropriate key words : Rice bran, Rice bran oil, Health benefits, Dietary fibre, diseases as well as a combination of them. Approximately 115 potential studies were found and 30 articles were selected using the inclusion criteria that were published between years 2004 - 2021. Of these studies, 23 studies were excluded due to duplication of work and the full text of 4 studies were not accessible. As outcomes this review has identified some major knowledge gaps understanding that about rice bran, it's properties and their health benefits.

Key words- Rice bran, Rice varieties, Rice bran oil, Gamma oryzanol, Phytosterols, Diabetes

### **INTRODUCTION**

Rice is one of the most common and prominent foods of half of the world's human population since antiquity. After sugarcane and maize, rice is the third-largest agricultural material worldwide. Asia, America, and Africa are the most prominent regions of cultivating rice. Rice and its' by-products have many nutritional benefits that are beneficial for many illnesses. Rice bran is one of the popular by-products of rice that is used to treat medical conditions such as high cholesterol, diabetes, and high blood pressure. Hence objective of this review is to investigate how the ingredients in rice bran affect health benefits and which rice varieties have the most nutritious rice bran (Raghav et al., 2016).

### **METHODOLOGY**

Database searches of the PubMed/Medline, ELSIVIER, Google Scholar, ResearchGate, Hindawi, Sage pub, ScienceDirect, SpringerLink and AgeLine. The search terms were used in the database mentioned above of "Coronary heart disease", "Prevent colorectal cancer", "Anti - aging", "Prevent osteoporosis and post-menopausal syndrome". These terms were used in isolation or in different combinations using Boolean operators. The keywords were intended to capture terms and concept known to be used in the Rice bran, Rice varieties, Rice bran oil, Gamma oryzanol, Phytosterols, diabetes, cholesterol, heart disease and health benefits. Searches were limited to articles

published from 2001 to 2021 and to articles about human beings. An author-based searches were used to identify subsequent work by the primary investigators, with additional information. All titles and abstracts (if available) from each of the searches were examined and then the relevant articles were obtained for review and moreover the bibliographies of those articles were examined for additional references. No restrictions were put on study design or location.

The PICO (Population, Intervention, Comparator, Outcome) method was established for the review. Eligibility criteria were based on the PICO reporting tools (Methley et al., 2014). The study population included human subjects or in vitro human digestion simulation. Study intervention included rice bran and its health benefits affect for the CHD, reduction of diabetes and prevent colorectal cancer . The intervention was

compared to rice with bran and rice without bran. If any studies fulfilled these eligibility criteria, they were included in the review regardless of the availability of analytical data for analysis.

## RESULTS & DISCUSSION

The characteristics of the included studies are summarized according to chemical properties of rice bran and how rice bran characteristics affect to the human health. There were few studies included subjects with rice bran's chemical properties that have examine the possible outcomes relating to the various rice varieties in (Table 1). Rice bran is a by-product of the milling process used to make white rice from brown rice. It's high in proteins, minerals, fatty acids, and dietary fiber. Rice grain comprises 80 percent carbs, 7-8 percent proteins, 3% fat, and 3% fiber.

Table 1: Chemical properties of rice bran and bran fiber

Parameter	Moisture (g/100 g)	Protein (g/100 g)	Fat (g/100 g)	Ash (g/100 g)	Digestible carbohydrate s (g/100 g)	pH	Dietary fiber (g/100 g)
Rice bran	12.12±0.25	12.32±0.24	20.31±0.92	8.73±0.08	17.92±0.26	6.85±0.10	28.60±0.32
Rice bran fiber	11.73±0.32	21.91±0.43	4.31±0.43	7.42±0.24	1.38±0.18b	7.07±0.04	53.25±0.79

Rice bran has been found to discourage non-communicable diseases like coronary heart disease, cholesterol, diabetes, cancer, or more specifically colorectal cancer. The soluble fiber in rice bran helps decrease blood cholesterol levels (Sharif et al., 2013). Rice bran oil has been recognized as "heart oil" denoting it being a cardiac-friendly oil. Coronary Heart Disease is discouraged by the use of rice bran since it reduces LDL.

Overconsumption of fats can be dangerous for those at risk for coronary heart disease. Rice bran is generally considered a healthy option but there are some challenges in its application as a food. As lipases are present these also act on triglycerides to increase the quantity of free fatty acids and damage its quality as an oil. Ongoing research explores better options of extracting rice bran oil from non-conventional sources.

## CONCLUSION

Therefore, according to the above exploration on rice bran and its health benefits, it can be understood that rice bran is an effective component that can be included in the everyday diet of individuals with almost no adverse effects. Its benefits on human health were noted while the focus was thrown on the beneficial nutritional values that comprise it assessing its strengths against diseases and in maintaining health. Rice bran was discussed as a healthy dietary option for those with diabetes, cancer, cholesterol, and heart disease. Rice bran oil was also discussed as its role as heart oil. Rice bran was critically analyzed to understand its downfalls which were found limited mostly to the modes of preparing rice bran for human consumption. Further research may signify certain other methods in which rice bran can be useful and beneficial. It can be recommended that explorations covering the various methods of preparing rice bran fit for human consumption should be taken on for it to evolve. Nevertheless, it can be concluded that rice bran is undoubtedly an effective ingredient that can fulfill the consumption needs of humans.

## REFERENCES

- Ali, A., & Devarajan, S. (2017). *Nutritional and Health Benefits of Rice Bran Oil*. *Brown Rice*, 135-158.
- Glaszmann, J. (1987). *Isozymes and classification of Asian rice varieties*. *Theoretical And Applied Genetics*, 74(1), 21-30
- Kulasinghe, A., Samarasinghe, G., Wimalasiri, S., Silva, R., & Madhujith, T. (2017). *Macronutrient and Mineral Composition of Selected Traditional Rice Varieties in Sri Lanka*. *International Conference On Food Quality, Safety And Security*, 1, 1-8
- Kusum, R., Bommayya H., Fayaz Pasha P. & Ramachandran H. D. (2011). *Palm oil and rice bran oil: Current status and future prospects*. *International Journal of Plant Physiology and Biochemistry*, 3(8), 125-132.
- Monteiro, J., Farage, P., Zandonadi, R., Botelho, R., de Oliveira, L., & Raposo, A. et al. (2021). *A Systematic Review on Gluten-Free Bread Formulations Using Specific Volume as a Quality Indicator*. *Foods*, 10(3), 614.
- Nagendra Prasad, M. N., Sanjay, K. R., Shrivaya Khatokar, M., Vismaya, M. N. & Nanjunda Swamy, S. (2011). *Health Benefits of Rice Bran - A Review*. *Nutrition and Food Sciences*.
- Raghav, P., Agarwal, N., & Sharma, A. (2016). *Emerging health benefits of rice bran*. *International Journal Of Multidisciplinary Research And Modern Education*, 2(1).
- Sharif, M., Butt, M., Anjum, F. & Khan, S. (2013). *Rice Bran: A Novel Functional Ingredient*. *Critical Reviews in Food Science and Nutrition*.
- Sohail, M., Rakha, A., Butt, M., Iqbal, M. & Rashid, S. (2016). *Rice Bran Nutraceuticals: A Comprehensive Review*. *Critical Reviews in Food Science and Nutrition*
- Thanonkaewa, A., Wongyai, S., McClements, D. J., & Decker, E. A. (2012). *Effect of stabilization of rice bran by domestic heating on mechanical extraction yield, quality, and antioxidant properties of cold-pressed rice bran oil (Oryza sativa L.)*. *Food Science and Technology*, 48, 231–236.
- Xu, Z., Hua, N., & Godber, J. S. (2001). *Antioxidant activity of Tocopherols, tocotrienols, and  $\gamma$ -oryzanol components from rice bran against cholesterol oxidation accelerated by 2,2-azobis(2-methyl propionamide)dihydrochloride*. *Journal of Agricultural and Food Chemistry*, 49, 2077–2081.
- Younas, A., Bhatti, M. S., Ahmed, A., & Randhawa, M. A. (2011). *Effect of rice bran supplementation on cookie baking quality*. *Pakistan Journal of Agricultural Sciences*, 48(2), 129-134.
- Zullaikah, S., Melwita, E. & Ju, Y. (2009). *Isolation of oryzanol from crude rice bran oil*. *Food Chemistry*, 100, 299-302.

# HEALTH IMPACT OF SOYMILK AS A PLANT BASED MILK ALTERNATIVE: A SYSTEMATIC REVIEW

Peshini Ishihara, Danushika Nayomi

*Faculty of Science Horizon Campus, Sri Lanka*

## **ABSTRACT**

Milk provides an inexpensive source of nutrients and confers numerous health benefits and it plays a vital role in nutrition and health. Soy milk has long been popular with vegetarians as an alternative to plant-based milk for both its high protein content and versatility. However, there are some doubts about the potential health effects soy protein, such as cardiovascular risk reduction efficacy, bone health support, and anticancer properties. The main objective of this review is to investigate the effectiveness of soy milk for the people who don't consume cow's milk as a protein source due to several reasons. The effectiveness will be investigated with regard to the bone health, anticancer properties and cardiovascular diseases. Subobjective of the study includes outlining the nutritional composition of soy milk.

Key words: "soy milk protein", "health impacts", "veganism"

## **INTRODUCTION**

Soybeans differ greatly in macronutrient content from other legumes, being much higher in fat and protein and lower in carbohydrates (Jooyandeh, 2011). In recent years, however, soy foods and the specific constituents of soy, particularly isoflavones, have been the subject of an impressive amount of research, and the first 2,000 articles related to soy are published every year. Numerous recent scientific studies have examined the differences between cow's and soy milk. Disparities in their fat, protein and sugar

composition may explain why an increasing number of soy milk consumers are reporting significant health benefits including improving cardiovascular disease, but there are very few research articles concerned about the effectiveness of soy milk for people who do not consume cow's milk due to several reasons. The effects of these foods may be heterogeneous, and the impact of soy milk is not exclusively discussed so far in an adequate level with regard to the human context. Consideration of such factors will be required when designing future studies to allow a more scientifically credible evaluation of the health effects of intake of soy milk.

## **METHODOLOGY**

The electronic bibliographic databases PubMed / Medline, ELSIVIER, Google Scholar, ResearchGate, ScienceDirect and SpringerLink were used for data extraction with keyword searches. Searches were limited to articles published from 2010 to 2021. The PICO method was used as the approach to identify studies that met inclusion and exclusion criteria (National Collaborating Centre for Methods and Tools, 2014). The population of interest was people who don't consume dairy products.

Any articles that appeared to focus solely on health benefits of soy milk especially with regard to the bone health, cardiovascular diseases and cancers were included. Moreover, only published studies were used, to maintain quality and transparency. Study populations entirely

consisting of human beings without including any animal trials. Exclusion criteria are as follows, studies that were not published in English language, studies that haven't full text, studies with duplicates and studies carried out for product developments using soy milk were removed.

## RESULTS

Table 1, 2 and 3 shows the perceived health benefits of soy milk consumption on selected outcome measurements including bone health, cardiovascular diseases and anticancer effect.

Table 1: Perceived health benefits of soy protein with regard to bone health

Study	Study design	Sample description	Outcome
<b>Shenoy et al, 2013</b>	cross-sectional randomized control study	n=60 postmenopausal women between the ages of 45 to 65 questionnaire based study	Increase in muscle performance and bone health.
<b>Alekel et al, 2010</b>	Randomized controlled trials	n=224 postmenopausal women followed for 3 years	isoflavone increase the bone mineral density in intervention group after receiving the highest dose of isoflavone supplementation(120mg/d)

Table2: Perceived health benefits of soy protein with regard to cardiovascular diseases

Study	Study design	Sample description	Outcome
<b>Hu et al, 2013</b>	Randomized controlled trial	n=39 overweight obese adults with 12 weeks follow-up time	Soy fibers had favorable effects on body weight, BMI, and fasting Low Density Lipid levels in overweight and obese adults.
<b>Rebholz et al, 2013</b>	Randomized controlled trials, double blinded placebo-controlled	n=102 women who has a mean systolic blood pressure from 120-159mmHg	Provides moderate support for the role of soy protein as a healthy food for cardiovascular health through E-selectin and leptin reduction, which adds to the existing evidence for the cholesterol and blood pressure reducing effects of soy protein.



<b>Nagata et al, 2016</b>	population-based cohort study	n= 13,355 male and n=15,724 female with a food frequency questionnaire.	Intake of soy foods may be inversely associated with the risk of cardiovascular diseases.
<b>Dong et al, 2016</b>	Randomized controlled, double blinded study	n=170 men and women with mild to moderate hypercholesterolemia	Significantly decreased the serum total cholesterol, Low density lipoprotein cholesterol, and non-high density lipoprotein cholesterol levels.

Table3: Perceived health benefits of soy proteins with regard to cancers

<b>Study</b>	<b>Study design</b>	<b>Sample description</b>	<b>Outcome</b>
<b>Miyanaga et al, 2011</b>	Randomized control, double blinded, placebo-controlled trial	n=158 men with the history of prostate cancer. (n=80 placebo group). Median age was 50-75 years.	The incidence of prostate cancer in the isoflavone group was lower than that in the placebo group
<b>Caan et al, 2011</b>	Randomized controlled trials	n=3,088 women with breast cancer survivors with a diagnosis between 1991 and 2000 who participated. Questionnaires (semi annual telephone interviews)	No adverse associations of soy food consumption with breast cancer prognosis.
<b>Fraser et al, 2020</b>	Cohort study	n=52,795 North American women, initially free of cancer, followed for 7.9 years, food frequency questionnaire	No clear associations between soy products and breast cancer, But higher intakes of dairy milk were associated with greater risk of breast cancer, when adjusted for soy intake.

## DISCUSSION

Women who consumed highest levels of isoflavone intake of isoflavones, has exhibited significant 54% reduction in risk of death when compared with the lowest of soy isoflavone intake (Caan et al, 2011). Contrary to above results a study conducted by Fraser et al in 2020 has concluded that there is no evidence to show at all to say that there is connection between soy milk consumption and cancer risk. But there is a risk at the higher intake of milk in increase of breast cancers. Replacing carbohydrate with dietary protein offer cardiovascular benefit due to the lower glycemic index of protein and it is further associated reduction of inflammatory activity (Rebholz et al, 2013). Isoflavones, such as genistein, have been shown to improve endothelial function by increasing nitric oxide, causing smooth muscle relaxation, and subsequently resulting in vasodilation. Genistein has also been shown to inhibit differentiation of fat cells, which secrete adipocytokines (Rebholz et al, 2013).

## CONCLUSION

The health impact of soy milk is not exclusively discussed so far in an adequate level with regard to the human context. Consideration of such factors will be required when designing future studies to allow a more scientifically credible evaluation of the health effects of intake of soy milk.

## REFERENCES

- Alekel, D. L., Van Loan, M. D., Koehler, K. J., Hanson, L. N., Stewart, J. W., Hanson, K. B., Kurzer, M. S., & Peterson, C. T. (2010). *The Soy Isoflavones for Reducing Bone Loss (SIRBL) Study: A 3-y randomized controlled trial in postmenopausal women. The American Journal of Clinical Nutrition, 91(1)*, 218–230.  
<https://doi.org/10.3945/ajcn.2009.28306>
- Caan, B. J., Natarajan, L., Parker, B., Gold, E. B., Thomson, C., Newman, V., Rock, C. L., Pu, M., Al-Delaimy, W., & Pierce, J. P. (2011). *Soy Food Consumption and Breast Cancer Prognosis. Cancer Epidemiology Biomarkers & Prevention, 20(5)*, 854–858.  
<https://doi.org/10.1158/1055-9965.EPI-10-1041>
- Fraser, G. E., Jaceldo-Siegl, K., Orlich, M., Mashchak, A., Sirirat, R., & Knutsen, S. (2020). *Dairy, soy, and risk of breast cancer: Those confounded milks. International Journal of Epidemiology, 49(5)*, 1526–1537.  
<https://doi.org/10.1093/ije/dyaa007>
- Jooyandeh, H. (2011). *Soy Products as Healthy and Functional Foods. 10*
- National Collaborating Centre for Methods and Tools. (2014). *Anatomy of a Systematic Review [fact sheet]. Retrieved from [http://www.nccmt.ca/pubs/FactSheet\\_AnatomySR\\_EN\\_WEB.pdf](http://www.nccmt.ca/pubs/FactSheet_AnatomySR_EN_WEB.pdf)*
- Rebholz, C. M., Reynolds, K., Wofford, M. R., Chen, J., Kelly, T. N., Mei, H., Whelton, P. K., & He, J. (2013). *Effect of soybean protein on novel cardiovascular disease risk factors: A randomized controlled trial. European Journal of Clinical Nutrition, 67(1)*, 58–63.  
<https://doi.org/10.1038/ejcn.2012.186>

# **‘TOURISM KILLING TOURISM’: THE THREAT OF OVER-TOURISM IN PROMINENT ATTRACTION SITES IN SRI LANKA**

<sup>1</sup>M.J.R.S. Fernando, <sup>2</sup>P. Hamzayini, <sup>3</sup>M.V.R.M.S. Rathnayake, <sup>4</sup>S. Vasuki

<sup>1,2</sup>*Sri Lanka Institute of Advanced Technological Education*, <sup>3</sup>*University of Kelaniya*,

<sup>4</sup>*University College of Jaffna, Sri Lanka*

## **ABSTRACT**

The tourism industry is a generator of positive economic impacts so that countries tend to rely on tourism activities more than ever before. This is specially the case of developing economies like Sri Lanka. However, the over-exploitation of tourism resources could visibly act as a boomerang once the carrying capacities are exceeded. This phenomenon is known as over-tourism which warns that heavy and uncontrolled tourism activities can backfire and kill the tourism industry itself. Tourists spend money to experience something of value; may it be culture or nature. Hence, once that value is no more, destinations invariably decline. This present study was conducted considering above facts with purpose of assessing over-tourism situations in five of the major tourism attraction sites in Sri Lanka and to provide possible solutions to overcome this problem. Research model took the form of qualitative study. Previous studies about the given field, newspaper and web articles, posts and photos available in social media platforms like Facebook, YouTube, Instagram and TripAdvisor, personal observations and informal interviews with given stakeholders were accessed in order to collect data. Moreover, gathered data were analysed through content analysis. The results clearly indicate the presence of over-tourism in the given sites and impacts of it such as degradation of natural environment and cultural authenticity and thereby a probable risk of losing tourists to other destinations in future. The research

findings strongly recommend maintaining carrying capacity of attraction sites if they are to be utilized as sustainable income and foreign exchange earning sources

**Keywords:** Carrying Capacity, Economy, Over-tourism, Sri Lanka, Sustainability

## **INTRODUCTION**

### **Background of the study**

‘Over tourism’ or ‘Tourism phobia’ has become the top discussion topic in recent times (World Tourism Organization (UNWTO), 2018) and also it has emerged as a concept rapidly. This term is now capable of immediate recognition and UNWTO warned severely against over-tourism as considering Europe and Asia as major victims of the over-tourism issue in 2018 (Jithendri, 2019). Also, it has been identified that over-tourism is new terminology for an existing problem. An excessive number of tourists’ arrival will certainly contribute to the negative impacts thus many developing countries facing the issue of over-tourism already in their major tourism destinations. In most cases, over-tourism has been identified due to the seasonal nature of tourism. Even though there is no recognized definition for over-tourism, many scholars have already started focusing on the impacts of over-tourism and it is fair that this term describes the existing phenomenon. According to Butowski (2019), tourism growth is not isolated and it is accompanied by many factors such as

concentration of travellers in major destinations and overcrowding which may cause many issues such as carrying capacity problems, imitation effects and problems in maintaining sustainability of the destinations. As most countries depend on tourism for their economic development, they target to develop tourism however and increase tourist arrival to their countries along with the support of technological developments, low-cost airlines and the network of airlines as well as resource development concerns. It is predicted that tourism will show a steady development once the pandemic is over. Since most of the studies aim to understand whether over-tourism is a new phenomenon, this study has been developed to support future studies on over-tourism.

#### **Problem Statement**

The tourism industry is a generator of positive economic impacts so that countries tend to rely on tourism activities more than ever before and it cannot be challenged by anyone. This is especially the case for developing economies like Sri Lanka. When a destination is confined to a relatively small area however cater a high number of tourists it has been proven that the behaviour of the tourists will affect the normal pattern of nature and the ecosystem. However, the over-exploitation of tourism resources could visibly act as a boomerang once the carrying capacities are exceeded. This phenomenon is known as over-tourism which warns that heavy and uncontrolled tourism activities can backfire and kill the tourism industry itself. Tourists spend money to experience something of value; may it be culture or nature. Hence, once that value is no more, destinations invariably decline. As per the study conducted by UNWTO entitled “Over tourism? – Understanding and Managing Urban Tourism Growth beyond Perceptions” expressed that tourism needs to be considered under common strategic

planning where all the stakeholders must be involved in planning including guests and the hosts to identify and limit carrying capacity in a specified destination. The current state of Sri Lankan tourism shows some vast agreements between government and airlines to operate cheap flights and budget airlines (Dilini, 2018) and also it has been rated as the top destination on the lonely planet in 2019. Due to these reasons, the concept of over-tourism can emerge as a threat to Sri Lanka.

#### **Research Objectives**

Without any uncertainties, it can be stated that with all the efforts to develop tourism in Sri Lanka, many top natural, cultural and historical sites in Sri Lanka are already recorded overcrowding. Therefore, with the need of maintaining the sustainability of the destination to provide the best experience to travellers for the long term, this present study was conducted considering the above facts to assess over-tourism situations in five of the major tourist attraction sites in Sri Lanka and to provide possible solutions to overcome this problem.

#### ***METHODOLOGY***

This study has been designed as an explorative qualitative study and adopted the case study method to study the threat of over-tourism in prominent destinations of Sri Lanka. The qualitative study is generally used to provide an in-depth understanding of existing real-world problems (Moser & Korstjens 2017) as well as it is not much considering about the numerical data. The qualitative approach also allows the researcher to focus and acquire the data from different kinds of open sources of conversations which are considered as the suitable approach to explore the possible threats and issues of over-tourism in popular destinations of Sri Lanka. This study was

conducted to assess over-tourism situations in five of the major tourist attraction sites in Sri Lanka which were identified as Yala, Kandy, Sigiriya, Mirissa and Ella to deliver potential solutions to overcome this problem of over-tourism. These destinations were chosen based on the comments of the experts, locals and tourists, existing literature and the direct field observation of the researchers. The populations of the study considered the relative stakeholders of tourism activities in the respective destinations and the sample was decided by the researchers using purposive sampling based on researchers' judgement to gather the relevant in-depth understanding. The sample consisted of experts in the field, community members, tourists, entrepreneurs & tourism service providers and relevant authority members. The data was accessed and collected from previous studies about the given field, newspaper and web articles, posts and photos available in social media platforms like Facebook, YouTube, Instagram and TripAdvisor, personal observations and informal interviews with given stakeholders. The collected data was analysed through content analysis as the content analysis is appropriate for analysing descriptions, themes and assertions (Creswell et al. 2007). As per the findings of Creswell et al. (2007) themes can be identified as a way to completely group the data which can be used to describe the phenomenon. Therefore, this study has adopted content analysis since it describes the current occurrence of over-tourism in the given destinations of Sri Lanka.

## ***RESULTS & DISCUSSION***

### **Over-Tourism at Yala National Park**

Yala national park of Sri Lanka, from its very nature is home to many wildlife creatures and an ideal place to observe

their habitats. However, unplanned excessive tourism activities at the site has converted it to a traffic jam destroying the natural authenticity. Usually, a wildlife national park is perceived as a sanctuary for the wild creatures. Tourists spend money to visit such place with the hope of experiencing wildlife first-hand. Not to witness some rally of jeeps. According to the statistics issued by Sri Lanka Tourism Development Authority, visitor numbers to Yala doubled over a short period of four years from 339,633 in 2012 to 658,277 in 2016. Contrasted with 2008 figure of 43,368 visitors, Yala has experienced a visible growth in numbers over the last decade. With the visible rising tourist numbers when coupled with poor waste management, the higher level of pollution and stress to fauna has increased significantly. The highest recorded number of jeeps on a given day in Block 1 is around 4251 with numbers peaking at around 600 over the Christmas period. Even though, previous governments had discussions and tried to implement steps to reduce the jeep rides per day, it does not seem to be practiced the same due the pressure of jeep owners and favoritism of politicians during election times. The rising number of tourists obviously level up the income. According to the Sri Lanka Tourism Development Authority statistics, Yala National Park's revenue has increased significantly from approximately Rs. 27.7 million in 2008 to Rs. 612.2 million in 2016, drawn mostly from foreign visitor tickets. Total revenue across all National Parks was Rs. 1.9 billion before the Easter attack and COVID-19 pandemic. But the matter is, despite rising revenues, the governments have failed to adequately manage this income-generating natural heritage in a sustainable way.

### **Over-Tourism at Sigiriya Rock Fortress**

Being one of the major cultural attractions in Sri Lanka and one of the world heritage sites as declared by

UNESCO, Sigiriya becomes a place where a tourist does not miss out during their visit to Sri Lanka. Almost all the tour operators include Sigiriya in their itineraries and tour guides also take guests to this site invariably. Other than the inbound tourists, Sigiriya becomes a place of interest for domestic tourists especially in the form of school educational trips. All these facts combined together makes Sigiriya a crowded site especially during tourism season, school holidays and weekends. This mass movement of tourists to Sigiriya creates problems which threaten its sustainability. According to the statistics of SLTDA and CCF, there are some weekends in which the site gets 15,000 on a single day alone. The tourist population which comes out after the pandemic, are more likely to demand a focus on sustainability. Therefore, island nation must pay special attention on maintaining carrying capacity at this site. It can be frequently seen in visitor comments and recommendations that they are providing 'tips' to 'avoid crowds. This clearly indicates that Sigiriya being crowded is one major barrier for the tourists to have an enjoyable experience and they look for solutions in which they can avoid the crowds. One major indicator of tourism attraction exceeding the carting capacity is visitors looking solutions to get away with the large crowds so that they enjoy the site leisurely. The majestic nature of the site captivates people but at the same they look at the crowd as an issue to be handled. Therefore, these hints of previous visitors to avoid the crowd at Sigiriya is kind of a warning sign. With over-crowding, come the issues of congestion and plastic pollution inevitably. When a site is crowded than what it can bear, it tends to release pressures in unfavourable ways. It damages the site itself and the visitor experience which can become a reason for tourists to look for alternatives. Physical decline is inevitable of a monument from

time and usage. This decline becomes rapid once that site becomes too crowded. The multiple usage for the lengthy time supports this decline. Moreover, the moisture created by breathing, sweating & touching are also major issues faced by historical monuments. Moisture from the humidity and carbon dioxide come along with tourists that regularly sweat and breathe during their visits. The increased moisture level and temperature due to people being packed at sites gradually cause the decline of the monument. This is highly applicable for the passage in which one finds the mirror wall of Sigiriya. It is a narrow passage and number of people sometime become packed there.

### **Over-Tourism in Kandy**

Apart from the regular increased number of visits throughout the year, Kandy also becomes a high seasonality feature especially during the traditional procession months of July to August. There are foreign tourists who fly down to Sri Lanka each year just to witness the Kandy procession and the city becomes flooded with locals and foreigners alike during this period. The nearby hotels usually get sold out in advance and it is quite difficult to book a room at the last moment. This clearly indicates how 'packed' Kandy becomes in the season. A person who has been to Kandy knows the severity of congestion during night hours and even the policemen fail to handle the traffic. Kandy is consisted with a population of around 1,369,889, while the Kandy municipality area holds a population of 111,70. In 2017 there were 2,116,407 tourists visiting Sri Lanka. If 70% visit Kandy, then there would be 1,481,485 tourists each year to Kandy. This proceeds into 4,058 extra people each day in Kandy town. This means that about 22% more loading takes place due to these visitors. The locals do not include in this figure and when that number is added, the human number would increase again (Daily FT, 2018). All these facts given,

Kandy tops the rank in cities of Sri Lanka with the highest of air pollution. Overcrowding results in other impacts like high traffic congestion and pollution which can damage the beautiful and healthy environment and it can become a barrier for the enjoyment of visitors.

#### **Over-Tourism in Mirissa**

The visitor contents in internet clearly indicate the ‘misery’ of Mirissa from the very words of tourists themselves. The pollution, littered roads and plastic wastage is heavily pointed out by guests. And indicating a dangerous red flag, the visitors state that Sri Lanka is becoming the ‘it-destination’ which means a typical mass tourism destination with degraded values. Tourists themselves here show that Sri Lanka’s tourism industry is taking over rapidly and that acceleration results in such adverse impacts. In addition to the above facts, Whale watching which takes place as a prominent tourism activity based on Mirissa also affects the marine habitats and their lifestyles. The excessive boat rides generate sound and these creatures are very sensitive to the sound. Sound can travel the long distances, and if boats that target whales and dolphins for viewing hour after hour, day after day, in close proximity to the animals, this will expose the mammals to noise pollution at the highest levels of intensity.

#### **Over-Tourism in Ella**

Ella is famous among locals and foreigners alike as an adventure destination. Ella being a small town does not necessarily possess the capacity of holding and bearing large crowds. In order to maintain its serenity, it needs to stick with the carrying capacity. However, Ella became a ‘trendy’ attraction during past few years. Influenced by previous travellers and what they share on internet, more people became interested in paying a visit to Ella

## ***CONCLUSIONS***

The findings clearly indicate the violation of carrying capacity at Yala National Park, Sigiriya Rock Fortress, Kandy, Mirissa and Ella. And the comments made by tourists who have visited these sites also show the risk that these sites are facing; namely losing the tourists to other competing destination around. Therefore, the findings stress out taking carrying capacity of these sites in to serious consideration and regulating the original state of those attractions.

## ***RECOMMENDATIONS***

The initial step to handle this burning issue would be to do proper studies on establishing standards on carrying capacity. This should be done with the expertise knowledge of different stakeholders like sociologists, marine biologists, environmentalists, heritage conservationists etc. Establishing the maximum number of visitors who can be at these sites at once without causing harm has to be clearly calculated. Proper regulations thereafter should be made to ensure that tourism practitioners stick with the established carrying capacity limits; may it be number of jeep rides per day, number of visitors per day, number of boat rides per day etc. The tourism service providers like jeep owners, tour guides, tour operators should be made aware that if they violate the carrying capacities, it tends to threatens their own income in the long run. On the other hand, the tourists should also be clearly informed about the carrying capacity limits that are maintained at given sites. It would be ideal if ICT can be used in this regard. Issuing e-tickets only for the pre-decided quota per day through websites could be done. This is somewhat similar to the process of booking movie tickets online. Once the quota per given day is completed, the

system automatically blocks making more reservation for the same day. This was suggested to be practiced at national parks in Sri Lanka once. But its continuity was questionable. Therefore, proper monitoring processes should be there to ensure the continuity of the rules and regulations. Charging fines for the parties who violate the carrying capacity regulations might be a fair idea because if only we protect these sites, we can maintain them as sustainable income sources. Therefore, the sustainability should be maintained at any cost for the betterment of the of their own lives. Other than that, controlling the speeds of the boats and jeeps at Mirissa and Yala and maintaining the healthy distance between guests and animals so that their lifestyles do not become disturbed is recommendable. Strictly avoiding artificial food items, light and sound waves and any other method of attracting sea mammals in Mirissa whale watching is recommended by the marine biologists. Having a code of conduct and following that code with dedication is the only way that would make Sri Lanka survive in the face of losing its tourists to other lands due to over-tourism

## REFERENCES

- Butowski, L 2019, 'Tourist sustainability of destination as a measure of its development' *Journal of Current Issues in Tourism*, vol. 22, no. 9, pp. 1043–1061, DOI:10.1080/13683500.2017.1351926.
- Creswell, JW, Hanson, WE, Clark Plano, VL & Morales, A 2007, 'Qualitative Research Designs: Selection and Implementation'. *The Counselling Psychologist*. Vol.35, no. 2, pp. 236-264, DOI:10.1177/0011000006287390.
- Dilini, F 2018, 'Could Sri Lanka's Tourism Development Lead to Overtourism?'. *Viewed 1 November 2021*, <<https://tourismdevelopmentesoftware.com/2018/12/08/could-sri-lankas-tourism-development-lead-to-overtourism/>>.
- Ft.lk. 2021. *Over-tourism: The new buzz word in tourism* | Daily FT. [online] Available at: <<https://www.ft.lk/Columnists/Over-tourism-The-new-buzz-word-in-tourism/4-663456>> [Accessed 6 November 2021].
- Jithendri, G 2019, *Is Sri Lanka a victim of overtourism?*. *Viewed 27 November 2021*, <<https://www.themorning.lk/brunch-page-9-over-tourism/>>.
- Mongabay Environmental News. 2021. *To flourish, Sri Lanka's whale-watching industry must operate responsibly (commentary)*. [online] Available at: <<https://news.mongabay.com/2020/08/to-flourish-sri-lankas-whale-watching-industry-must-operate-responsibly-commentary/>> [Accessed 6 November 2021].
- United Nations World Tourism Organization 2018, *Executive Summary- 'Overtourism'? Understanding and Managing Urban Tourism Growth beyond Perceptions*, *Viewed 27 October 2021*, <<https://www.e-unwto.org/doi/pdf/10.18111/9789284420070>>.



# **CORPORATE TRANSPARENCY AND FIRM VALUE: A STUDY OF LISTED COMPANIES IN SRI LANKA**

Sangeerthana P

*Department of Commerce, Faculty of Management Studies & Commerce,  
University of Jaffna, Sri Lanka*

## **ABSTRACT**

Transparency and disclosure of companies' information with respect to board, financial and management of a firm and the relationship that exist between them is critical because information disclosure solves the problem of information asymmetries and signaling of relevant material information to the stakeholders for decision making. Therefore, this study is intended to examine on the effect of corporate transparency on firm value of listed companies in Sri Lanka. Firm value of the company such as Tobin's Q was used as dependent variable for the study whilst the independent variables constituted some transparency indices that can affect the companies' transparency and disclosure such as Ownership structure and investor rights, financial transparency and information disclosure, and Board and management structure and processes. The study was considered 100 companies listed under the five sectors in Colombo Stock Exchange for the period of 2017 and 2018. Secondary data gathered from annual reports of these companies. The data is analyzed by means of descriptive statistics, correlation and regression analysis using EViews and STATA version 12 packages. The result of regression analysis suggests that corporate transparency, Ownership structure and investor rights, financial transparency and information disclosure, and Board and management structure and processes significantly affect the Tobin's Q at 1% confidence level. Correlation analysis indicates that corporate transparency and proxies have significant positive relationship with Tobin's Q at 0.05 level. This could be explained by improving the level of transparency and disclosure firms can reduce asymmetry of information and improve firm value.

**Keywords:** Board and management structure and processes, corporate transparency, financial transparency and information disclosure, Firm value, Ownership structure and investor rights.

**THE IMPACT OF COMPOSITION OF CASH FLOW ON THE FINANCIAL  
PERFORMANCE OF PUBLIC LISTED MANUFACTURING COMPANIES IN SRI  
LANKA**

Sangeerthana P

*Department of Commerce, Faculty of Management Studies & Commerce,*

*University of Jaffna, Sri Lanka*

***ABSTRACT***

This study is designed to examine the impact of composition of cash flow on the financial performance of Public Listed Manufacturing Companies in Sri Lanka over the period of 2015-2019. Financial performance was used as the dependent variable for the study include Return on Assets, Return on Equity, whilst the independent variables include Operating Cash Flow Ratio, Investing Cash Flow Ratio and Financing Cash Flow Ratio. Data was collected from 120 annual reports which are related to 24 best performing manufacturing companies listed in Colombo Stock Exchange for five years. The findings of this study indicates that there is a significant of composition of cash flow on the financial performance of public listed companies in Sri Lanka. Correlation analysis concluded that there is a significant positive relationship between composition of cash flow variables and finance performance measures.

Keywords: Composition of a cash flow, Financial Performance, listed manufacturing companies, Sri Lanka

**IMPACT OF LEVERAGE ON EARNING PER SHARE: EMPIRICAL EVIDENCE  
FROM HOTELS AND TOURS FIRMS LISTED IN COLOMBO STOCK  
EXCHANGE SRI LANKA**

Sangeerthana P

*Department of Commerce, Faculty of Management Studies & Commerce,  
University of Jaffna, Sri Lanka*

**ABSTRACT**

This study investigates the impact of leverage on earning per share of hotel and tours firms listed in Colombo stock Exchange (CSE) Sri Lanka. The study examined 26 companies listed in CSE for the period of 2015 to 2019. The study evaluated the results using secondary data collected from annual reports published in CSE website. The Degree of Operating Leverage (DOL), Degree of Financial Leverage (DFL) and Degree of Combined Leverage (DCL) are the independent variables and Earning Per Share (EPS) is the dependent variable of the study. The present study used descriptive analysis, correlation and regression tools to analyze the data. The findings revealed that only 10% of EPS can be explained by leverage in which DCL implies a significant relationship however DOL and DFL have insignificant relationship with EPS. In terms of regression analysis, the results interpret that DFL and DCL have significant impact on EPS at 0.05 significant level but DOL shows insignificant impact on EPS. Thus, from this study it is concluded that fixed operating expenses of the firm does not significantly impact the earning capacity of the listed companies in CSE as the DOL shows insignificant relationship in terms of EPS.

Keywords: Degree of Operating Leverage, Degree of Financial Leverage, Degree of Combined Leverage, Earning Per Share.

# THE IMPACT OF OWNERSHIP STRUCTURE ON FIRM PERFORMANCE OF LISTED BANKS IN SRI LANKA

Sangeerthana P

*Department of Commerce, Faculty of Management Studies & Commerce,  
University of Jaffna, Sri Lanka*

## **ABSTRACT**

Relationship between ownership structure and firm performance has been a widely discussed issue among corporate finance scholars. In most parts of world firms have large or concentrated owners in their structure as concentrated ownership has proved an important tool to align the interest of management and ownership of firm and remove agency problem. The main objective of the study is to find out the impact of ownership structure on firm performance. Secondary data collection method was used to conduct the study. To do so 13 banks were selected from those which were listed in Colombo stock exchange during the period of 2015 until 2019 as the sample of the study. The independent variables of the study included 'Individual ownership, Institutional ownership, Foreign ownership and Managerial ownership' while the dependent variable was decided to be ROE, ROA, Tobin's Q. The variables were empirically tested by regression analysis. This study found that there is a significant impact of managerial ownership on ROE and Tobin's Q. Furthermore, foreign ownership has a significant impact on ROE, ROA and Tobin's Q. Correlation analysis it is evident that there is a negative and no significant relationship between individual ownership and ROA. Moderate negative and significant relationship between the individual ownership and ROE. Weak positive relationship between institutional ownership and ROA. weak negative correlation between foreign ownership and ROA. There is a weak positive correlation between firm size and ROA. The implication of theory and practices, for future directions and limitations are discussed in this particular research.

Keywords: Ownership Structures, Firm Performance, Listed Banks in Sri Lanka

**ANALYSIS OF THE EFFECTIVENESS OF SELECTED INTERNATIONAL  
LABOUR STANDARDS IN ENSURING EMPLOYMENT WELLBEING IN THE  
AFTERMATH OF THE COVID-19 PANDEMIC**

W.N.G. Panditharatne, W.G.T.Y. Thilakarathne

*Department of Legal Studies, The Open University of Sri Lanka*

**ABSTRACT**

The International Labour Organization (ILO) maintains a system of international labour standards (ILS) that sets out basic principles and rights at work. ILS aimed at promoting opportunities for all to obtain decent and productive work, in conditions of freedom, equity, security and dignity. ILS and social dialogue are at the core of the ILO's policy framework for responding to the Covid-19 crisis, which uses an integrated approach to mitigate the socio-economic implications of the pandemic and help countries recover from it. Number of countries have implemented decisive measures to combat the spread of Covid -19, while balancing its adverse effect on the economy and labour market across the ILO's three policy pillars namely protecting workers in the workplace, stimulating the economy and labour demand, and supporting employment and income. Respecting key provisions of ILS relating to occupational safety and health, working arrangements, protection of specific categories of workers, nondiscrimination, social security and employment protection ensures that workers, employers and governments can maintain decent work while adjusting to the socio-economic consequences of the Covid-19 pandemic. However, despite the framework provided by ILS, devastating impacts of the pandemic on employment wellbeing are still persisting. In the context, this study attempted to examine the effectiveness of selected International Labour Standards (ILS) provided for ensuring employment wellbeing in the aftermath of the Covid-19 pandemic. Principle methodology applied is a literature survey. A comprehensive analysis has been done on the selected ILS, negotiation documents, relevant scholarly publications and survey reports as well.

Key Words: International Labour Standards, Employment wellbeing

## **SENSATION, PERCEPTION AND GOVERNANCE**

Namya Gunawardena Jayasinghe  
*Psychology and Counselling, Sri Lanka*

### ***ABSTRACT***

Sensation and perception go hand in hand in most instances, whether it be in the field of neurology, biology or psychology. However, a question might arise, when reading the title of this paper as to how governance fits together with the very well-defined couple of sensation and perception. The answer is both simple and complex. It is simple, as the method of governance as well as who governs a nation, is purely based on the sensation and perception of the general public in a democracy. The answer is yet complex, as perception is in it self a complex notion and as the perception of each person determines the future of a nation. Sensations are generally the raw data on which we create are perceptions. While it is said that sensations do not have a direct relationship with our behaviour, it is understandable that our perception or in other words, how we see something would very well determine the way we behave. If considered in terms of how the electing of representatives happen in an election, the notion is that each individual who is of age is given a vote to use in favour of who they have perceived as worthy of their vote. It is through this process that the future of the nation is decided. On the other hand, this means that the candidates at an election would take maximum effort to create the perception they want in the minds of the general public through careful release of sensations. This paper is purely a desk based qualitative study of the existing materials pertaining to sensation, perception and governance in the fields of both psychology and law. A critical evaluation of the existing literature is done by analyzing and discussing the

relationship governance of a nation has, with the sensations given by the politicians and how they are perceived by the general public. Primary legal sources such as treaties, constitutions and case law are perused, together with secondary sources such as books, journals and commentaries, where other eminent scholars have discussed and critiqued on matters of interest. The paper also analyses the aspects of perception and governance giving prominence but not limited to the context of Sri Lanka. Other nations around the world will be taken to the analysis when required. Epistemology of a research provides the philosophical underpinning of such research. More specifically this paper is based on an epistemology based on revelation, which is a philosophical principle guiding the study, through which new knowledge is created by investigating into the existing sources. In terms of the limitations of the study, it needs to be noted that the paper is not focused on all the aspects of governance, rather is focused on elections alone and how the appointment of individuals to governance happen as a result of sensation and perception. Thus, the research will be conducted on the following research questions. What is the relationship between sensation and perception, how does the election process work in a democratic nation, how is a perception created by the politicians and how can perception be modified. The discussion and the analysis of the research is conducted under few subtopics, on how concepts affecting perception interferes with the process of electing members to governance. First discussion point is that

the absolute threshold of sensation must be met by the election candidates in order for them to receive the attention of the general public. Absolute threshold can be defined as minimum amount of stimulation needed for a person to detect a stimulus. In the sense of elections, absolute threshold would mean the required stimulations that a candidate must give in order for the voter base to identify him/her as a promising candidate. It is based on this principle the campaigning and publicity stunts are created whether it be positive or negative. Secondly it is discussed in the paper that having an understanding on the concept of just noticeable difference in sensations, would enable voters to make the correct choice in electing members to governance. Just noticeable difference, is the difference needed for a person to understand the difference between two stimuli. In order for a voter to understand and distinguish between candidates and even political parties the concept of just noticeable difference plays a huge role. Thirdly, it is discussed whether the concept of sensory adaptation is affecting the voters in making their choice. Sensory adaptation can simply be defined as the reduction of response to a stimulus when you have been exposed to the same stimulus over a period of time. In other words when you have gotten used to something, even bizarre things might not seem so bizarre over time. This concept is very applicable in how people view governance and acts of politicians. If everything from the top most position to the lowest happens based on a bribe, over time people gets so used to taking and giving bribes. This is sensory adaptation. This concept of perception

affects not only the election process but all the aspects of governance at large. Finally, the concepts of perceptual set and perceptual constancy is discussed as factors affecting biased voting and party affiliations without considering the qualities of the candidates. Perceptual set means the predispositions we have on certain matters passed on passed experiences or even what we have heard from others. Perceptual consistency means the tendency of people to see familiar things in the same manner rather than noticing slight changes therein. It is the perceptual set and perceptual consistency that would not allow individuals to break the irrational bonds they have with political parties or politicians, even when they have received sensations that are strong enough to break the ties. The paper concludes imparting the knowledge that the concepts of sensation and perception has an impact of governance in terms of who is elected at an election in a democratic country. Moreover, the concepts of absolute threshold, just noticeable difference, sensory adaptation, perceptual constancy and perceptual set are discussed with the election process, to determine how important it is to be aware of these concepts to elect the most suitable candidate without falling into the pitfalls of your own perception. Finally, it is recommended that voters must use a bottom up approach of analyzing the raw materials they have about the politicians when making a choice rather than a top down approach where the perceptions are already created when the election manifest and the promises are made.

## **REFERENCES**

- Kearns, T., & Lee, D. (2015). General Psychology: An Introduction. NOBA*
- De Laguna, G. A. (1916). Sensation and Perception II: The Analytic Relation. The Journal of Philosophy, Psychology and Scientific Methods 13:23, 617-630*
- Teschner, G. (1981). The Undifferentiated Conjunction of Sensation and Judgment in Perception. Philosophy and Phenomenological Research 42:1, 119-122*
- Mascal, E. L. (1963). Perception and Sensation. Proceedings of the Aristotelian Society, 64, 259-272*

- Hopp, W. (2008). *Husserl on Sensation, Perception, and Interpretation*. *Canadian Journal of Philosophy*, 38:2 219-245
- Richardson, L. (2013). *Bodily Sensation and Tactile Perception*. *Philosophy and Phenomenological Research*, 86:1, 134-154
- Pietsch, J., & Aarons, H. (2012). *Australia: Identity, Fear and Governance in the 21st Century*. ANU Press
- Bowler, S. (1990). *Voter Perceptions and Party Strategies: An Empirical Approach*. *Comparative Politics* 23:1, 61-83.
- Bhambhri, C.P., & Verma, P. S. (1971). *Candidate's perception of the voting behaviour*. *The Indian Journal of Political Science* 32: 3, 332-348
- Mochtak, M., Lesschaeve, C., & Glaurdić, J. (2021). *Voting and winning: perceptions of electoral integrity in consolidating democracies*. *Democratization* DOI: 10.1080/13510347.2021.1918111
- LeDuc, L. (1992) *Public Perceptions of the Electoral Process*. *British Elections and Parties Yearbook*, 2:1, 25-38, Shabada, G., & Slomczynski, K. M. (2011). *Voters' perceptions of government performance and attributions of responsibility: Electoral control in Poland*. *Electoral Studies* 30: 2, 309-320.



# NECESSITY OF INCORPORATING A PROVISION OF RIGHT TO LIFE INTO THE CONSTITUTION OF SRI LANKA - A LEGAL ANALYSIS

Thilakarathne W.G.T.Y, Panditharatne WNG

*Department of Legal Studies, Faculty of HSS, The Open Univeristy of Sri Lanka*

## **ABSTRACT**

Chapter III of the 1978 constitution of Sri Lanka includes fundamental rights which assure the protection of fundamental human rights. But there is no provision in the Sri Lankan constitution to incorporate right to life. It is the simple truth; right to life is more intrinsic to humanity than Democracy or suffrage. The researcher brings out the research on the significance, that Right to life bears the greater importance since without accessing the right to life it is impossible to enjoy the other rights. This right includes an obligation on steps to protect the lives of individuals. Right to life includes access to nutritious or safe food, access to clean water, to a healthy environment, access to health care and so forth are some basic rights which can be identified. Further these are some major signs of a sustainable developed society as well. This is a desk-based research. The constitutional provisions, Legislative enactments, case law have been grasped as primary sources and articles of scholars and critiques have been used as secondary sources in developing the research. Right to life has been absolutely protected by many countries in the world. Thus, in Asian region also, it is been accepted in the countries such as India, Pakistan, and Bangladesh while Sri Lanka is lagging behind on realizing the neediness of protecting the right to life by virtue of the constitution itself. Sri Lanka maintains its position of securing the right to livelihood ironically and indirectly by Article 11 and Article 13(4) of the constitution. Furthermore, Article 17 read with 126 by providing remedy to the infringement of fundamental rights by expanding the locus standi. But still, only through the Judicial Activism Sri Lanka is able to interpret the right to life as a fundamental right. Therefore, it is the high time to turn Sri Lanka's Fundamental Rights chapter towards the most necessary right to a human being by guaranteeing it by a Right itself.

Keywords: Right to life, Constituions, Fundamental right

## CONCEPLUEL ANALYSIS ON THEORY OF PUBLIC POLICY

Himasha Perera

*Department of Political Science, University of Kelaniya*

### **ABSTRACT**

Public policy is sum of activities which influenced to shape the living style of citizens by the government directly or through agents. Also it is a complex phenomenon which takes long process that differs from country to another. This paper is a conceptual analysis on policy studies as an “applied” science and as an academic discipline. This is a qualitative study which based on secondary data and the main objective of this study is to review the conceptual background and the evolution public policy in the aspect of defining what is a public policy, basic models of public policy, roles of different actors in case of designing a public policy and stages of policy designing (public policy cycle).

Key Words: Public policy, Theoretical background, Actors, Models

**A NEW SOUND IDENTITY OR SUBSTITUTE: PRONUNCIATION OF SINHALA  
SPEECH SOUND CONSONANT AS A SECOND LANGUAGE ACQUISITION  
UNDER THE INFLUENCE OF ENGLISH LANGUAGE (L1)**

P.M. Thushari Sanjeevanie Karunarathna

*Sri Lanka*

***ABSTRACT***

Learning one's parent's language as a second language or simultaneous language is a common practice among migrant children due to both natural and forceful factors. In most cases, when children pronounce their parents' language, pronunciation differentiation can be noticed compared to the received pronunciation. It can be the reason that there is an influence of a first language. In the theoretical level, it is very difficult for learners of a second language (L2) to get rid of the phonetic effects of (L1) and sometimes impossible for a lifetime (Flege & Hillenbrand 1984), unless the language learner can process both languages since the birth (De Houwer, 1998) This research discussion is driven from a wider context which concerns pronunciation variation of the migrants' children who learning Sinhala as a second language under the influence of English (L1). This research specifically questions what consonant substitutes are employed by the aforementioned learners for the irreplaceable consonant identity of Sinhala sound production. In searching that consents of Sinhala and English speech sounds were compared based on the data from Mannell & Cox (2006), Goecky (2004), Rajapakshe (1994) and my previous research (2011). The identified consonant sound in words was recorded when the research participants, children of Sinhala migrants in Australia, pronounced the given words. The recordings were analysed with Praat analytical software. Nasals and fricatives have been identified as the most noticeable substitutes. The finding is very useful in developing programmes for learning Sinhala as a second language.

Key Words: L1 & L2, Second language acquisition, Sinhala consonant, Speech sound

## THE IDENTITY OF SRI LANKAN POETRY: POSTCOLONIAL OR POST-COLONIAL?

D. D. L. Willarachchi

*Department of Languages, General Sir John Kotelawala Defence University,  
Sri Lanka*

### **ABSTRACT**

Literature from former colonies is generally expected to possess a postcolonial identity which includes elements of rejection and resistance towards the colonial masters and their language, culture, hegemony etc. Sri Lanka, too, is a former British colony which claims post-colonial status since 1948. The present research aims to examine the identity of Sri Lankan poetry vis-à-vis postcolonialism via a close reading and in-depth, qualitative analysis of the works of Lakdasa Wikkramasinha and Patrick Fernando in order to examine whether they reflect postcolonial strategies of abrogation and appropriation in the poets' use of language and discuss typical postcolonial subject matter (two of the key idiosyncrasies of postcolonial writing) and claim 'postcolonial' identity, or simply claim a 'post-colonial' identity which allows room for greater diversity. The study reveals that all Sri Lankan poetry is not necessarily 'protest' or 'resistance' poetry. Though Lakdasa Wikkramasinha is a self-proclaimed anti-colonialist poet, Patrick Fernando uses an amalgam of the Eastern and Western traditions in his poetry, and is at perfect harmony with both the cultures. Thus, it is evident that Sri Lankan poetry cannot be categorized as a body of writing possessing a unified 'postcolonial' identity. Yet, the works of Wikkramasinha and Fernando share a unified post-colonial identity as they are produced by poets in a country which fulfills the criterion for post-colonial condition, i.e. a former colony that gained independence and now called a post-colonial nation. The present research argues that the best identity that can be given to Sri Lankan poetry would be 'post-colonial', for any other identity such as 'postcolonial' or 'national', which sets specific requirements and criteria that should be met by Sri Lankan poetry, and thus restrict the freedom of the poets from the Sri Lankan multi-cultural milieu, would not capture the rather fluid identity of Sri Lankan poetry.

Keywords: Sri Lankan poetry, identity, post-colonial, Lakdasa Wikkramasinha, Patrick Fernando

# GLOBAL ACADEMIC RESEARCH INSTITUTE



## PROCEEDINGS

### GARI WINTER MULTIDISCIPLINARY SYMPOSIUM 2022

On 21<sup>st</sup> January 2022  
@ GARI Head Office, Colombo, Sri Lanka

# **A STUDY ON BIG DATA ANALYTICS: CHALLENGES FACED IN THE SRI LANKAN MARKET**

Saranki Saravanabavan, Dr. Larry Adams

*IDM Campus - Affiliated with University of Gloucestershire,*

*UK*

## ***ABSTRACT***

Big data and big data analytics technology has been a growing topic in the recent years. Data is an important asset to organisations all over the world and many organisations have a requirement to store and process huge quantities of data. This study aims to look into the challenges in implementing big data analytics in organisations in Sri Lanka. It also aims to gain knowledge on the understanding, views and insights of big data among individuals in organizations in Sri Lanka. This mixed method of design uses both qualitative and quantitative methods which includes questionnaires and interviews data collection methods. The study reveals that “Data Security”, “Availability”, “Accuracy”, “Storage and Memory usage” and “Cost” are the major challenges faced by organisations in adopting big data analytics with a minority revealing “Lack of skills” and “compliance issues”. The study reveals that there is a lack of knowledge and understanding in the field of big data analytics among individuals in organisations. Since the study is restricted to limited domain, there is future scope for research on different sectors and on how to address these challenges in future.

Keywords: Big Data, Big Data Analytics, Challenge

## THE ROLE OF GHIZA (DIET) IN PREVENTION AND SURVIVAL IN SARTAN (CANCER) - A UNANI PERSPECTIVE

<sup>1</sup>M.U.Z.N. Farzana, <sup>2</sup>I. Al-Tharique

<sup>1</sup>*Professor, Dpt. of Amraze Niswan, Qabalat wa Atfal, IIM, University of Colombo,*

<sup>2</sup>*Director, Unani and Ayurveda Research Hospital, Batticaloa, Sri Lanka*

### **ABSTRACT**

Cancer is a large group of diseases that can start in almost any organ or tissue of the body when abnormal cells grow uncontrollably. Cancer is the second most important cause of death globally, after cardiovascular disease. It is estimated that, 9.6million deaths, or one in six death in 2019 due to cancer. Cancer is known as Sartan in Unani Medicine. Sartan is an Arabic word which means crab. According to Unani classical texts, cancer is corelated with Sawda (black bile, due to abnormal production of Sawda.It has been estimated that 30-40% of all cancers can be prevented by lifestyle and dietary measures alone. The purpose of this review is to explore the role of Ghiza (diet) in the management and prevention of Sartan (cancer) which mentioned in the Unani classical texts. Therefore, the Unani literature exploration of Unani sources for Sartan, its clinical features, management and prevention were reviewed with sources viz., AL Hawi fil Tibb, Al Qanun fil Tibb, Tarjuma Kamil al sana'a al Tibbiyya and Kitab al Kulliyat and further, recent studies in the contemporary era were also browsed on the website .Unani physicians recommended Ilaj bil Ghiza (Dietotherapy), in the management and prevention of Sartan, as the diet should be latif with jayyid al kaimoos (light and chyme forming diet) which should not produce Sawda. Unani classical sources are very much enriched with the informative related to Sartan management and prevention by Ghiza. Hence, implementation of the traditional system of medicine in present-day era may play a vital role to restore health in a holistic way.

Keywords: Saratan; Ghiza; Diet; Sawda; Black bile

## LITERATURE REVIEW OF KOROSANAI MAATHTHIRAI IN SUVAASA NOI

Nithyapriya Sivaram, Sivashanmugarajah

*Unit of Siddha Medicine, University of Jaffna*

### **ABSTRACT**

Kapa dosha usually increase in respiratory diseases. Pungent vipaka will reduce Kapa dosha. Korosanai is one of the pungent drugs. It is better management for Suvaasa noi and its symptoms in Children. The objective of the study “to study the organoleptic chacterctors. Korosanai in Suvaasa noi”. Irumal noi, iraippu noi, Peenisam and ilaiipu are some Suvaasa noi. In allopathic system Suvaasaasya rogam called as Respiratory diseases. Irumal Noi is a disease in Siddha, but it is one of the symptoms in allopathic system, which correlated with cough. Iraippu noi is correlated with Bronchial asthma. Peenisam is correlated with sinusitis. Ilaippu noi is correlated with tuberculosis. These are common in children society. More than eighty in hundred children affected by Respiratory diseases. Repeated respiratory sign and symptoms cause serious health problems. So we have take prevent the respiratory system complaints in earlier. It is a literature study. All relevant information for this study was gathered from Manuscripts at V.Chellaiyah Siddha Ayurvedic medical center. So far no researcher has been undertaken this study and this Korosanai method was specially came from Traditional doctor’s ancestors, Therefore the researcher has selected the study of the about this study. Dyspnoea, rhinorrhoea, cough, sneezing often accompanied by nasal obstruction. In Korosanai,68.42%(13) of the raw material have Pungent taste, 15.79%(3) has bitter taste, 1has sour, 1has sweet, 1 has astringent.89.47%(17) has ushna property and 10.53%(2) has seetha property. 94.73% (18) of the raw material has pungent vipaka and one has sweet vipaka. This study concluded in Korosanai Majority 94.73% of raw materials has pungent vipaka. Therefore Korosanai Maaththirai is very effective for Kapa diseases.

Keywords: Korosanai maaththirai, Suvaasa Noi, pungent vipaka



**EFFICACY OF VATHA SINTHAAMANI CHOORANAM AND  
JEEVARATNAATHI KULIKAI IN ALL TYPE OF MOOLA NOI (HEMORRHOIDS)  
IN TRADITIONAL MEDICINE IN SRILANKA**

Nushrath Roshana Mansoor, Navaluxmy Nithiakumar

*Unit of Siddha Medicine, University of Jaffna*

**ABSTRACT**

Four system of Traditional Medicine have been adopted in Srilanka: Ayurveda, Siddha, Unani and Deshiya Chikitsa. While the different system of Medicines all are coming under the “Srilankan Traditional Medicine”. Moola Noi (Hemorrhoid) is also called Mulai Noi, Arippu Noi and Adimulai Noi are swollen veins around the anus. There are four types in modern aspect as well as 21 types in Traditional Medicine. The prevalence of hemorrhoids in the general population is estimated to be 4.4%. Straining during defecation, chronic constipation, eat low fiber food, aging, pregnant, lift heavy weight are the most common causes for Moola Noi. Vaathasinthamani Chooranam and Jeevaratnaathi Kulikai are using to cure the Moola Noi by the traditional Doctor Mrs. M.Pathmanatha, General Specialist in Traditional Medicine in Karaitivu since 1984. Fourty five patients who had this symptom of Moola Noi who attended the Clinics. This study was carried out from 23.08.2017 to 25.11.2017 (3 months). According to the analysis the signs and symptoms in 47% of those used only this Chooranam started gradually disappearing. It was seen reduce the sign and symptoms to 67% of those took only the Kulikai. The signs and symptoms in 87% of those who took this Chooranam and kulikai use started gradually disappearing. The above all three groups observed under the diet restriction. But 3 of the group 2 patients couldn't continue with the treatment as the vathasinthamani chooranam was increased the Moola Noi.

Key words: Moola Noi, Vaathasinthamani Chooranam, Jeevaratna Kulikai, Traditional Medicine

**A DESCRIPTIVE STUDY ON ETIOLOGICAL FACTORS OF KABALA KANAAPU  
(SINUSITIS) AMONG PATIENTS IN KODIKAMAM-J/327 GS DIVISION, JAFFNA  
DISTRICT**

M. Rajeetha, S.Sailajah

*Unit of Siddha Medicine, University of Jaffna*

**ABSTRACT**

Kabalakkanapu (Sinusitis) is one of the common disorder seen by the general practitioners, which are troubling the mankind. Although Kabalakkanapu is create physical and psychological discomfort. Sinusitis can be broadly defined as inflammation of one or more of the para nasal sinuses. The paranasal sinuses are lined with mucous membranes that have tiny hairs on them (ciliated epithelium). These mucous membranes produce a secretion that runs down through the nose and throat. Sinusitis is an inflammation or swelling of the tissue lining the sinuses. Acute sinusitis symptoms are facial pain and pressure, blocked nose, nasal discharge, reduced sense of smell, congestion and post nasal drip. These symptoms are more similar to Kabalakkanapu which is mentioned in the Siddha text book of Parajasekaram-Siroroga nithanam. I made my research involving 50 members diagnosed as Kabalakkanapu patients. Questionnaire was text book. Made on the basis of Siddha concept of etiological factors of Kabalakkanapu said in Siddha text book. At the end of the study, I have really realized that “Prevention is better than cure” because the people who were exposed to the etiological factors of Kabalakkanapu without awareness were gotten the asthmatic episodes. If we make awareness about the etiological factors of Kabalakkanapu, the patient will take care of their own health. From this study results and observation, I found that the patient having H/O, exposure to dust and other allergens was 46 members (92%); H/O, exposures to cool air and intake of cold water was 38 members (76%); H/O, patients with nasal septal deviation was 14 members (28%) & nasal polyps was 12 members (24%); H/O, allergic to cosmetics was 20 members (40%). This study will be essential role of siddha physicians to early diagnosis, prognosis and prevention of the disease. Further literary and clinical studies are necessary in future.

Key Words: Kabalakkanapu, Sinusitis, Descriptive Cross-Sectional Study

# **PHYTOFABRICATION OF SILVER NANOPARTICLES USING FIVE VARIETIES OF HIBISCUS ROSA-SINENSIS LEAVES EXTRACT AND ASSESSING THEIR ANTIOXIDANT ACTIVITIES**

Ravirekha Raguchandra, H.D. Sandali Piyathma Meththani Abhayawardena,

Omindia Perera, Dr. Mathi Kandiah

*BMS, School of Science, Sri Lanka*

## **ABSTRACT**

Nanotechnology holds excellent possibilities in revolutionising the world due to its myriad applications. Nanoparticles can be synthesised using physical and chemical methods. However, the release of toxic chemicals into the environment has become a major threat to the industrially advanced society. As a result, researchers have a growing interest in green synthesis as an alternative to chemical and physical approaches. Also, chemical pollution leads to various diseases due to the release of free radicals, where antioxidants are essential to combat harmful free radicals. The present study deals with the phytofabrication of silver nanoparticles (AgNPs) in a single step using five varieties of *Hibiscus rosa-sinensis* (HRS) leaves extracts in an eco-friendly manner and evaluating their potential antioxidant activities. Initially, the presence of AgNPs was visually confirmed by the colour change. The synthesised AgNPs were characterised using UV-spectrophotometer. The UV-Vis spectrum of the aqueous HRS leaves extract containing AgNPs showed a peak at 460 nm. Morphological studies using SEM indicated that the synthesised AgNPs were 40 nm wide and spherical in shape. Based on the calculated bandgap energies, all synthesised nanoparticles were classified as semiconductors. Further, the leaf extract's antioxidant ability and their corresponding AgNPs were determined using TPC, TFC and TAC assays. Statistical analysis revealed that AgNPs contained significantly higher antioxidant capacity than their respective aqueous leaves extract. The statistical results obtained for the correlation between antioxidant assays indicated a strong correlation between phenol, flavonoid, and antioxidant capacity. Thus, this project demonstrated the effective way of repurposing the dried leaves in synthesising AgNPs and their potential natural antioxidant ability.

Keywords: Nanotechnology, Nanoparticles, toxic chemicals

# DETERMINATION OF THE PHYTOCHEMICAL CONTENT AND ANTIOXIDANT ACTIVITY OF CASSAVA (*MANIHOT ESCULENTA* CRANTZ) CULTIVATED IN SRI LANKA

Dr. Sajani Dias, Anushani Sathiyaseelan

*Department of Biomedical Science, Business Management School, Sri Lanka*

## **ABSTRACT**

Recently there has been a tremendous growth in research on herbal medicines and various new species evaluated for their medicinal properties. *Manihot esculenta* Crantz (Cassava) is one such species which is being actively researched recently for various indications, enriched with phytochemicals which contributes to its antioxidant properties, zinc, iron, calcium, vitamins, and carotenoids. Thereby in this study the phytochemical content (total flavonoid and phenolic content) and the antioxidant activity of the Cassava plant's both tuber and leaves from local Sri Lankan market were determined. The samples (tuber and leaves) from local market were sun dried and extracted using organic solvents-ethanol and methanol. The TPC and TFC content were measured (quantitative analysis) in 1mg/ml of the sample extracts. The TPC content of the sample extracts were determined using Folin-Ciocalteu (FC) assay. The total flavonoid content (TFC) was measured using AlCl<sub>3</sub> reagent. According to the results obtained the TPC value of methanolic leaves(223µg/ml) were higher compared to > methanolic tuber(157µg/ml), followed by > ethanolic leaves(86µg/ml)> and ethanolic tuber(33µg/ml). The TFC value of methanolic leaves(55µg/ml)> methanolic tuber(22µg/ml)> ethanolic leaves(19.7µg/ml)> ethanolic tuber(6.43µg/ml). ABTS and DPPH assay were used to measure the antioxidant activity of the sample (free radicle scavenging activity). According to the

results the DPPH scavenging activity of methanolic tuber(89%)> methanolic leaves(28%)> ethanolic leaves(28%)> ethanolic tuber(18.75%). The ABTS activity of the ethanolic leaves(51%)> methanolic leaves(44%)> methanolic tuber(20%)> ethanolic tuber(10%). Further the phenol and flavonoid content of methanolic leaves was found greater when compared with ethanolic leaves, tuber and methanolic tuber. However its antioxidant activity was low. Thereby many upcoming studies are to be done using different assay to determination of Phytochemical content and antioxidant activity in Cassava plants to get a better effective results and to find out more natural antioxidants to replace synthetic antioxidants.

## **INTRODUCTION**

Recently there has been a tremendous growth in research on herbal medicines and various new species evaluated for their medicinal properties. *Manihot esculenta* Crantz (Cassava) is one such species which is being actively researched recently for various indications, enriched with zinc, manganese, iron, magnesium, calcium, vitamins, carotenoids. *Manihot esculenta* Crantz contains phytochemicals which contributes to its antioxidant properties. Where phytochemicals such as phenolic and Flavonoid shows antioxidant activity fighting against various diseases including cancer.

Objectives

This study investigated the phytochemical content (total flavonoid and phenolic content) and the antioxidant activity of the Cassava plant's both tuber and leaves in the local Sri Lankan market were determined.

## METHODOLOGY

The cassava leaves and the tuber were washed, chopped into small pieces and were dried under the sun for 2 days. The dried samples were powdered and used in the extraction process. In the extraction process 2 solvents were used methanol and ethanol. These 2 solvents are the most widely used solvents for the extraction purpose. They are used to determine which solvent is the best to determine the phytochemical content and antioxidant activity of the sample extract giving a better phytochemical yield. Both tuber and leaves were also used for comparison purpose. Thus the TPC and TFC content was measured in 1 mg/ml of the sample extracts both tuber and leaf. Both TPC and TFC of the sample extracts were measured in quantitative analysis.

## RESULTS

According to the results obtained the TPC value of the leaves in methanol is higher and the TPC value of ethanolic tuber is the lowest. That is the TPC value of methanolic leaves (223  $\mu\text{g/ml}$ ) > methanolic tuber (157  $\mu\text{g/ml}$ ) > ethanolic leaves (86  $\mu\text{g/ml}$ ) > ethanolic tuber (33  $\mu\text{g/ml}$ ). The TFC value of the leaves is higher in methanol and ethanol. That is the TFC value of methanolic leaves (55  $\mu\text{g/ml}$ ) > methanolic tuber (22  $\mu\text{g/ml}$ ) > ethanolic leaves (19.7  $\mu\text{g/ml}$ ) > ethanolic tuber (6.43  $\mu\text{g/ml}$ ). DPPH activity of the tuber in methanol is highest and the DPPH activity of the tuber in methanol is the lowest. That is the DPPH scavenging activity of methanolic tuber (89%) > methanolic leaves (28%) > ethanolic leaves (28%) > ethanolic tuber (18.75%). ABTS activity of the leaves in ethanol is highest and the ABTS activity of the tuber in ethanol is the lowest. That is ethanolic leaves (51%) > methanolic leaves (44%) > methanolic tuber (20%) > ethanolic tuber (10%).

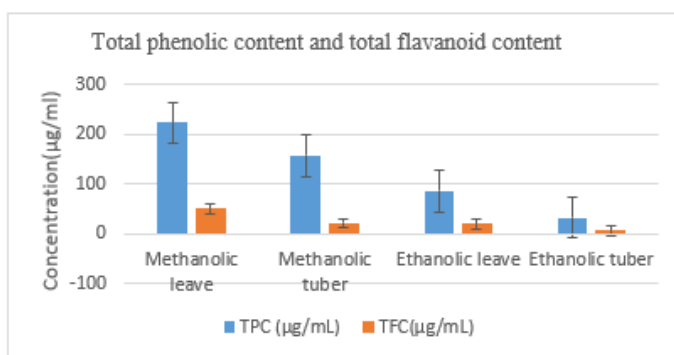
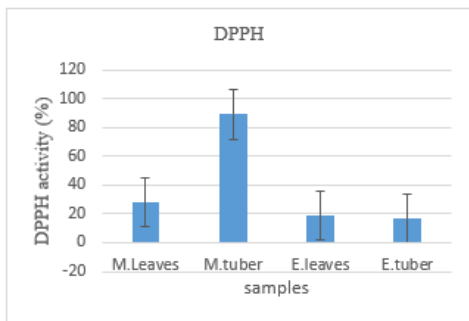
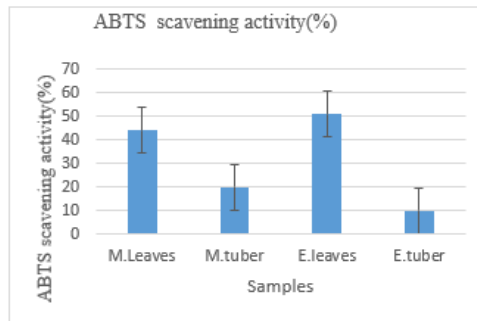


Figure 1.0. TPC and TFC of cassava leaves and tubers in ethanol and methanol



**Figure 2.0.** DPPH activity of cassava leaves and tubers in ethanol and methanol



**Figure 3.0.** ABTS activity of cassava leaves and tubers in ethanol and methanol

## DISCUSSION AND CONCLUSION

The total phenolic content of the cassava tubers and leaves extracts were determined using Folin-Ciocalteu assay (FC assay). The FC assay is an electron transfer based assay, and gives reducing capacity which is expressed as phenolic content. Polyphenols in plant extracts react with specific redox reagents (Folin-Ciocalteu reagent) to form a blue complex undergoing various redox reaction that can be quantified by visible-light spectrophotometry. The FC assay method is described in several pharmacopoeias. Where the maximum absorption of the chromophores depends on the alkaline solution and the concentration of phenolic compounds. The total flavonoid content (TFC) measured using  $AlCl_3$  reagent. The formation of complexes of metal ions  $Al^{3+}$  complex with the flavonoids rutin (flavonols) is investigated by UV-visible spectroscopy. After addition of  $Al(III)$ , a yellow solution of complex was formed, thus the value of absorbance is measured. ABTS and DPPH assay were used to measure the antioxidant activity of the sample that is the free radicle scavenging activity of the sample. The DPPH radical reacts with suitable reducing agent producing new bond, thus changing the color of solution. Reduction of the DPPH radicals can be monitored spectrophotometrically. ABTS measures

the capacity of antioxidants to scavenge the ABTS formed in the aqueous phase. In overall the results showed that the TPC and TFC Content of methanolic leaves was found greater when compared with ethanolic leaves and methanolic and ethanolic tuber. Methanol gave an increased TPC and TFC value than ethanol, this is most probably because the methanolic solvent is more polar than the ethanolic solvent However its antioxidant activity was low. Thereby there are many upcoming studies to be done to determine using different assay to determination of Phytochemical content and antioxidant activity in Cassava plants (*Manihot esculenta* Crantz) cultivated in Sri Lanka to get a better effective results and studies were done to find out more natural antioxidants to replace synthetic antioxidants.

## REFERENCES

- De Souza, R. and De Giovani, W. (2004). Antioxidant properties of complexes of flavonoids with metal ions. *Redox Report*, 9(2), pp.97-104. (Online) Available at: <https://www.tandfonline.com/doi/abs/10.1179/135100004225003897?src=recsys> (Accessed: 24 August 2019).
- Do, Q., Angkawijaya, A., Tran-Nguyen, P., Huynh, L., Soetaredjo, F., Ismadji, S. and Ju, Y. (2014). Effect of extraction solvent on total phenol content, total flavonoid content, and antioxidant activity of *Limnophila aromatica*. *Journal of Food*

- and Drug Analysis, 22(3), pp.296-302. (Online) Available at: <https://www.sciencedirect.com/science/article/pii/S1021949813001348>(Accessed: 24 August 2019).
- Anbuselvi S. and Balamurugan T. (2014) PHYTOCHEMICAL AND ANTINUTRIENT CONSTITUENTS OF CASSAVA AND SWEET POTATO, WORLD JOURNAL OF PHARMACY AND PHARMACEUTICAL SCIENCES, 3(3), 1440-1449. (Online) Available at: <https://pdfs.semanticscholar.org/97bd/8dd9710cdbc243ea28629200bcf7b108cf.pdf>(Accessed: 24 August 2019).
- Barbieri, R., Coppo, E., Marchese, A., Daglia, M., Sobarzo-Sánchez, E., Nabavi, S. and Nabavi, S. (2017). Phytochemicals for human disease: An update on plant-derived compounds antibacterial activity. *Microbiological Research*, 196, pp.44-68. (Online) Available at: <https://www.sciencedirect.com/science/article/pii/S094450131630619X>(Accessed: 24 August 2019).
- Thiyagarajan, M and Suriyavathana, M. (2010). *Phytochemical and Antimicrobial Screening of Manihot Esculanta Crantz Varieties Mulluvadi I, CO3 Root Bark. International Journal of Biotechnology and Biochemistry*, 6(6) pp. 859–864. (Online) Available at: [https://www.researchgate.net/publication/287878534\\_Phytochemical\\_and\\_Antimicrobial\\_Screening\\_of\\_Manihot\\_Esculanta\\_Crantz\\_Varieties\\_Mulluvadi\\_I\\_CO3\\_Root\\_Bark](https://www.researchgate.net/publication/287878534_Phytochemical_and_Antimicrobial_Screening_of_Manihot_Esculanta_Crantz_Varieties_Mulluvadi_I_CO3_Root_Bark)(Accessed: 24 August 2019).
- Suresh, M. Saravanakumar, R and P. Suganyadevi. (2011). I ANTHOCYANINS FROM INDIAN CASSAVA (MANIHOT ESCULENTA CRANTZ) AND ITS ANTIOXIDANT PROPERTIES. *International Journal of Pharmaceutical sciences and research*, 2(7). (Online) Available at: [https://pdfs.semanticscholar.org/c5c9/3277bc6cac669f2c33539bf6df0fjd9fd180.pdf?\\_ga=2.179875367.222398229.1567425678-1146090646.1566927483](https://pdfs.semanticscholar.org/c5c9/3277bc6cac669f2c33539bf6df0fjd9fd180.pdf?_ga=2.179875367.222398229.1567425678-1146090646.1566927483)(Accessed: 24 August 2019)

**REVITALIZING CALP THROUGH DUAL SKILLS ENHANCEMENT  
PROGRAMME (DSEP) OF SLAC (A STEP TOWARDS DEVELOPING THE  
ACADEMIC COMMUNICATION OF THE UNDERGRADUATES THROUGH  
THEIR SLAC)**

Vanniyasingham Paranthaman

*DELT, University of Jaffna*

**ABSTRACT**

A country's economic and social developments depend on the various research reflections of the undergraduates associated with multiple academic disciplines available in the universities. An academic has to acquire various knowledge – based foundations to enhance his/her academic knowledge. Ultimately, this knowledge (drawn from the research experience) has to be delivered to the target groups. Therefore young academics have to develop their academic communication (ACN). ACN depends on various factors which are shown in the following formula.

Academic Communication = Academic Competence + Academic enablers  
+ Emotional Intelligence + Second Language Academic Competence

These are all separate topics to be discussed at various levels. This paper introduces the impact of Second Language Academic Competence (SLAC) of the undergraduates attached to Faculty of Technology of University of Jaffna. These undergraduates, while completing their academic career have to contribute to the country's various innovative and productive conditions. SLAC is the reflection of the Cognitive Academic Language Proficiency (CALP) theory proposed by Cummins (1989) According to this, undergraduates have to develop a special proficiency in SLAC to improve their over role academic communication. Altogether 60 undergraduates representing the Department of Engineering Technology of Faculty of Technology of University of Jaffna will be considered for this study. These undergraduates will be pre- tested in two major skills of SLAC, Academic Information Processing Skills (AIPS) and Academic Information Delivery Skills (AIDS). Their pre-test scores will be analysed and their problems and challenges regarding these skills will be identified for designing a Dual Skills Enhancement Programme (DSEP). This DSEP will be used as the intervention for the study to enhance the informants' SLAC. After the intervention, the informants will be post-tested to find out whether they have improved these dual skills. This kind of training is very essential for the undergraduates in the initial level to approach their academic subjects and to interact with various contents in English.

Keywords: Academic Communication, Second Language Academic Competence, Cognitive Academic Language Proficiency (CALP), Dual Skills, Economic Development.



**A STUDY ON THE ROLE OF SUBJECT VERB AGREEMENT IN DEVELOPING  
THE WRITING SKILLS OF THE UNDERGRADUATES OF THE FACULTY OF  
ARTS**

K. Sanmuganathan  
*University of Jaffna*

***ABSTRACT***

The purpose of the study was to examine the role of subject verb agreement in an effective academic writing. Though Communicative Approach to language teaching emphasizes the fluency of the language use, the accuracy of the language use especially in writings is highly emphasized in order to convey the message to the reader without any confusion and as a result, one's credibility of the writing is increased. The accuracy of the academic writing largely depends on the grammar and the sentence construction which are the most importance. The grammatical proficiency is the foundation of better writing and speaking ability of ESL learners. When it is looked at from the students' point of view, writing is a laborious and even dreaded exercise of placing their thoughts and ideas on a paper when developing mastery over rules of writing such as grammar, spelling, choice of vocabulary and the mechanics of writing. The students entering the undergraduate programmes in Arts stream are found to lack the writing skills which is needed to effectively communicate in a written format during their studies. In this study, an investigation was done to analyze the subject verb agreement on the academic writings of the third year undergraduates of the Faculty of Arts, University of Jaffna. The study involved a mixed method for collecting data. The analysis of data based on the written samples of the undergraduates indicates the serious grammatical errors on the relationship between the subjects and verbs which is at the heart of grammatically correct writings in English. The neglect of subject verb agreements causes serious impact in the purpose of conveying the message to the reader. The findings shows the serious issues related to subject verb agreement errors with singular and plural subjects and the agreement between the auxiliary verb and action verb forms. Thorough understanding of subject verb agreement in relation to person and number markers may help the students develop good writing skills.

Key Words: sentence construction, academic writing, grammatical proficiency, accuracy

# A PERCEPTION ANALYSIS OF THE INDUSTRY ASSOCIATIONS ON RECOVERY AND RESILIENCE BUILDING OF SRI LANKA TOURISM AGAINST COVID-19 PANDEMIC

<sup>1</sup>Jayani Rathnayaka, <sup>2</sup>Chandani Kanthi Basnayaka

<sup>1</sup>*Department of Travel & Tour Management, University College of Rathmalana,*

<sup>2</sup>*Director, Asia Pacific Management Institute, Sri Lanka*

## **ABSTRACT**

The outbreak of the pandemic, Covid-19, is a major hit to the tourism industry of Sri Lanka. This research advances the theoretical foundation on identifying the perception of the industry stakeholders on building the industry back with this major hit. The purpose of the study is to recognize the suggestions pertaining with the stakeholders of the industry for the recovery & resilience of the industry against Covid-19. The objective of the study is to identify the perception and the strategies of the Tourism stakeholders on the recovery and resilience of the industry against Covid-19. Further the problem statement is that Associations are the important key players of the Tourism industry. The strategic approaches and the decisions made by them are vital for, the success of the industry in the recovery and resilience against Covid-19 as well. Under the theoretical background discussed, this paper aims to bridge the research gap by examining a disaster/pandemic–destination–stakeholders triangulation considered by tourist destination specialists. Accordingly, this will indirectly encourage the stakeholders in which creates a platform to raise their voice on the recovery and resilience of the industry. The study is primarily based on the mix method along with most secondary data such as journals, research publications and search engines and few structured interviews done with industry personnel. As per the empirical study

done, it was revealed that from the destination resilience perspective, collaboration is the key determinant. This factor could integrate the stakeholders and bring them all to a one page for the betterment of the industry.

**Key Words:** tourism, industry associations, recovery & resilience

## **INTRODUCTION**

The outbreak of the pandemic, Covid-19, is a major hit to the tourism industry of Sri Lanka. This research advances the theoretical foundation on identifying the perception of the industry stakeholders on building the industry back with this major hit. These local tourism stakeholders have suggested lot of ideas in order to bounce back with resilience. Accordingly, major five areas have been identified as per the suggestions of the stakeholders like safety and security of the guests, the national policy for tourism, marketing strategy of the country, supply chain management and the service quality. Under the theoretical background discussed above, this paper aims to bridge the research gap by examining a disaster/pandemic–destination–stakeholders triangulation considered by tourist destination specialists. Accordingly, this will indirectly encourage the stakeholders in which creates a platform to raise their voice on the recovery and resilience of the industry. From the destination resilience

perspective, collaboration is the key determinant. This factor could integrate the stakeholders and bring them all to a one page for the betterment of the industry.

The research focus was mainly set by performing a comparative study of secondary data collected from UNWTO annual statistical reports, reviewing related research publications and examining tourism reports of relevant countries as well as having discussions with few representatives of the Industry Associations.

**METHODOLOGY**

**RESULTS**

Table 1: The priority areas to be highlighted along with the issues to be addressed

<b>Priority Areas</b>	<b>Most important issues/challenges faced by the Industry</b>
Safe and healthy stay for all visitors	Lack of safety protocols
	Creating a positive Environment
	Virtual Events
Revisit the National Policy for Tourism	Lack of strategic direction or a proper comprehensive National Policy
	Consideration of grievance Management of the stakeholders
Revisit the contrys’ marketing strategy	Non -existence of marketing strategies or destination marketing campaigns within selected targeting countries
	Lack of clear guidelines
Supply Chain Management	
	Non availability of regular and safe transport facilities
Service Quality	Training & Development activities

Source: Author, 2020

## DISCUSSION

Apart from the idea generated through the discussions had with the industry personnel, the global best practices were considered. A best practice is a method or technique that has been generally accepted as superior to any alternatives because it produces results that are superior to those achieved by other means or because it has become a standard way of doing things, e.g., a standard way of complying with legal or ethical requirements. Best practices are used to maintain quality as an alternative to mandatory legislated standards and can be based on self assessment or benchmarking. Accordingly, countries like Thailand, South Korea, Maldives, Brazil, Netherlands and Canada were selected for the empirical study.

## CONCLUSION

This experience of Covid-19 has reinforced the mutual interdependence and alignment of interests amongst a diverse range of industry stakeholders. To capitalize, an industry/government recovery partnership should be formalized to collectively. Key stakeholders can provide requirements or constraints based on information from their industry that will be important to have when understanding project constraints and risks. They all have an interest in the organization. Stakeholders can also be an investor in the company and their actions determine the outcome of the company. Such stakeholder plays an important role in defining the future of the company as well as its day-to-day workings. Accordingly, it can be concluded that as per the study done, for the recovery and resilience of a risk or uncertain scenario, any industry is able to survive if the both public and private stakeholders who drive the industry forward work collaboratively.

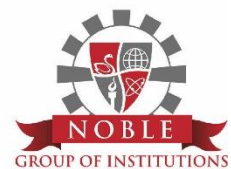
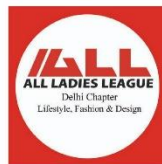
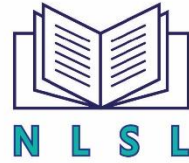
Some of the recommendations can be mentioned as below:

- Hire Remotely
- Be diverse and inclusive
- Strike a balance in Labor Regulations
- Collaboration with the private and government like in Ireland, Canada & United Kingdom
- Re-educate on Resources through workshops for the Representatives.
- Review and transform the tourism policy and institutional architecture to deliver efficient, effective and purpose-led support for sector growth and development

## REFERENCES

- Granville, F., Mehta, A., & Pike, S. (2016). *Destinations, disasters and public relations: Stakeholder engagement in multi-phase disaster management*. *Journal of Hospitality and Tourism Management*, 28, 73-79.
- Chan, C. S., Nozu, K., & Zhou, Q. (2020). *Tourism Stakeholder Perspective for Disaster-Management Process and Resilience: The Case of the 2018 Hokkaido Eastern Ibari Earthquake in Japan*. *Sustainability*, 12(19), 7882.
- Kreiner, N. C., & Ram, Y. (2020). *National tourism strategies during the Covid-19 pandemic*. *Annals of Tourism Research*.
- Dijk, M. N. (2020). *How entrepreneur resilience impacts the utilization of innovation in dealing with adversities like the COVID-19 pandemic in the restaurant industry in the Netherlands (Bachelor's thesis, University of Twente)*.
- Rogerson, C. M., & Rogerson, J. M. (2020). *COVID-19 TOURISM IMPACTS IN SOUTH AFRICA: GOVERNMENT AND INDUSTRY RESPONSES*. *GeoJournal of Tourism and Geosites*, 31(3), 1083-1091.
- Cepel, M., Gavurova, B., Dvorský, J., & Belas, J. (2020). *The impact of the COVID-19 crisis on the perception of business risk in the SME segment*. *Journal of International Studies*.
- Prayag, G. (2020). *Time for reset. COVID-19 and tourism resilience*. *Tourism Review International*, 24(2-3), 179-184.
- Sheller, M. (2020). *Reconstructing tourism in the Caribbean: connecting pandemic recovery, climate resilience and sustainable tourism through mobility justice*. *Journal of Sustainable Tourism*, 1-14.
- Yeh, S. S. (2020). *Tourism recovery strategy against COVID-19 pandemic*. *Tourism Recreation Research*, 1-7.
- Bernstein, S., & van der Ven, H. (2017). *Best practices in global governance*. *Review of International Studies*, 43(3), 534

## OUR PARTNERS



## FUTURE CONFERENCE CALL FOR PAPERS OPEN NOW

Name	Location	Date
04 <sup>th</sup> International Conference on Sustainable Development	Colombo, Sri Lanka	18 <sup>th</sup> March 2022
04 <sup>th</sup> International Conference on Peace and Conflict Management		
03 <sup>rd</sup> International Conference on Community Medicine and Public Health	Colombo, Sri Lanka	20 <sup>th</sup> May 2022
04 <sup>th</sup> International Conference on Non Communicable Diseases		
02 <sup>nd</sup> International Conference on Marketing Management		
03 <sup>rd</sup> International Conference on Coffee, Tea and Wine Studies		
07 <sup>th</sup> International Conference on Education and Distance Learning	Paris, France	26 <sup>th</sup> & 27 <sup>th</sup> June 2022
03 <sup>rd</sup> International Conference on Election and Democracy		
International Conference on Colour, Culture and Modern Art	Colombo, Sri Lanka	11 <sup>th</sup> , 12 <sup>th</sup> August 2022
05 <sup>th</sup> International Conference on Apparel Textiles and Fashion Design		
02 <sup>nd</sup> International Conference on Leisure and Tourism		
02 <sup>nd</sup> International Conference on Music, Drama, Visual & Performing Arts	Colombo, Sri Lanka	29 <sup>th</sup> October 2022
02 <sup>nd</sup> International Conference on Applied Science		
02 <sup>nd</sup> International Conference on Heritage and Culture		
International Conference on Sport Sciences and Physical Education	Kathmandu, Nepal	16 <sup>th</sup> - 17 <sup>th</sup> September 2022
International Conference on Management, Health, Social Science & Engineering		
05 <sup>th</sup> International Conference on Ayurveda Traditional Medicine and Medicinal Plants	Brisbane, Australia	24 <sup>th</sup> & 25 <sup>th</sup> September 2022

For abstract submission fill in the online submission form on each website **OR** Email Paper / Abstract with CV to helpdesk@gariteam.com OR WhatsApp / Viber +94 70342 8651