Global Innovation on Sustainability and Sustainable Development
5th International Conference
Sustainable Agriculture, Food, and Energy
SAFE2017

August 22-24, 2017
Acapella Suites Hotel Shah Alam, MALAYSIA

“Global Innovation on Sustainability and Sustainable Development of Agriculture, Food and Energy”

Organizing Institution

SAFE NETWORK
Asia Pacific Network for Sustainable Agriculture, Food and Energy
CONTENTS

Welcome Message from SAFE-Network Coordinator Dr. Novizar Nazir

Welcome Remark from the Rector of Andalas University - INDONESIA, Prof. Dr. Tafdil Husein.

Welcome Remark from Conference Chairman/Vice Chancellor of Universiti Teknologi MARA (UiTM), PROFESSIONAL EMERITUS DATO' DR HASSAN SAID

The composition of SAFE2017 Organizing Committee

Networking Discussion

SAFE2017 Program

List of Abstract based on Code of Sub-theme

Abstracts

SUB-THEME 1 Sustainable Agriculture and Technology (SAT)

SUB-THEME 2 Food Science and Technology (FST)

SUB-THEME 3 Alternative Energy (AE)

SUB-THEME 4 Sustainable Development, Management and Empowerment (SDME)

SUB-THEME 5 Innovation and Product Development (IPD)
Welcome Message from SAFE-Network Coordinator

We welcome you to the 5th International Conference on Sustainable Agriculture, Food, and Energy (SAFE-2017), with the theme ‘Global Innovation on Sustainability and Sustainable Development of Agriculture, Food and Energy, which will be held from August 22 to 24, 2017 in Shah Alam, Malaysia. This is the 5th conference of annual SAFE-Network conferences. The 1st conference (SAFE-2013) was conducted in Padang, Indonesia (May 12-14, 2013), the 2nd (SAFE-2014) was in Bali, Indonesia (September 17-19, 2014), the 3rd (SAFE-2015) was in Ho Chi Minh City, VIETNAM (November 17-19, 2015), and the 4th (SAFE-2016) as in Colombo, Sri Lanka (October 20-22, 2016).

The objectives of the conference are:

1. To provide a forum for international researchers to exchange and share their experiences, new ideas, sustainability concepts and research results on sustainable agriculture, food, and energy.
2. To promote collaboration in research on sustainable agriculture, foods, and energy production.
3. To establish a regional networking among participants on sustainable agriculture, food, and energy.
4. To increase awareness of the importance of living and working in the manner that enhances the economic, environmental and social well-being of our community through research, education, regional partnerships, and community engagement.

SAFE-2017 provides an opportunity to many people to interact with prominent leaders in the field of sustainability and build global networking with scholars and professionals. This conference is aimed to bring together people from different areas and interests to share ideas, develop fruitful discussions, maintain existing or establish new partnerships, and share achievements in various works.

On behalf of SAFE-Network, we would like to convey our appreciation and thank you very much to the Universiti Teknologi MARA (UiTM), Malaysia for hosting this prominent conference.

SAFE-Network is our home. We come from different countries with different language, tradition and culture. However, we respect those differences. We are friend and we are family. Let’s becoming bigger together! The more friendship sustained, the more world sustained.

Welcome to SAFE-2017 conference. Shah Alam, Malaysia. Enjoy Malaysia, enjoy the food, the culture and the friendship!

Looking forward to welcoming you to the SAFE2018 conference in Manila, the Philippines!

Dr. Novizar Nazir
Executive Chairman
SAFE-Network Coordinator
MESSAGE FROM THE RECTOR OF ANDALAS UNIVERSITY-INDONESIA

I would like to congratulate and convey my gratitude to the SAFE-Network for undertaking the initiative to organize SAFE-2017 (the 5th International Conference on Sustainable Agriculture, Food, and Energy). Andalas University is delighted to be the organizer of the SAFE’s annual conferences, which was firstly held in Padang, Indonesia, from 12 to 14 of May, 2014.

The theme of this year’s conference is “Global Innovation on Sustainability and Sustainable Development of Agriculture, Food, and Energy”. Sustainability is important because it ensures people have water and resources, and adopting its practices protects the environment and human health. Sustainability is now very important in many fields, including civic planning, environmental consultancy, agriculture, corporate strategies, health assessment and planning, and even into law and decision making. Sustainability draws on politics, economics and, philosophy and other social sciences as well as the hard sciences. Today, sustainability skills and environmental awareness is also a priority in many corporate jobs. We believe that various valuable innovation can help maintain or achieve the doctrine of sustainability, that is maintaining the conditions in which nature and humans can survive by appropriately utilizing the natural components of the environment. We believe that this conference will generate substantial contributions to create a valuable innovation and new value on sustainability and sustainable development of agriculture, food, and energy.

I would like to thank the organizing committee and the co-organizer institutions for the hard work and full commitment in the preparation of this conference. I also would like to congratulate the Universiti Teknologi MARA (UiTM), Malaysia, that has successfully hosted this conference. We hope that our good relationships could bring us to more collaborative works and activities in the future.

Finally, my personal respect and appreciation are addressed to all the participants. I wish you an enjoyable and memorable conference. Please enjoy the culture of Malaysia!

Thank you.

Prof. Dr. Taufik Husni
Rector of Andalas University
MESSAGE FROM VICE CHANCELLOR OF UNIVERSITI TEKNOLOGI MARA (UiTM), MALAYSIA

I wish you Selamat Datang to the "5th International Conference on Sustainable Agriculture, Food and Energy" to be held on 22–24 August 2017 in Shah Alam, Malaysia. It is a pleasure to welcome all distinguished plenary and invited speakers.

I wish you Selamat Datang to the "5th International Conference on Sustainable Agriculture, Food and Energy" to be held on 22–24 August 2017 in Shah Alam, Malaysia. It is a pleasure to welcome all distinguished plenary and invited speakers, delegates, and participants to this conference. Reaffirming the need for a more coordinated approach to improve effective collaboration between members of the academia and industry, UiTM is delighted to collaborate with the SAFE network in organizing this event. As global support for sustainability in the field of agriculture, food, and energy continues to grow, it becomes increasingly important that research and best practices in those areas are shared to address issues and to examine possible actions.

I am confident that this conference will provide the opportunity to strengthen partnerships with a wider scientific and industrial community. May this event be an insightful and effective exchange of information towards economically viable innovations without compromising environmental and social concerns in the world of SAFE.

PROFESSOR EMERITUS DATO' DR HASSAN SAID
Universiti Teknologi MARA (UiTM)
MALAYSIA
SAFE 2017 COMMITTEE

Patron
Emeritus Prof DATO’ DR. HASSAN SAID (Vice-Chancellor, Universiti Teknologi MARA (UiTM))
Prof. Dr. Tafidil Husni (Rector of Andalas University)

Executive Chairman
Dr. Novizar Nazir—Andalas University-INDONESIA

Chairman of Organizing Committee
Prof. Dr. Hj. Khudzir Bin Hj Ismail. Dean of Faculty of Applied Science. UiTM

Local Conference Coordinator
Prof. Dr. Azizah Hanom Ahmad, Local Conference Coordinator
Faculty of Applied Sciences
Universiti Teknologi MARA, 40450 Shah Alam. MALAYSIA
Telephone: +603 55444641
E-mail: azizahanom@salam.utm.edu.my

Dr. Zety Sharizat Bt Hamidi, Conference Secretary
Faculty of Applied Sciences
Universiti Teknologi MARA, 40450 Shah Alam. MALAYSIA

Dr. Ismaniza Bt Ismail, Treasurer
Faculty of Applied Sciences
Universiti Teknologi MARA, 40450 Shah Alam. MALAYSIA

Advisory Committee
Dr. Paul Kristiansen-University of New England, AUSTRALIA (Co-ordinator)
Prof.Dr. Werry Darta Taifur, Andalas University, INDONESIA
Prof.Dr. Nguyen Hay—Nong Lam University Ho Chi Minh City-VIETNAM
Dr. Yunardi Yusuf-Syiah Kuala University-INDONESIA
Prof. Dr. Djumali Mangunwijaya- Bogor Agricultural Agriculture, INDONESIA.
Prof. dr. Dewa Putu Widjana. DAP&E Sp.Par.K-Warmadewa University—INDONESIA
Dr. Anak Agung Gde Oka Wisnumurti, M.Si-Warmadewa University—INDONESIA
Prof.Dr. Bohari M Yamin, Universiti Kebangsaan Malaysia, MALAYSIA
Prof.Dr. Masateru Senge, United Graduate School of Agricultural Science, Gifu University, JAPAN
Prof. Dr. Wan Mohar Wan Yusoff-Universiti Kebangsaan Malaysia, MALAYSIA

Steering Committee
Prof.Dr. Helmi—Andalas University-INDONESIA (Co-ordinator)
Assoc. Prof. Dr. Nurul Huda—SAFE-Network Resident Co-ordinator (Malaysia)
Universiti Sultan Zainal Abidin (UniSZa), MALAYSIA
Prof. P.M.C.C de Silva, PhD, University of Ruhuna, SAFE-Network Resident Co-ordinator (SRI LANKA)
Prof. Dr. Fauzan Azima — Andalas University-INDONESIA.
Dr. Munzir Busniah—Andalas University-INDONESIA.
Prof. Dr. Amitava Basu- Bidhan ChandraKrishiVidyalaya, INDIA
Prof. Nasser Aliasgharzad-Department of Soil Science- Faculty of Agriculture. The University of Tabriz-Iran.
Assoc.Prof. Nguyen Huy Bich, Ph.D- Nong Lam University Ho Chi Minh City-VIETNAM
Prof. Kohei NAKANO, Ph.D.- Gifu University-JAPAN
Prof. Dr. MD MIZANUR RAHMAN BHUIYAN, Khulna University-BANGLADESH
Dr. Helen Martinez- Philippine Center for Postharvest Development and Mechanization,
Prof.Dr. Santos-Andalas University, INDONESIA
Dr. Ir. Ujang Paman Ismail, MSc. Universitas Islam Riau-INDONESIA
Organizing Committee:
1. Assoc. Prof. Dr. Nazlinda Abdullah
2. Assoc. Prof. Dr. Rahmah Bt Mohamed
3. Dr. Siti Norasmah Bt Surip
4. Assoc. Prof. Dr. Norrizah Jaafar Bt Sidik
5. Dr. Shafii Bn Che Ibrahim
6. Mr. Fairus Bn M.Darus
7. Dr. Aida Firdaus Binti Muhamad Nurul Azmi
8. Dr. Siti Zafirah Bt Zainal Abidin
9. Dr. Sabiha Hanim Bt Saleh
10. Dr. Khaizulf Adzfa Bn Radzun
11. Dr. Mohd Muzamir Bn Mahat
12. Mrs. Suzana Bt Ratim
13. Dr. Mohd Husairi Bn Fadzilah Suhaimi
14. Dr. Rosmamuhamadani bin Ramli
15. Dr. Mohd.Nazarudin bin Zakaria
16. Dr. Asmiya Binti Ismail
17. Dr. Wan Razaria Binti. Wan Abdul Razak
18. Dr. Rosdyana Binti Hasham

SAFE-Network Regional Secretariat:
Dr. Irawati Chaniago, Andalas University-INDONESIA
Dr. Wahyudi David – Bakrie University-INDONESIA
Rahmat Hidayat, ST, M.Sc.IT- State Polytechnic of Padang –INDONESIA
Dr. Enita, Andalas University. Padang, INDONESIA
Reza Defri Rozi, Andalas University-INDONESIA
Nursei Idris, Pamulang University-INDONESIA
Aisman Rasinin, MSc-Andalas University-INDONESIA
Ario Beta Juansilfero, M.Eng- Kobe University-JAPAN
Muh. Iqbal Syuhada, Andalas University-INDONESIA
Ma'ruf Pambudi Nurwantara, Bogor Agricultural University. INDONESIA

Scientific Committee
Prof. Dr. Takashi Oku-Prefectural University of Hiroshima, JAPAN
Prof. Tomoyuki NAKAGAWA-Gifu University, JAPAN
Dr. Yandra Arkeman, Bogor Agricultural University, INDONESIA
Dr. Muhammad Ishfaq Khan, The University of Agriculture Peshawar, PAKISTAN
Assoc. Prof. Dr. Razauden Mohamed Zulkifli-University Teknologi Malaysia-MALAYSIA
Assoc. Prof. Dr. Peeyush Soni-Asian Institute of Technology-THAILAND
Prof. Dr. Nurmiliyani Bafdal, Padjadjaran University-INDONESIA
Dr. Yolanda Lecorn Perez- Gemat, Madrid-SPAIN
Assoc.Prof. Dr. Yus Aniza Yusof-Universiti Putra Malaysia, MALAYSIA
Contact Person
Prof. Dr. Azizah Hanom Ahmad, Local Conference Coordinator
Faculty of Applied Sciences
Universiti Teknologi MARA, 40450 Shah Alam, MALAYSIA
Contact No: +603 55444641. Fax no: +603-55444562
E-mail: azizahanom@salam.uitm.edu.my

Assoc. Prof. Dr. Nurul Huda, Resident Coordinator (MALAYSIA)
School of Food Industry,
Faculty of Bioresources and Food Industry, Universiti Sultan Zainal Abidin,
UniSZA 22200, Besut Campus, Terengganu Darul Iman, Malaysia.
Phone (O): +6096993595 Fax: +6096993425
(M): +60124843144. E-mail: nhuda@unisza.edu.my

Dr. Novizar Nazir, SAFE-Network Coordinator
Faculty of Agricultural Technology-Andalas University
Kampus Unand Limau Manis Padang 25163-INDONESIA
Telp/Fax: +62 751 72772. E-mail: nazir_novizar@yahoo.com, novizarnazir@safetainability.org

Dr. Agr. Wahyudi David, MSc, SAFE-Network Operation and Communication
Food Science and Technology Univ. Bakrie. Jl. HR. Rasuna Said Kav C22 Kawasan Epicentrum
Kuningan Jakarta Selatan 12920
Phone: +62 21 1448 ext 374. Fax: +62 21 526 3191. E-mail: wahyudi.david@bakrie.ac.id
SAFE NETWORK
Asia Pacific Network for Sustainable Agriculture, Food and Energy

Mission:
SAFE Network is an Asia Pacific network of university and college educators, researchers, and activists, who collaborate in analysis, synthesis, connecting and educating the people for a better economy, ecology, and equity in agriculture, food and energy system.

Objectives:
- Increase the capacity of the scientific community to address major sustainability challenges in agriculture, food and energy.
- Increase the capacity of the scientific community to enrich people through programs, services and support that help them increase their capacity to produce a better economy, ecology, and equity in agriculture, food and energy system.

Activities:
- SAFE Network provides annual workshop and conference under the theme of sustainable agriculture, food and energy.
- SAFE Network publish an International Journal in sustainable agriculture, food and energy.
- SAFE Network enables scholars to collaborate more effectively in applying an international/regional research grant.
- SAFE Network provides Exchange scholars/lecturers between members.
- SAFE Network provides program, services and support to help people increase their capacity to produce a better economy, ecology, and equity in agriculture, food and energy system.

Working Group
- WG1- Sustainable Agriculture
- WG2- Food Technology and Sustainable Nutrition
- WG3- Sustainable Energy
- WG4- Extension, Community Development and Scientific Communication

Let's Join!
Any organization or individual committed to Sustainable Agriculture, Food and Energy can join the Network to:
- Get the latest information on Sustainable Agriculture, Food and Energy
- Build connections with colleagues across the country
- Access helpful assistance, workshop, training and resources.
- Get support to programs, services and support that increase capacity to produce a better economy, ecology, and equity in agriculture, food and energy system.
- Share your knowledge and experience on Sustainable Agriculture, Food and Energy
NETWORKING DISCUSSION

Term of Reference

INTRODUCTION

SAFE-NetWork was initiated by Andalas University and declared on 12th May 2013 in Andalas University-Padang INDONESIA by 16 scholars from university and college educators, researchers, and activists from Australia, Indonesia, Japan, Malaysia, Thailand, Vietnam. The objectives of this network are to increase the capacity of the scientific community to address major sustainability challenges in agriculture, food and energy and to increase the capacity of the scientific community to enrich people through programs, services and support that help them increase their capacity to produce a better economy, ecology, and equity in agriculture, food and energy system.

There are 5 main activities of SAFE-NetWork: [1] provides annual workshop and conference under the theme of sustainable agriculture, food and energy; [2] publish an International Journal in sustainable agriculture, food and energy; [3] enables scholars to collaborate more effectively in applying an International /regional research grant; [4] SAFE Network provides Exchange scholars/lecturer between members and [5] provides program, services and support to help people increase their capacity to produce a better economy, ecology, and equity in agriculture, food and energy system. Until recently, SAFE-NetWork have already performed 3 annual conference and published 3 conference papers in International Journal.

SAFE-network is growing. At the beginning of its establishment, there are 124 individuals involved in the SAFE-NetWork activity. At a conference in Bali in 2014, the members involved increased to 267. Currently, individuals involved in the SAFE-NetWork already numbered 624 people who come from 19 different countries and 62 institutions.

To improve the activity of SAFE-NetWork, then we need to jointly agree to undertake activities which are in line with the mission of SAFE-NetWork. In the context of that improvement, Networking Discussion is very important to be held.

Objective:

1. To discuss and approve proposals submitted by SAFE-NetWork Secretariat.
2. To provide an opportunity for each member to discuss the possibility of joint cooperation between their individual institutions

PARTICIPANTS

Hosted by:

1. Prof. Dr. Helmi, SAFE-NetWork Head of Steering Committee Andalas University INDONESIA
2. Dr. Novizar Nazir, SAFE-NetWork Coordinator Andalas University INDONESIA
3. Assoc. Prof. Dr. Nurul Huda, Resident Coordinator MALAYSIA
4. Prof. Dr. P. Mangala C.S. De Silva, Resident Coordinator SRI LANKA
5. Dr. Norman de Jesus, Resident Coordinator (Philippines)
6. Prof. Nguyen Huy Bich, Ph.D. Resident Coordinator VIETNAM
7. Prof. Dr. MD Mizanur Rahman BHUIYAN, Resident Coordinator BANGLADESH
8. Dr. Isfaq Khan, Resident Coordinator (Pakistan)

Secretory:

9. Dr. Irawati Chaniago, Faculty of Agriculture, Andalas University INDONESIA

INVITED PERSON:

10. Dr. Amelia Nicolas, Central Bicol State University of Agriculture, Pul, Camarines Sur, Philippines.
Proposition I: Book Writing Activities

Title:
“Agriculture, Food, Energy and Sustainability: Asian Perspectives”

Editors: Dr. Novizar Nazir, SAFE-Network Coordinator. Andalas University-INDONESIA

Contributors:
Dr. Helmi, SAFE-Network Head of Steering Committee/Vice Rector of Andalas University-INDONESIA
Dr. Wan Mochtar Wan Yusoff, Universiti Kebangsaan Malaysia, MALAYSIA
Dr. Rudi Febriamansyah, Andalas University (INDONESIA)
Dr. Amitava Basu, BCKV (INDIA)
Dr. Ishfaq Khan, Peshawar University of Agriculture (PAKISTAN)
Prof. Thimmaiah Sudir, Maharishi University of Management-Iowa (USA)
Nasser Aliashgharzad, University of Tabriz (IRAN)
Dr. P. Mangala C. S. De Silva, University of Ruhuna (SRI LANKA)
Nguyen Huy Bich, Ph.D, Nong Lam University Ho Chi Minh City (VIETNAM)
Prof. Nobutaka Ito, Visiting Professor, Faculty of Engineering, Chiang Mai University, Thailand
Dr. Ravindra Chandra Joshi, Ph.D. (Philippines), FRES (Lon.), FRSB (Lon.), MIbIol, CBiol (Lon.), Sigma Xi (USA), NRCF (Phils.), Visiting Professor, Pamhanga State Agricultural University (PSAU), Philippines
Prof. Kohei NAKANO, Ph.D. Resident Coordinator (JAPAN)
Dr. Condro Wibowo, University of Jendral Soedirman (INDONESIA)
Dr. Wahyudi David, Universitas Baktie. (INDONESIA)
Prof. Taufiq Yap Universiti Putra Malaysia (MALAYSIA)
Prof. Mohd Razi Ismail, Universiti Putra Malaysia (MALAYSIA)
Dr. Piyush Soni. Asian Institute Technology. (THAILAND)
Dr. Ir. I G Bagus Udayana – Warmadewa University-INDONESIA
Prof. Dr. MD Mizanur Rahman Bhuiyan, Resident Coordinator (BANGLADESH)
Proposal II: Philippines Summer Course (PSC2017) on Agritourism and Sustainability Development

Host Institution:
Central Bicol State University of Agriculture, Philippines

Participants:
This one week course is intended for students who come from each member country of SAFE-Network. Total number of participants between 20-30 students

Lecturer:
The lecturers is on voluntary basis comes from each member country of SAFE-Network who have a commitment to share their experience, expertise and knowledge. The lecturer come at their own expense. SAFE-Network invite Gifu University-Japan, Prefectural University of Hiroshima-Japan, University of Ruhuna-Sri Lanka, Universiti Kebangsaan Malaysia, Universiti Sains Malaysia, Universiti Teknologi Mara (UiTM), Universiti Putra Malaysia, Andalas University-Indonesia, Kasetsart University-THAILAND, Nong Lam University Ho Chi Minh City, Pampanga State Agricultural University, Philippines, Central Bicol University of Agriculture, Philippines, University of Bengkulu, Gadjah Mada University, Padjadjaran University, Bogor Agricultural University, Jember University and other institution to participate.

Proposal III: JOINT ACTION

1. International Advisory Panel on Sustainable Agriculture. Food and Energy (BALIGREEN)-Prof. Wan Mochtar Wan Yussoff, Universiti Kebangsaan Malaysia-MALAYSIA
2. Book Chapter Project on Food Issue
3. Journal Publication
4. ACTION PROGRAM
SAFE 2017 COMMITTEE

Patron
Emeritus Prof DATO' DR. HASSAN SAID (Vice-Chancellor, Universiti Teknologi MARA (UiTM))
Prof. Dr. Tafidil Husni (Rector of Andalas University)

Executive Chairman
Dr. Novizar Nazir–Andalas University-INDONESIA

Chairman of Organizing Committee
Prof. Dr. Hj. Khudzir Bin Hj Ismail, Dean of Faculty of Applied Science. UiTM

Local Conference Coordinator
Prof. Dr. Azizah Hanom Ahmad, Local Conference Coordinator
Faculty of Applied Sciences
Universiti Teknologi MARA, 40450 Shah Alam. MALAYSIA
Telephone: +603 53444641
E-mail: azizahanom@salam.uitm.edu.my

Dr. Zety Sharizat Bt Hamidi, Conference Secretary
Faculty of Applied Sciences
Universiti Teknologi MARA, 40450 Shah Alam. MALAYSIA

Dr. Ismaniza Bt Ismail, Treasurer
Faculty of Applied Sciences
Universiti Teknologi MARA, 40450 Shah Alam. MALAYSIA

Advisory Committee
Dr. Paul Kristiansen-University of New England, AUSTRALIA (Co-ordinator)
Prof.Dr. Werry Darta Taifur, Andalas University, INDONESIA
Prof.Dr. Nguyen Hay-- Nong lam University Ho Chi Minh City-VIETNAM
Dr. Yunardi Yusuf-Syiah Kuala University-INDONESIA
Prof. Dr. Djumali Mangunwijaya- Bogor Agricultural Agriculture, INDONESIA.
Prof. dr. Dewa Putu Widjana, DAP&E. Sp.Par.K-Warmadewa University-INDONESIA
Dr. Arak Agung Gde Oka Wisnumurti, M.Si-Warmadewa University-INDONESIA
Prof.Dr. Bohari M Yamin, Universiti Kebangsaan Malaysia, MALAYSIA
Prof.Dr. Masateru Senge, United Graduate School of Agricultural Science, Gifu University, JAPAN
Prof. Dr. Wan Mohtar Wan Yusoff-Universiti Kebangsaan Malaysia, MALAYSIA

Steering Committee
Prof.Dr. Helmi– Andalas University-INDONESIA (Co-ordinator)
Assoc. Prof. Dr. Nurul Huda– SAFE-Network Resident Co-ordinator (Malaysia)
Universiti Sultan Zainal Abidin (UniSZA), MALAYSIA
Prof. P.M.C.C de Silva, PhD, University of Ruhuna, SAFE-Network Resident Co-ordinator (SRI LANKA)
Prof. Dr. Fauzan Azima – Andalas University-INDONESIA.
Dr. Munzir Busniah–Andalas University-INDONESIA.
Prof. Dr. Amitava Basu- Bidhan Chandra Krishi Vidyalya, INDIA
Prof. Nasser Aliasgharzad-Department of Soil Science- Faculty of Agriculture. The University of Tabriz-Iran.
Assoc.Prof. Nguyen Huy Bich, Ph.D- Nong Lam University Ho Chi Minh City-VIETNAM
Prof. Kohei NAKANO, Ph.D.- Gifu University-JAPAN
Prof. Dr. MD MIZANUR RAHMAN BHUIYAN, Khulna University-BANGLADESH
Dr. Helen Martinez- Philippine Center for Postharvest Development and Mechanization,
Prof.Dr. Santosa-Andalas University, INDONESIA
Dr. Ir. Ujang Paman Ismail, MSc. Universitas Islam Riau-INDONESIA
Prof. Dr. Othman Sulaiman - Universiti Sains Malaysia-MALAYSIA
Dr. Yuli Witono, Jember University-INDONESIA
Prof. Dwinardi Aprianto, Bengkulu University-INDONESIA
Dr. Ir. I G Bagus Udayana - Warmadewa University-INDONESIA
Prof. Dr. Mohd Razi Ismail - Universiti Putra Malaysia, MALAYSIA

Organizing Committee:
1. Assoc. Prof. Dr. Nazlinda Abdullah
2. Assoc. Prof. Dr. Rahmah Bt Mohamed
3. Dr. Siti Norasmah Bt Surip
4. Assoc. Prof. Dr. Norrizah Jaafar Bt Sidik
5. Dr. Shariff Bin Che Ibrahim
6. Mr. Fairus Bin M.Darus
7. Dr. Aida Firdaus Binti Muhamad Nurul Azmi
8. Dr. Siti Zafrah Bt Zainal Abidin
9. Dr. Sabiha Hanim Bt Saleh
10. Dr. Khairul Adzha Binti Radzun
11. Dr. Mohd Muzamir Bin Mahat
12. Mrs. Suzana Bt Ratim
13. Dr. Mohd Husaini Bin Fadzilah Suhaimi
14. Dr. Rosmunahmadani bin Ramli
15. Dr. Mohd.Nazarudin bin Zakaria
16. Dr. Asmida Binti Ismail
17. Dr. Wan Razarina Binti. Wan Abdul Razak
18. Dr. Rosdiyana Binti Hasham

SAFE-Network Regional Secretariat:
Dr. Irawati Chaniago, Andalas University-INDONESIA
Dr. Wahyudi David – Bakrie University-INDONESIA
Rahmat Hidayat, ST, M.Sc.IT - State Polytechnic of Padang –INDONESIA
Dr. Enita, Andalas University, Padang, INDONESIA
Reza Defri Rozi, Andalas University-INDONESIA
Nursevi Safril, Pamulang University-INDONESIA
Aisman Rasinin, MSC-Andalas University-INDONESIA
Ario Beta Juansisifero, M.Eng - Kobe University-JAPAN
Muh. Iqbal Syuhada, Andalas University-INDONESIA
Ma’ruf Pambudi Nurwantara, Bogor Agricultural University. INDONESIA

Scientific Committee
Prof. Dr. Takashi Oku-Prefectural University oh Hiroshima, JAPAN
Prof. Tomoyuki NAKAGAWA-Gifu University, JAPAN
Dr. Yandra Arkeman, Bogor Agricultural University, INDONESIA
Dr. Muhammad Ishaq Khan, The University of Agriculture Peshawar, PAKISTAN
Assoc. Prof. Dr. Razauden Mohamed Zulkifli-University Teknologi Malaysia-MALAYSIA
Assoc. Prof. Dr. Peeyush Soni-Asian Institute of Technology-THAILAND
Prof.Dr. Nurpilihan Bafdal, Padjadjaran University-INDONESIA
Dr. Yolanda Lechon Perez- Ciemat, Madrid-SPAIN
Assoc.Prof. Dr. Yus Aniza Yusof-Universiti Putra Malaysia, MALAYSIA
Contact Person
Prof. Dr. Azizah Hanom Ahmad, Local Conference Coordinator
Faculty of Applied Sciences
Universiti Teknologi MARA, 40450 Shah Alam. MALAYSIA
Contact No: +603-55444641. Fax no: +603-55444562
E-mail: azizahanom@salom.uitm.edu.my

Assoc. Prof. Dr. Nurul Huda, Resident Coordinator (MALAYSIA)
School of Food Industry,
Faculty of Bioresources and Food Industry, Universiti Sultan Zainal Abidin,
UniSZA 22200, Besut Campus, Terengganu Darul Iman, Malaysia.
Phone (O):+6096993595 Fax: +6096993425
(M): +60124843144. E-mail:nhuda@uniszaz.edu.my

Dr. Novizar Nazir, SAFE-Network Coordinator
Faculty of Agricultural Technology-Andalas University
Kampus Unand Limau Manis Padang 25163-INDONESIA
Telp/Fax: +62 751 72772. E-mail: nazir_novizar@yahoo.com, novizarnazir@safetainability.org

Dr. Agr. Wahyudi David, MSc, SAFE-Network Operation and Communication
Food Science and Technology Univ. Bakrie. Jl. HR. Rasuna Said Kov C22 Kawasan Epicentrum
Kuningan Jakarta Selatan 12920
Phone: +62 21 1448 ext 374. Fax: +62 21 526 3191. E-mail: wahyudi.david@bakrie.ac.id
SAFE NETWORK
Asia Pacific Network for Sustainable Agriculture, Food and Energy

Mission:
SAFE Network is an Asia Pacific network of university and college educators, researchers, and activists, who collaborate in analysis, synthesis, connecting and educating the people for a better economy, ecology, and equity in agriculture, food and energy system.

Objectives:
- Increase the capacity of the scientific community to address major sustainability challenges in agriculture, food and energy.
- Increase the capacity of the scientific community to enrich people through programs, services and support that help them increase their capacity to produce a better economy, ecology, and equity in agriculture, food and energy system.

Activities:
- SAFE Network provides annual workshop and conference under the theme of sustainable agriculture, food and energy.
- SAFE Network publish an International Journal in sustainable agriculture, food and energy.
- SAFE Network enables scholars to collaborate more effectively in applying an International /regional research grant.
- SAFE Network provides Exchange scholars/lecturers between members.
- SAFE Network provides program, services and support to help people increase their capacity to produce a better economy, ecology, and equity in agriculture, food and energy system.

Working Group
- WG1- Sustainable Agriculture
- WG2- Food Technology and Sustainable Nutrition
- WG3- Sustainable Energy
- WG4- Extention, Community Development and Scientific Communication

Let's Join!
Any organization or individual committed to Sustainable Agriculture, Food and Energy can join the Network to:
- Get the latest information on Sustainable Agriculture, Food and Energy
- Build connections with colleagues across the country
- Access helpful assistance, workshop, training and resources.
- Get support to programs, services and support that increase capacity to produce a better economy, ecology, and equity in agriculture, food and energy system.
- Share your knowledge and experience on Sustainable Agriculture, Food and Energy
<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.30-8.30 AM</td>
<td>Registration</td>
</tr>
<tr>
<td>8.30-9.00</td>
<td>Opening Ceremony</td>
</tr>
<tr>
<td></td>
<td><strong>Venue:</strong> SERAYA BALL ROOM, Acapella Suites Hotel</td>
</tr>
<tr>
<td>8.40-8.50</td>
<td>Opening by MC</td>
</tr>
<tr>
<td></td>
<td>National anthem of Malaysia &quot;Negaraku&quot;</td>
</tr>
<tr>
<td></td>
<td>National anthem of Indonesia &quot;Indonesia Raya&quot;</td>
</tr>
<tr>
<td></td>
<td>Do'a</td>
</tr>
<tr>
<td>8.50-8.55</td>
<td>Conference Program Introduction by Local Conference Coordinator, <em>Prof. Azizah Hanom Ahmad</em>. <em>Universiti Teknologi MARA, MALAYSIA</em></td>
</tr>
<tr>
<td>8.55-9.00</td>
<td>Welcome Remark from Rector of Andalas University, <em>Prof. Dr. Tafidil Husni</em></td>
</tr>
<tr>
<td>9.00-9.05</td>
<td>Welcome Remark from Vice Chancellor of Universiti Teknologi MARA, <em>PROFESSOR EMERITUS DATO' DR HASSAN SAID</em></td>
</tr>
<tr>
<td>9.05-9.10</td>
<td>Welcome Remark by the <strong>Ambassador of the Republic of Indonesia in MALAYSIA</strong></td>
</tr>
<tr>
<td>9.10-9.15</td>
<td>Presentation of Opening Gimmick</td>
</tr>
<tr>
<td></td>
<td>Presentation of Certificate of Appreciation and Special Gift from <strong>Dr. Novizar Nazir (SAFE-Network)</strong> to Universiti Teknologi MARA-MALAYSIA and Andalas University-INDONESIA</td>
</tr>
<tr>
<td>9.15-9.25</td>
<td>Presentation SAFE2018 logo to Delegates from PHILIPPINES, the President of CBSUA, Philippines and <strong>Dr. Norman de Jesus</strong>, Resident Coordinator of SAFE-Network [Philippines] from Pampanga State Agricultural University. Official Photo session</td>
</tr>
<tr>
<td>Time</td>
<td>Session Title</td>
</tr>
<tr>
<td>-------</td>
<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>9.25-10.15</td>
<td><strong>KEY NOTE ADDRESSES</strong>&lt;br&gt;Venue: SERAYA BALL ROOM, Acapella Suites Hotel, Shah Alam</td>
</tr>
<tr>
<td>9.25-9.40</td>
<td><strong>TRANSFORMING AWARENESS THE IMPORTANCE OF INNOVATION TO THE SUSTAINABLE AGRICULTURE, FOOD AND ENERGY</strong></td>
</tr>
<tr>
<td>9.40-9.55</td>
<td><strong>GLOBAL INNOVATION ON SUSTAINABILITY AND SUSTAINABLE DEVELOPMENT IN AGRICULTURE, FOOD AND ENERGY: SAFE-NETWORK PERSPECTIVE</strong></td>
</tr>
<tr>
<td>9.55-10.10</td>
<td><strong>Q &amp; A</strong>&lt;br&gt;Presentation of Certificate of Appreciation and Special Gift to Session Chair and Keynote Speakers</td>
</tr>
<tr>
<td>10.10-10.30</td>
<td><strong>COFFEE BREAK</strong></td>
</tr>
<tr>
<td>10.30-11.40</td>
<td><strong>Plenary Session:</strong>&lt;br&gt;Current Issue of Sustainable Agriculture, Food and Energy</td>
</tr>
<tr>
<td>10.30-10.45</td>
<td><strong>SUSTAINABLE PRODUCTION OF BIOENERGY</strong></td>
</tr>
</tbody>
</table>

**SAFE 2017 PROGRAM | 2**
<table>
<thead>
<tr>
<th>Time</th>
<th>Presenter 4:</th>
</tr>
</thead>
</table>
| 10.45-11.00 | Dr. Ravindra Chandra Joshi  
Ph.D. (Philippines), FRES (Lon.), FRSB (Lon.), MIBiol, CBiol (Lon.), Sigma Xi (USA), NRCP (Philips.)  
Visiting Adjunct Professor of Agriculture, University of South Pacific (USP), Fiji  
Visiting Professor, Pamínga State Agricultural University (PSAU), Philippines  
**AQUATIC INVASIVE ALIEN SPECIES AND THEIR MANAGEMENT IN SOUTHEAST ASIA: SELECTED CASE STUDIES FROM THE PHILIPPINES** |

<table>
<thead>
<tr>
<th>Time</th>
<th>Presenter 5:</th>
</tr>
</thead>
</table>
| 11.00-11.15 | Prof. Dr. Syaifollah Abdullah, Universiti Teknologi MARA, MALAYSIA  
**NANO TECHNOLOGY FOR SUSTAINABLE FOOD PRODUCTS** |

<table>
<thead>
<tr>
<th>Time</th>
<th>Presenter 6:</th>
</tr>
</thead>
</table>
| 11.15-11.30 | Hj. Zuraimi Isa, Head of Water Management Services Al-Rajhi Agriculture and Infrastructure, Jeddah, SAUDI ARABIA  
**DESERT AGRICULTURE AND AQUACULTURE** |

<table>
<thead>
<tr>
<th>Time</th>
<th>Presenter 7:</th>
</tr>
</thead>
</table>
| 11.30-11.45 | Dr. Khalid Al Malahy, CEO of Al Rajhi International for Investment (RAAl).  
**DEVELOPMENT IN AGRICULTURE AND TECHNOLOGY** |

<table>
<thead>
<tr>
<th>Time</th>
<th>Q &amp; A</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.45-12.20</td>
<td>Presentation of Certificate of Appreciation and Special Gift to session chair and invited Speakers</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>Plenary Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.20-13.30</td>
<td><strong>PUTTING THE AWARENESS OF SUSTAINABILITY OF AGRICULTURE, FOOD AND ENERGY INTO PRACTICE</strong></td>
</tr>
</tbody>
</table>
|         | Venue: Ball Room, Acapell Suites Hotel, SHAH Alam  
Session Chair:  Prof. Nguyen Huy Bich, SAFE-Network National Coordinator (VIETNAM), Nong Lam University Ho Chi Minh City, VIETNAM |
<table>
<thead>
<tr>
<th>Time</th>
<th>Presenter 8:</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.20-12.35</td>
<td>Dato' Dr. Zainal Omar, Amaravila Homegarden, MALAYSIA</td>
<td>ENHANCING HOUSEHOLD FOOD SECURITY AND WELLBEING THROUGH HOMEGARDEN</td>
</tr>
<tr>
<td>12.35-12.50</td>
<td>Presenter 9:</td>
<td>Title</td>
</tr>
<tr>
<td></td>
<td>Prof. Dr. Abdul Manaf Ali, Universiti Sultan Zainal Abidin (UniSZA), Trengganu, MALAYSIA</td>
<td>PROMOTING TRADITIONAL VEGETABLE AND MEDICINAL PLANT THROUGH BIOLOGICAL ACTIVITIES</td>
</tr>
<tr>
<td>12.50-13.05</td>
<td>Presenter 10:</td>
<td>Title</td>
</tr>
<tr>
<td></td>
<td>Assoc. Prof. Yoichi Tominaga, Tokyo University of Agriculture and Technology, JAPAN</td>
<td>NOVEL POLYCARBONATE-BASED ELECTROLYTES FOR Li-ION BATTERIES</td>
</tr>
<tr>
<td>13.05 - 13.30</td>
<td>Q &amp; A</td>
<td>Presentation of Certificate of Appreciation and Special Gift to session chair and invited Speakers</td>
</tr>
<tr>
<td></td>
<td>Lunch Break, Poster Session &amp; Prayer</td>
<td></td>
</tr>
</tbody>
</table>

### 14.30-16.30 Breakout Session 1

<table>
<thead>
<tr>
<th>Room 1</th>
<th>Room 2</th>
<th>Room 3</th>
<th>Room 4</th>
<th>Room 5</th>
<th>Room 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>SERAYA ROOM A</td>
<td>SERAYA ROOM B</td>
<td>SERAYA ROOM C</td>
<td>MERANTI ROOM A</td>
<td>MERANTI ROOM B</td>
<td>ORCHID ROOM, First Floor</td>
</tr>
</tbody>
</table>

**Parallel Session**

- **Room 1 (SERAYA ROOM A)**
  - Session Chair: PROF. ZAINAL MUKTAMAR
  - Session Chair: Dr. Helen Martinez, PhilMech, Philippines

- **Room 2 (SERAYA ROOM B)**
  - Session Chair: Dr. Fahrurozi, Faculty of Agriculture, University of Bengkulu, INDONESIA

- **Room 3 (SERAYA ROOM C)**
  - Session Chair: Dr. Henny Purwaningsih, Bogor Agricultural University, INDONESIA

- **Room 4 (MERANTI ROOM A)**
  - Session Chair: Dr. Condro Wibowo, Jenderal Soedirman University-Purwokerto, INDONESIA

- **Room 5 (MERANTI ROOM B)**
  - Session Chair: Dr. Nurul Huda, UniSZA Malaysia

**INTERNATIONAL WORKSHOP:**

**HOW TO DO RESEARCH:**
<table>
<thead>
<tr>
<th>Time</th>
<th>Presenter</th>
<th>Title</th>
<th>Institution/Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.00-14.10</td>
<td>Prof. Nurpilihan Bafdal*</td>
<td>&quot;RAINWATER HARVESTING AS A TECHNOLOGICAL INNOVATION TO SUPPLYING CROP NUTRITION THROUGH FERTIGATION&quot;</td>
<td>Andalas University, Campus Unand Limau, Manis Padang, Indonesia</td>
</tr>
<tr>
<td>14.20-14.30</td>
<td>Hanyln Hidalgo, Romnick Cedon*</td>
<td>BARRIERS OF STINGLESS BEEKEEPING INDUSTRY DEVELOPMENTS IN BICOL, PHILIPPINES</td>
<td>Central Bicol State University of Agriculture, Philippines</td>
</tr>
<tr>
<td>14.30-14.40</td>
<td>Shanti Navaratnam*, Nik Abdul Aziz*, Nur Affah Idris*, Siti Zafirah Zainal Abidin*</td>
<td>EFFECT OF GLYCEROL ON IONIC CONDUCTIVITY AND DIELECTRIC PROPERTIES OF POTATO STARCH-CHITOSAN BLEND BIOPOLYMER ELECTROLYTE INCORPORATED WITH SODIUM CHLORIDE</td>
<td>Universiti Teknologi MARA, 40450 Shah Alam, Selangor, Malaysia</td>
</tr>
<tr>
<td>14.40-14.50</td>
<td>Amelia R. Nicolas, PhD</td>
<td>&quot;Customized Research Management Techniques-a Structured and Sequential Construct&quot;</td>
<td>College of Agriculture and Natural Resources, Central Bicol State University of Agriculture, Philippines</td>
</tr>
</tbody>
</table>

**SAFE 2017 PROGRAM**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Author</th>
<th>Institution/Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.00-14.10</td>
<td>SAT-02</td>
<td>SDME-70</td>
<td>Prof. Nurpilihan Bafdal*</td>
<td>Andalas University, Campus Unand Limau, Manis Padang, Indonesia</td>
</tr>
<tr>
<td>14.10-14.20</td>
<td>SAT-06</td>
<td>SDME-71</td>
<td>Prof. Firwan Tan*</td>
<td>INDONESIAN CRUDE PALM OIL EXPORT PERFORMANCE DURING THE PERIOD (1990Q1-2015Q4)</td>
</tr>
<tr>
<td>14.20-14.30</td>
<td>SAT-07</td>
<td>SDME-74</td>
<td>Hanyln Hidalgo, Romnick Cedon*</td>
<td>BARRIERS OF STINGLESS BEEKEEPING INDUSTRY DEVELOPMENTS IN BICOL, PHILIPPINES</td>
</tr>
<tr>
<td>14.30-14.40</td>
<td>SAT-08</td>
<td>SDME-76</td>
<td>Shanti Navaratnam*, Nik Abdul Aziz*, Nur Affah Idris*, Siti Zafirah Zainal Abidin*</td>
<td>EFFECT OF GLYCEROL ON IONIC CONDUCTIVITY AND DIELECTRIC PROPERTIES OF POTATO STARCH-CHITOSAN BLEND BIOPOLYMER ELECTROLYTE INCORPORATED WITH SODIUM CHLORIDE</td>
</tr>
<tr>
<td>14.40-14.50</td>
<td>SAT-09</td>
<td>SDME-77</td>
<td>Amelia R. Nicolas, PhD</td>
<td>&quot;Customized Research Management Techniques-a Structured and Sequential Construct&quot;</td>
</tr>
<tr>
<td>14.50-14.55</td>
<td>SAT-10</td>
<td>SDME-78</td>
<td>&quot;Customized Research Management Techniques-a Structured and Sequential Construct&quot;</td>
<td>College of Agriculture and Natural Resources, Central Bicol State University of Agriculture, Philippines</td>
</tr>
<tr>
<td>14.55-15.00</td>
<td>SAT-11</td>
<td>SDME-79</td>
<td>&quot;Customized Research Management Techniques-a Structured and Sequential Construct&quot;</td>
<td>College of Agriculture and Natural Resources, Central Bicol State University of Agriculture, Philippines</td>
</tr>
<tr>
<td>15.00-15.05</td>
<td>SAT-12</td>
<td>SDME-80</td>
<td>&quot;Customized Research Management Techniques-a Structured and Sequential Construct&quot;</td>
<td>College of Agriculture and Natural Resources, Central Bicol State University of Agriculture, Philippines</td>
</tr>
<tr>
<td>15.05-15.10</td>
<td>SAT-13</td>
<td>SDME-82</td>
<td>&quot;Customized Research Management Techniques-a Structured and Sequential Construct&quot;</td>
<td>College of Agriculture and Natural Resources, Central Bicol State University of Agriculture, Philippines</td>
</tr>
<tr>
<td>15.10-15.15</td>
<td>SAT-14</td>
<td>SDME-83</td>
<td>&quot;Customized Research Management Techniques-a Structured and Sequential Construct&quot;</td>
<td>College of Agriculture and Natural Resources, Central Bicol State University of Agriculture, Philippines</td>
</tr>
<tr>
<td>15.15-15.20</td>
<td>SAT-15</td>
<td>SDME-84</td>
<td>&quot;Customized Research Management Techniques-a Structured and Sequential Construct&quot;</td>
<td>College of Agriculture and Natural Resources, Central Bicol State University of Agriculture, Philippines</td>
</tr>
<tr>
<td>15.20-15.35</td>
<td>SAT-16</td>
<td>SDME-85</td>
<td>&quot;Customized Research Management Techniques-a Structured and Sequential Construct&quot;</td>
<td>College of Agriculture and Natural Resources, Central Bicol State University of Agriculture, Philippines</td>
</tr>
<tr>
<td>15.35-15.40</td>
<td>SAT-17</td>
<td>SDME-86</td>
<td>&quot;Customized Research Management Techniques-a Structured and Sequential Construct&quot;</td>
<td>College of Agriculture and Natural Resources, Central Bicol State University of Agriculture, Philippines</td>
</tr>
<tr>
<td>15.40-15.45</td>
<td>SAT-18</td>
<td>SDME-92</td>
<td>&quot;Customized Research Management Techniques-a Structured and Sequential Construct&quot;</td>
<td>College of Agriculture and Natural Resources, Central Bicol State University of Agriculture, Philippines</td>
</tr>
<tr>
<td>Time</td>
<td>Session</td>
<td>Venue</td>
<td>Person in charge</td>
<td>Presentation Title</td>
</tr>
<tr>
<td>----------</td>
<td>---------</td>
<td>-------</td>
<td>------------------</td>
<td>-----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>16.00-16.05</td>
<td>SAT-19</td>
<td>SDME-94</td>
<td>AE-10</td>
<td>IPD-22</td>
</tr>
<tr>
<td>16.05-16.10</td>
<td>SAT-20</td>
<td>SDME-95</td>
<td>AE-12</td>
<td>IPD-23</td>
</tr>
<tr>
<td>16.10-16.15</td>
<td>SAT-21</td>
<td>SDME-97</td>
<td>AE-13</td>
<td>IPD-25</td>
</tr>
<tr>
<td>16.15-16.20</td>
<td>SAT-22</td>
<td>SDME-98</td>
<td>AE-14</td>
<td>IPD-26</td>
</tr>
<tr>
<td>16.25-16.30</td>
<td>SAT-25</td>
<td>SDME-100</td>
<td>AE-16</td>
<td>IPD-29</td>
</tr>
<tr>
<td>16.30-16.45</td>
<td>Coffee Break</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16.45-18.00</td>
<td>Breakout Session 2</td>
<td>Venue: Acapella Suites Hotel, MALAYSIA. Person in charge: Assoc. Prof. SITI NORASHAH, Uitm-MALAYSIA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Room 1</td>
<td>SERAYA ROOM A</td>
<td></td>
<td>Session Chair: Dr. AIDA AZMI, Universiti Teknologi MARA-MALAYSIA</td>
<td></td>
</tr>
<tr>
<td>Room 2</td>
<td>SERAYA ROOM B</td>
<td></td>
<td>Session Chair: Prof. Ardi. ANDALAS University-Indonesia</td>
<td></td>
</tr>
<tr>
<td>Room 3</td>
<td>SERAYA ROOM C</td>
<td></td>
<td>Session Chair: Gigi B. Calica, Ph.D., Philippine Center for Postharvest Development and Mechanization, Philippines</td>
<td></td>
</tr>
<tr>
<td>Room 4</td>
<td>MERANTI ROOM A</td>
<td></td>
<td>Session Chair: Kesuma Sayuti, Faculty of Agricultural Technology, Andalas University, Indonesia</td>
<td></td>
</tr>
<tr>
<td>Room 5</td>
<td>MERANTI ROOM B</td>
<td></td>
<td>Session Chair: Assoc. Prof. Dr. Nazlinna Abdullah, Uitm Malaysia</td>
<td></td>
</tr>
<tr>
<td>Room 6</td>
<td>ORCHID ROOM, First Floor</td>
<td></td>
<td>Networking Discussion</td>
<td></td>
</tr>
<tr>
<td>16.45-16.55</td>
<td>Parallel Session</td>
<td></td>
<td>Usman Pato, Y. S. Johan dan R. D. Hasibuan, Faculty of Agriculture Riau University, INDONESIA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Usman Pato, Y. S. Johan dan R. D. Hasibuan, Faculty of Agriculture Riau University, INDONESIA</td>
<td></td>
<td>Antibiotic and Antimicrobial Activity of Lactobacillus Casei Subsp. Casei R-68 Against Foodborne Pathogens</td>
<td></td>
</tr>
<tr>
<td>16.55-17.00</td>
<td>FST-02</td>
<td>SDME-01</td>
<td>SDME-35</td>
<td>FST-15</td>
</tr>
</tbody>
</table>

**SAFEB 2017 PROGRAM**
<table>
<thead>
<tr>
<th>Time</th>
<th>Session 1</th>
<th>Session 2</th>
<th>Session 3</th>
<th>Session 4</th>
<th>Session 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>17.00-17.05</td>
<td>FST-04</td>
<td>SDME-02</td>
<td>SDME-36</td>
<td>FST-16</td>
<td>IPD-31</td>
</tr>
<tr>
<td>17.05-17.10</td>
<td>FST-05</td>
<td>SDME-03</td>
<td>SDME-38</td>
<td>FST-17</td>
<td>IPD-33</td>
</tr>
<tr>
<td>17.10-17.15</td>
<td>FST-06</td>
<td>SDME-04</td>
<td>SDME-39</td>
<td>FST-18</td>
<td>IPD-34</td>
</tr>
<tr>
<td>17.15-17.20</td>
<td>FST-07</td>
<td>SDME-05</td>
<td>SDME-40</td>
<td>FST-19</td>
<td>IPD-35</td>
</tr>
<tr>
<td>17.20-17.25</td>
<td>FST-08</td>
<td>SDME-06</td>
<td>SDME-41</td>
<td>FST-20</td>
<td>IPD-36</td>
</tr>
<tr>
<td>17.25-17.30</td>
<td>FST-09</td>
<td>SDME-07</td>
<td>SDME-42</td>
<td>FST-21</td>
<td>IPD-37</td>
</tr>
<tr>
<td>17.30-17.35</td>
<td>FST-10</td>
<td>SDME-08</td>
<td>SDME-43</td>
<td>FST-22</td>
<td>IPD-38</td>
</tr>
<tr>
<td>17.35-17.40</td>
<td>FST-11</td>
<td>SDME-09</td>
<td>SDME-44</td>
<td>FST-23</td>
<td>IPD-39</td>
</tr>
<tr>
<td>17.40-17.45</td>
<td>FST-12</td>
<td>SDME-10</td>
<td>SDME-45</td>
<td>FST-24</td>
<td>IPD-40</td>
</tr>
<tr>
<td>17.45-17.50</td>
<td>FST-13</td>
<td>SDME-11</td>
<td>SDME-46</td>
<td>FST-25</td>
<td>IPD-41</td>
</tr>
<tr>
<td>17.55-18.00</td>
<td>FST-14</td>
<td>SDME-12</td>
<td>SDME-47</td>
<td>FST-26</td>
<td>IPD-42</td>
</tr>
<tr>
<td>18.00-18.05</td>
<td>FST-15</td>
<td>SDME-13</td>
<td>SDME-48</td>
<td>FST-27</td>
<td>IPD-43</td>
</tr>
<tr>
<td>18.05-18.10</td>
<td>SAT-50</td>
<td>SDME-14</td>
<td>SDME-49</td>
<td>FST-28</td>
<td>IPD-44</td>
</tr>
<tr>
<td>18.10-18.15</td>
<td>SAT-51</td>
<td>SDME-15</td>
<td>SDME-50</td>
<td>FST-29</td>
<td>IPD-45</td>
</tr>
<tr>
<td>18.15-18.20</td>
<td>SAT-52</td>
<td>SDME-16</td>
<td>SDME-51</td>
<td>FST-30</td>
<td>IPD-46</td>
</tr>
<tr>
<td>18.20-18.25</td>
<td>SAT-53</td>
<td>SDME-17</td>
<td>SDME-52</td>
<td>FST-31</td>
<td>IPD-47</td>
</tr>
<tr>
<td>18.25-18.30</td>
<td>SAT-54</td>
<td>SDME-18</td>
<td>SDME-53</td>
<td>FST-32</td>
<td>IPD-48</td>
</tr>
<tr>
<td>18.30-18.35</td>
<td>SAT-55</td>
<td>SDME-19</td>
<td>SDME-54</td>
<td>FST-33</td>
<td>IPD-49</td>
</tr>
<tr>
<td>18.35-18.40</td>
<td>SAT-60</td>
<td>SDME-20</td>
<td>SDME-55</td>
<td>FST-34</td>
<td>IPD-50</td>
</tr>
<tr>
<td>18.40-18.45</td>
<td>SAT-61</td>
<td>SDME-21</td>
<td>SDME-56</td>
<td>FST-35</td>
<td>IPD-51</td>
</tr>
<tr>
<td>18.45-18.50</td>
<td>SAT-62</td>
<td>SDME-22</td>
<td>SDME-57</td>
<td>FST-36</td>
<td>IPD-52</td>
</tr>
<tr>
<td>18.50-18.55</td>
<td>SAT-63</td>
<td>SDME-23</td>
<td>SDME-58</td>
<td>FST-37</td>
<td>IPD-53</td>
</tr>
<tr>
<td>18.55-17.00</td>
<td>SDME-68</td>
<td>SDME-24</td>
<td>SDME-59</td>
<td>FST-38</td>
<td>IPD-54</td>
</tr>
</tbody>
</table>

**19.00 – 19.15**

**CLOSING CEREMONY**

Venue: SERAYA Ball Room, Acapella Suites Hotel

**Key points/highlight from the Conference**

Assoc. Prof. Dr. Nurul Huda, SAFE-Network Resident Coordinator (MALAYSIA), UniSZA Trengganu. MALAYSIA

Dr. Irwati Chaniago, Andalas University INDONESIA (Secretary of SAFE-Network)

Closing Message: Prof. Dr. Hj. Khudzir Bin Hj. Ismail, Dean of Faculty of Applied Science, UiTM [Chairman SAFE2017 Conference]

**20.00 – 22.00**

**Farewell Dinner at TUPAI-TUPAI RESTAURANT, SHAH ALAM**

**DAY 3: THURSDAY, August 24, 2017 | DEPARTURE OF PARTICIPANTS**
[1] SUSTAINABLE DEVELOPMENT, MANAGEMENT AND EMPOWERMENT (SDME)

SDME-01
Rustama Saepudin *, Teguh Adiprasetyo **
*) Animal Husbandry Study Program, Faculty of Agriculture, University of Bengkulu, Bengkulu, Indonesia. E-mail: rustamas@yahoo.com
**) Agro-ecotechnology Study Program, Faculty of Agriculture, University of Bengkulu, Bengkulu, Indonesia. E-mail: teghad@yahoo.com
Developing Integrated Ecotechnology of Honey Bee Cultivation and Smallholder Rubber Plantation for Improving Farm Productivity and Sustainability

Cholina Trisa Siregar, Siti Zahara Nasution, Suro Haris
Faculty of Nursing, University of Sumatera Utara. Corresponding e-mail: zahara.nasution@yahoo.co.id
DIET PATTERN DIABETES MELLITUS PATIENTS IN THE PUSONG VILLAGE, LHKOSEUMAVE CITY, INDONESIA

SDME-02
Indra Cahyadinata*, Irnad**, Teguh Adiprasetyo¥, Fina Sulistyia Ningisih**
*) Department of Agriculture Business, University of Bengkulu, Jl. WR Supratman, Bengkulu, 38371, Indonesia
**) Department of Agribusiness, University of Bengkulu, Jl. WR Supratman, Bengkulu, 38371, Indonesia
E-mail: cahyadinata@unib.ac.id; E-mail: irnadar@unib.ac.id; E-mail: finsulis@gmail.com
Fisherman Food Security Study In Bengkulu City, Indonesia: Structural Equation Modeling Approach

Relationship Among Awareness of Climate Change, Government Policy, Social Capital, Job Satisfaction and Loyalty of Fisher in The Bengkulu Province: A Structural Equation Model

SDME-03
*Tatik Suteky and Dwatmadji
#Department of Animal Science, University of Bengkulu, Bengkulu 38371, Indonesia.
E-mail: tatiksolveky2008@yahoo.com; dwatmadji2008@yahoo.com
Effect of Medicated Block Licks Containing Melastoma malabathricum Extract on Growing Kacang Goat Infected Experimentally with Haemonchus contortus

SDME-04
Siegit Sudjatmiko*, Mohammad Chozin†, Nanik Setyowati†, and Fahrrozi Fahrrozi†, Zainal Mukhtar‡
*) Agronomy Department, University of Bengkulu, Bengkulu 38121, Indonesia
E-mail: ssudjatmiko@unib.ac.id; chozin@unib.ac.id; setyowati@unib.ac.id; fahrrozi@unib.ac.id
†Soil Science Department, University of Bengkulu, Bengkulu 38121, Indonesia
E-mail: smukhtar@unib.ac.id
Morphological Characteristics of Sweet Corn Inbred Lines Developed under Organic Environment

SDME-05
Damiriz Uker, Meizul Zuldi, Yusril Dany
Industrial Technology of Agriculture, University of Bengkulu, Jl. WR Supratman, Kandang Limun,Bengkulu, 38371, Indonesia. Email: d.uker@yahoo.com
Decision Making for Implementing Technology of The System of Rice Intensification (SRI) by Rice Paddy Farmers Size

SDME-06
SAFE2017 – Book of Program
SDME-07

Relationship Among Awareness of Climate Change, Government Policy, Social Capital, Job Satisfaction and Loyalty of Fisher in The Bengkulu Province: A Structural Equation Model

Irnad*, Septri Widiono*, Indra Cahyadinata**

* Department of Agribusiness, University of Bengkulu, Jl. WR. Supratman, Bengkulu, 38371, Indonesia
  ** E-mail: irnadardenis@yahoo.co.id
  ** E-mail: septriwidiono@unib.ac.id

Abstract— Nowadays Bengkulu fishers face strong challenges mainly from climate change in which influences their livelihood. On the other side, there is government policy and social capital that could help and protected them in pursuing of better live. The aim of this study was to test a cause and effect model of factors affecting job satisfaction and loyalty of fisher in The Bengkulu Province. A structural Equation Model was proposed in which relationship among Awareness of climate change, Government policy, Social Capital, job Satisfaction and Loyalty of Fisher in Bengkulu were explored. The research sample consists of 350 fishers whom live in seven central fishing locations along coast in Bengkulu. The data were collected from March to April 2017 using a questionnaire that captures factors associated to job satisfaction and loyalty of fisher. The result revealed that awareness of climate change has direct and negative relationship with job satisfaction whereas Government policy and social capital have direct and positive effect on job satisfaction. On the other hand, Awareness of climate change has direct and negative effect of fisher loyalty while social capital has direct and positive on fisher loyalty. Meanwhile, job satisfaction has direct and positive relationship on fisher loyalty. Lastly, research also so that government policy has indirect effect on fisher loyalty.

Keywords— Awareness of climate change, Government policy, Social Capital, job Satisfaction and Loyalty of Fisher

SDME-08

"The Expression of Zinc (Zn) and Iron (Fe) for Increase IL-10 and IL-12 on Elementary Students after Infected Malaria Deases Who Lived in Endemics Area"

Laksmyn Kadir1)

1) Lecturer Department of Public Health Faculty of Sport and Health of State University of Gorontalo
  Email: asi_1403@ung.ac.id

Abstract— Over the past decade there has often been a shortage of Zn and Fe simultaneously. In cell culture, Zn and Fe are micronutrient substances that are useful because they can increase the immune response so that the number of malaria parasite cultures decreased or negative. The presence of Zn and Fe as micronutrients in the body is influenced by nutritional status. A child can be said has a good nutritional status if the micronutrient elements in the body are fulfilled. This study aims to analyze the expression of IL-10 and IL-12 children suffering malaria by providing zinc and Fe supplementation in elementary school children in malaria endemic area. This study is an experimental study by giving treatment to the research subjects. The treatments are divided into 4 groups, there are the treatment group with @ 20 mg / day Zinc (Zn), Fe @ 20 mg / day, Zn and Fe @ 20 mg / day simultaneously and the controlling group (placebo). The dose that given in this study was 20 mg. The design of this study is Randomized Controlled Trial Pre-Post Test Design. By giving Double Blind treatment. Data analysis was statistically analyzed by using one way ANOVA analysis with 5% reliance level (α = 0.05). The results of this research shows that obviously the levels of IL-12 is increased after the treatment of supplementation of Fe and Zn, while IL-10 is decreased. The approach that can describe that situation is that the presence of seasonal malaria, low transmittability, low percentage of API and the Zn levels which is up to normal in the 9-12 years-old children cause the increasing of protective IL-12 levels so that IL-10 is no longer needed for Re-stabilizing the levels of IL-12, so that the levels of IL-10 in this study is decreased.

Keywords— Zn and Fe, IL-10, IL-12, malaria