AGRICULTURAL FORUM IPIMA 2017

Sustainable Agriculture Transformation for
The Nation’s Welfare of Indonesia and Malaysia

Bangunan Pejabat TNCPI Universiti Putra Malaysia
Serdang, Selangor - Malaysia, 6-8 November 2017
FOREWORD OF EDITOR IN CHIEF FOR PROCEEDING OF AGRICULTURAL FORUM IPIMA 2017 MALAYSIA

We would like to express our sincere gratitude to God Almighty for making it possible for us to complete and publish this IPIMA (Association of Indonesia-Malaysia Professors) proceeding.

The proceeding cover the results of IPIMA Conference, held in Kuala Lumpur, Malaysia on 6 – 9 November 2017. The Conference raised the theme of "Sustainable Agriculture Transformation for the Nation's Welfare of Indonesia and Malaysia".

The Conference are the second meeting of Professors from Indonesia and Malaysia, who are members of the Association of Indonesia-Malaysia Professors (IPIMA). Papers in this proceeding are divided into four groups, i.e. (1) Food and Agriculture, (2) Forestry and Environment, (3) Health, Animals and Fisheries, and (4) Economic and Policy.

We thank all the authors, reviewers, and editors who have contributed to the timely completion of this proceeding. We also thank the organizing committee of the IPIMA Conference for all of their supports, which enable the completion of this proceeding.

Prof. Dr. E.K.S.Harini Muntasib
Editor in chief
Agricultural Forum IPIMA 2017
FOREWORD OF CHAIRMAN OF STEERING COMMITTEE FOR AGRICULTURAL FORUM IPIMA 2017 MALAYSIA

It is with deep satisfaction that I write this foreword to the Proceedings of the conference and round table discussion Ikatan Profesor Indonesia – Malaysia (IPIMA) – Agricultural Cluster 2017 held in Bangunan Pejabat TNCPI Universiti Putra Malaysia, Serdang Selangor Malaysia, November 6-8, 2017.

The conference and round table discussion developed a new fruitful collaboration activities among Indonesian and Malaysian Professors in the field of research, academics and professional activities in the field of agriculture and related fields. The conference theme, “Sustainable Agricultural Transformation for The Nation's Welfare of Indonesia and Malaysia”. There were 60 and 18 papers were presented orally and poster, respectively. The papers in this proceedings were presented and selected by an editor team led by Prof. E.K.S Harini Muntasib.

The conference particularly encouraged the interaction of professors and lecturers, students, and professionals in an informal setting to present and to discuss new and current work. Their contributions helped to make the conference as outstanding as it has been. The 50 papers in this proceedings contributed significantly the most recent scientific knowledge known in the field of food and agriculture, forestry and environment, health, veterinary, medicine and fisheries, economy and policy.

This Proceedings will furnish the scientists between two countries (Indonesia and Malaysia) with an excellent reference book. I trust also that this will be an impetus to stimulate further excellent collaboration of study and research activities in the area of agriculture and related fields.

We thank Asosiasi Profesor Indonesia (API), Majelis Professor Negara - Malaysia (MPN), Bogor Agricultural University, Universiti Putra Malaysia, all authors, editors, steering committees, organizing committees, and participants for their excellent and remarkable contributions.

Prof. Dr. Muh. Yusram Massijaya
Chairman of Steering Committee
Agricultural Forum IPIMA 2017
FOREWORD OF CHAIRMAN FOR AGRICULTURAL FORUM IPIMA 2017
MALAYSIA

Alhamdulillah, thank you to Allah S.W.T. because with His bounty, the Proceedings of IPIMA 2017 Agricultural Forum can be published.

First of all, I would like to congratulate the Committee on Scientific and Agricultural Forum Publishing the Proceedings of Agricultural Forum IPIMA 2017, Indonesia which has taken the initiative to collect, edit and publish papers presented at Agricultural Forum IPIMA 2017 Agricultural Forum in the form of proceedings.

A very encouraging response, especially among Indonesian scientific papers of publishers to publish their present papers in this Proceedings thus reflecting on the integrity and intellect of your own. I believe that with the spirit and commitment found on all parties involved in the publication of this Proceedings, the agricultural sector will continue to develop and develop into one of the major contributors to Indonesia's and Malaysia's economic growth.

The papers published in this Proceedings will certainly be an important reference for policy makers, practitioners in the agricultural industry, academicians, researchers and students of higher learning institutions if related to the field of knowledge to seek. In fact, the knowledge gained from rigorous research will make it easier for the individual's daily tasks or for anybody who needs certain information and avoid repitition or redundancy.

The publication of such proceedings, if done in series, is also one of the strategies for sharing knowledge and information for Malaysians and Indonesians as recommended in Malaysia-Indonesia bilateral discussions at the Agricultural Forum IPIMA 2017.

As a conclusion, I would like to once again congratulate all those involved in the successful publication of the Proceedings of Agricultural Forum IPIMA 2017.

Prof. Dr. Ghizan Saleh
Joint Chairman
Agricultural Forum IPIMA 2017.