International Journal of Agriculture System has been indexed by:













# International Journal of Agriculture System

Published by:

#### **HASANUDDIN UNIVERSITY**

Makassar, South Sulawesi, Indonesia. ©2015

International Journal of Agriculture System (IJAS) is published by Hasanuddin University (UNHAS) twice a year in June and December. This journal is an international, academic, citation indexed and blind peer reviewed which covers original research articles, short notes and communications, reviews (including book), concepts, commentaries, and letters on a diverse topic related to agricultural systems including forestry, fishery/marine and animal sciences.

The aim of this journal is to provide a venue for academicians, researchers and practitioners to share/discuss theories, views, research results, on issues related to the science, engineering and technology, and humanities in agriculture development, management and issues in agricultural systems particularly in the tropics. However, any other articles related to non-tropical agricultural systems are also welcome.

ISSN: 2337-9782

# International Journal of Agriculture System

### International Journal of Agriculture System

Hasanuddin University, Makassar, 90245, South Sulawesi, Indonesia

Tel/Fax: +62-411585868 E-mail: ijas@unhas.ac.id Website: http://pasca.unhas.ac.id/ojs/index.php/ijas

ISSN: 2337-9782

EDITOR IN CHIEF

M. Saleh S. Ali

ASSOCIATE EDITOR **Muhammad Arsyad** 

EDITORIAL BOARD MEMBERS

Jamaluddin Jompa

Marine Science and Fisheries, Hasanuddin University, Makassar, Indonesia

**Gene Ammarell** 

Maritime Anthropology and Political Ecology, Ohio University, Athens, Ohio, USA

Salenake

Agricultural/Food Technology, Hasanuddin University, Makassar, Indonesia

Zaidon Ashaari

Forestry and Wood Products, Universiti Putra Malaysia, Serdang, Malaysia

**Baharuddin** 

Plant Protection and Phytopatology, Hasanuddin University, Makassar, Indonesia

Yoshio Kawamura

Agricultural/Rural Development Studies, Ryukoku University, Kyoto, Japan

Rinaldi Sjahril

Agronomy and Biotechnology, Hasanuddin University, Makassar, Indonesia

Jiban Shrestha

Plant Breeding and Genetics, Nepal Agricultural Research Council, National Maize Research Programme, Rampur, Chitwan, Nepal

Amzul Rifin

Agricultural and Resource Economics, Bogor Agricultural University (IPB), Indonesia

Wickneswari Ratnam

Plant Genetics and Biotechnology, Universiti Kebangsaan Malaysia, Bangi, Malaysia

Sumbangan Baja

Geographical Information Systems, Hasanuddin University, Makassar, Indonesia

Saliya De Silva

Agricultural Extension, University of Peradeniya, Srilanka Herry Sonjaya

Animal Husbandry, Hasanuddin University, Makassar, Indonesia

Abdel Rahman Mohammad Said Al-Tawaha

Plant Science and Crop Eco-physiology, Al Hussein Bin Talal University, Jordan

**Musrizal Muin** 

Wood Deterioration Control, Hasanuddin University, Makassar, Indonesia

Masashi Tachikawa

Sociology of Agriculture and Food Science/ Technology, Ibaraki University, Japan

Sayed M. Zain Hasan

Agro-technology and Food Science, University Malaysia Terengganu, Malaysia

Ambo Ala

Plant Ecology, Hasanuddin University, Makassar, Indonesia

Nazalan Najimuddin

Molecular Biology and Genetics, Universiti Sains Malaysia, Malaysia

Lutaarda Tolentino

Knowledge and Action Research, World Fish, SEARCA, University of the Philippines Los Banos, College, Laguna, Philippines

Andi Nasruddin

Plant Protection, Hasanuddin University, Makassar, Indonesia

**Rusdian Lubis** 

Operational Policy on Environment, Asian Development Bank, Manila, Philipinnes

Darmawan Salman

Agricultural/Rural Institutional, Hasanuddin University, Makassar, Indonesia

Piayadasa Ratnayake

Agricultural Economics and International Trade, Saga University, Japan

ASSISTANT EDITOR

Ahsan Yunus

INFORMATION TECHNOLOGY

Jibril Nurdin

#### TABLE OF CONTENTS

International Journal of Agriculture System Volume 3 Issue 1, June 2015

Tel/Fax: +62-411585868 E-mail: ijas@unhas.ac.id Website: http://pasca.unhas.ac.id/ojs/index.php/ijas

The Impact of Wetland Degradation and Conversion on Socioeconomic Values: The Case of Amhara National Regional State Tekuma Wetland Lake Tana Sub-Basin, Ethiopia	
Yohannes Afework Kassa; Temesgen Tilahun Teshome	1-14
Market Integration Analysis of Indonesian Natural Rubber in the World Market	
Happy Dewi Purnomowati; Dwidjono Hadi Darwanto; Sri Widodo; Slamet Hartono	15-27
Strengthening Institutional Model of Women-Farmers Group in Developing Household Food Diversification	
Rahmadanih; Sitti Bulkis; Andi Amrullah; Rusli M. Rukka; Muhammad Arsyad	29-40
Enhancing People's Capabilities and Entitlements in Asia: The Experience of an Export Production Village Project in Sri Lanka Piyadasa Ratnayake	41-57
The Effect of Fusaric Acid Application on the Lignin and Suberin Formation as Resistance Indicator on Tomato Abdul Azis Ambar; Amiruddin Syam; Henny Setyawati; Nur Ilmi	59-64
The Behavior of Fishpond Farmers with Silvofishery Insight and its Effects on Biodiversity of Macrozoobenthos in Mangrove Ecosystem of Coastal Area	
Budiman Yunus; Gufran D. Dirawan; Amran Saru	65-77
Performances of the Cocoa Farming Models in Cocoa Bean Supply Chain: A Case Study of Gapoktan Resopammase in South Sulawesi Indonesia	
Yulismulianti Yasin; Mursalim; Muh. Ruslan Yunus; Yansor Djaya	79-90
Multi-Actors Collaboration in Ecolabelling Community Teak Forest Management in Southeast Sulawesi Province, Indonesia M. Saleh S. Ali; Anas Nikoyan; Darmawan Salman;	
Eymal B. Demmalino; Idris Summase	91-102
Addressing Small Scale Fisheries Management through Participatory Action Research (PAR), an Experience from the Philippines Lutgarda L. Tolentino; Lily Ann D. Lando; Len R. Garces;	
Maripaz L. Perez; Claudia B. Binondo; Jane Marina Apgar	103-120
Author Guidelines	