“Promoting Sustainable Agriculture in the Tropics through Higher Education Network between Indonesia – Japan”
LAPORAN KEGIATAN
SIMPOSium INTERNasional SUIJI 2014

“Mempromosikan Pertanian Berkelanjutan di Daerah Tropis melalui Kerja Sama Perguruan Tinggi Antara Indonesia - Japan”

Gedung IPTEKS, Universitas Hasanuddin
Makassar - Indonesia
13 – 15 September 2014
Foreword

Bismillahirrahmanirrahim, in the name of God, Most Gracious, and Most Merciful

Assalamu’alaikum warrahmatullahi wabarakatuh.

First of all, let us be grateful and praise God for His Blessings in supporting to the convening of the 4th SUIJI International Symposium 2014 which fully attended by the President of Ehime University, President of Kochi University, President of Kagawa University, Rector of Bogor Agricultural University, Rector of Gajahmada University, and Rector of Hasanuddin University, SUIJI Coordinators, and participants.

This Symposium is expected to look at the urgency of promoting Sustainable Agriculture in the Tropics through Higher Education between Indonesia and Japan. We hope through this mutual cooperation, we are able to organize collaborative researches in the form of Joint Degree Program which are beneficial to both sides.

Furthermore, we would like also to inform the participants that we are willing to step ahead of no longer selling raw materials, but we process the raw materials first before selling. In our term, it is called as reaping-processing-selling. To maximize the quality of processing the raw material, we need transfer of technology through the collaborative researches activities hand in hand among universities in Indonesia with universities in Japan.

We are in the transition from resource-based economy to knowledge-based economy. Needless to say, Indonesia would learn from the Japanese experience in its strive to be a leading country in industry. It is no doubt that in the transition period, Indonesia will have to strengthen its work ethos to enable Indonesia to be researcher and contributor in various fields of sciences.
In geographical context, Japanese Archipelago and Indonesian Archipelago are located in the circum Pacific Belt as a ring of fire. We are threatening by various disasters, such as earthquake, volcano eruption, landslide, tsunami, etc. We are aware that Japanese has much experience on how to adapt with those disasters and develops technologies on how to mitigate and to reduce the losses. We need to learn more from Japanese way to face the disasters.

To conclude this foreword, I have a hope that this kind of annual SUIJI forum for the Rectors of Indonesian Universities and Presidents of Universities in Japan can be conducted sustainably to explore various academic themes related to recent problems we are facing and paces in science and technology. We wish us to meet you all again in Kagawa University next year in promoting harmonious human-sphere between Japan and Indonesia.

Wassalamu’alaikum warrahmatullahi wabarakatuh.

Makassar, September 13th-15th, 2014
Organizing committee,

Prof. Dr. Dadang A. Suriyamihardja, M.Eng
Chairman
# CONTENTS

<table>
<thead>
<tr>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreword</td>
<td>3</td>
</tr>
<tr>
<td>Contents</td>
<td>5</td>
</tr>
<tr>
<td>Introduction</td>
<td>7</td>
</tr>
<tr>
<td>Symposium Purpose</td>
<td>8</td>
</tr>
<tr>
<td>Symposium Theme</td>
<td>8</td>
</tr>
<tr>
<td>Papers and Speakers</td>
<td>8</td>
</tr>
<tr>
<td>Implementation Schedule symposium</td>
<td>9</td>
</tr>
<tr>
<td>Participants</td>
<td>9</td>
</tr>
<tr>
<td>Organizing Committee</td>
<td>11</td>
</tr>
<tr>
<td>Suiji Seminar Agenda</td>
<td>14</td>
</tr>
<tr>
<td>Memorandum of Agreement for the SUIJI Joint Degree Doctor Program (SUIJI-JDP-Dc)</td>
<td>19</td>
</tr>
<tr>
<td>Guideline for united graduate school of agricultural sciences, Ehime University</td>
<td>26</td>
</tr>
<tr>
<td>SUIJI Joint Degree Doctor Program (SUIJI-JDP-Dc)</td>
<td></td>
</tr>
<tr>
<td>Schedule for SUIJI-JDP-Ms participant selection for the academic year 2015</td>
<td>41</td>
</tr>
<tr>
<td>2nd Six Universities SUIJI Promotion Office Meeting for the Year 2014</td>
<td>43</td>
</tr>
</tbody>
</table>

## SUIJI Seminar

**Symposium: “Toward New Research Initiatives: Working with Communities through**

Post Graduate Join Degree Program for Collaborative Research .................. 45

Hiroshige Nishina (Dean Faculty of Agriculture, Ehime University) ......... 46

Dahrul Syah (Dean of Post Graduate, Agricultural Institute of Bogor) .... 49

Suryani As’ad (Assistant Directure PPs, Hasanuddin University) ............ 52

Ikuo Kataoka (Dean Faculty of Agriculture, Kagawa University) ............. 56

Sri Raharjo (Deputy for Research in Institute of Research and Community Service, Gadjah Mada University) .................. 60

Katsutosi Sakurai (Director of General Administration and International, Kochi University) .......................... 64

## Researcher Forum

Poster Sesion (Lobby)........................................................................... 65
Rector Forum

University Presentation

Discussion on strategy of partnership between the university and the local community, placement of SUIJI .......................................................... 101

Yasunobu Yanagisawa (President, Ehime University) ...................................... 102
Hiroshi Wakiguchi (President, Kochi University) ........................................ 104
Pratikno (Rector, Gadjah Mada University) .............................................. 108
Herry Suhardiyanto (Rector, Agricultural Institute of Bogor) ......................... 109
Seigo Nagao (President, Kagawa University) .............................................. 110
Dwia Aries Tina Pulubuhu (Rector, Hasanuddin University) ......................... 113

Student Forum

University Presentations:

Chisato Oue Naoko Ban, Ayane Nakado Airi Kikugawa (Ehime University)
.................................................................................................................. 116
Imran Marjuni, Maryati, Andi Masoeang Abdillah (Hasanuddin University)
.................................................................................................................. 119
Masahiko Suzuki, Yuya Matsumae (Kagawa University)
Resti Diah Utami (Gadjah Mada University)
Chisa Futa (Kochi University)

Closing Remarks .......................................................................................... 122

Appendix 1. Memorandum of Agreement for the SUIJI Joint Degree Program ...... 123
Appendix 2. Documentation of Activities .......................................................... 129
Appendix 3. The Attendance List ..................................................................... 140
Appendix 4. Letter of agreement ..................................................................... 161
INTRODUCTION

Japan and Indonesia have a lot of differences in such things as physical environments, seasons, the mastery of science and technology, culture, language, way of life, economic level, health and life expectancy. However, the two countries also have some similarities such as: archipelagic islands, vast areas of the oceans, many have active volcanoes active plates meeting each other and could potentially generate earthquakes and tsunamis. The existence of differences and similarities in the two countries became the main capital to establish good bilateral relations and harmonious with the basic principle of mutual benefit.

SUIJI (Six University Initiative Japan Indonesia) is a joint educational consortium of six universities of Japan and Indonesia with a focus on cooperation in Sustainable Tropical Agriculture. SUIJI Consortium was founded in 2010 by Ehime, Kagawa and Kochi University of Japan, while the three universities of Indonesia is the Bogor Institute of Agriculture, Gadjah Mada University and the University of Hasanuddin. Cooperation has been done since 2011 is Service Learning Program (SLP) or Japanese-Indonesian International KKN for undergraduate students (S1) and the Join-Master Course Degree Program (JDP-Mc) for graduate students (S2). As for the implementation of the Joint Degree Program-Doctoral Course (JDP-Dc) for graduate students (S3) planning began to be discussed at a symposium in 2014 and conducted in 2015.

This cooperation plan will be studied more in depth again on activities 4th International Symposium 2014 SUIJI, which Hasanuddin University as the host organizers and Hasanuddin University Rector as President of the consortium.
SYMPOSIUM PURPOSE

1. Formulating strategic steps towards collaboration in research through collaboration with local people and researchers who are members of SUIJI-JDP for graduate students, both masters level and doctoral level, which will have an impact on the needs of the local community.

2. Studying and discussing the various studies that have been and will be conducted by researchers from each university related to the theme of the symposium.

3. Reviewing comprehensively identify and study the factors that affect the success and effectiveness of the KKN program synergies and SLP Indonesia Japan: both at the level college SUIJI members, at the level of rural residents of Japan and Indonesia recipient student KKN program / SLP, as well as at the level of the student, the main target of the program.

SYMPOSIUM THEME

Promoting Sustainable Agriculture in the Tropics through Higher Education Network between Indonesia – Japan.

PAPER MATERIALS AND SPEAKER

The symposium consists of three sessions the main event with different speakers at each session, namely:

1. Symposium with topic "Toward New Research Initiatives: Working with Communities through Post Graduate Joint Degree Program for Collaborative
Research” will be presented by Rector Unhas, IPB, UGM, Ehime University, Kochi, University and Kagawa University.

2. Researchers Forum with topic “Japan Indonesia collaboration research for development” will be presented by Researchers Unhas, IPB, UGM, Ehime University, Kochi University, Kagawa University and others University.

3. Student Forum with topic “Understanding Other Culture towards New Global Citizen” will be presented by Japan and Indonesian students has participated SUIJI-SLP/KKN International Japan program.

IMPLEMENTATION SCHEDULE SYMPOSIUM

Time & Date : Saturday-Monday, 13-15 September 2014.
Place : IPTEKS Building and Meeting Room/Seminar Hall
Pascasarjana, Hasanuddin University, Makassar, South Sulawesi, Indonesia.

PARTICIPANTS

Symposium was attended by participant from:

1. Rector from three university in Indonesia, namely: Hasanuddin University, Agricultural Institute of Bogor, Gadjah Mada University; and three rectors from university in Japan, namely: Ehime University, Kochi University and Kagawa University.

2. Rector from three university in Indonesia as an observer university, Namely: North Sumatera University, Tanjungpura University and Malikussaleh University. The latter two were not able to attend.
3. Some Lecturers from six universities in Indonesia, namely: Hasanuddin University, Agricultural Institute of Bogor, Gadjah Mada University, North Sumatera University, Tanjungpura University, and Malikussaleh University; and three lecturers from university in Japan, namely: Ehime University, Kochi University, and Kagawa University.

4. Lecturer SUIJI-SLP Japan

5. Collaborator Program SUIJI-SLP Japan


7. The Head Office of Consular Japan in Makassar

8. Japanese Students participants of SUIJI-SLP

9. Japanese Students participants of SULJI-JDP

10. Indonesian Students participants of SUIJI-SLP

11. Indonesian Students participants of SUIJI-JDP

12. Graduate Students of Unhas

13. Mass Media
SUIJI SEMINAR IV
Makassar, 13-15 September 2014

Theme: Promoting Sustainable Agriculture in the Tropics through Higher Education Network between Indonesia – Japan

Proponent : Rector Hasanuddin University

Person in Charge : Vice Rector I

Consultation : Prof. DR. dr. Idrus A. Paturusi
Vice Rector II
Vice Rector III
Vice Rector IV

Steering Committee : Director of Postgraduate School (PPs) Hasanuddin University
Director Assistant I PPs Unhas
Director Assistant II PPs Unhas
Director Assistant III PPs Unhas
Chairman of LPPM
Dean of the Faculty of Agriculture
Dean of the Faculty of Forestry
Dean of the Faculty of Fisheries and Marine
Dean of the Faculty of Farm

Organizing Committee

Chairman : Prof. DR. Dadang A. Suriamihardja M. Eng.
Vice Chairman : Prof. DR. Ir. Mursalim
Secretary I : Dra. Etty Bazergan M. Ed. PhD
Secretary II : DR. Ir. D. Agnes Rampisela MSc.
Treasurer: Drs. Mu'min MSi Ak. (Head of Finance Administration, Unhas)

Secretariat:
1. Prof. DR. Ir. Musrizal Muin
2. Ir. Rinaldi Sjahri, M.Agr., PhD
3. DR. Syahdhar Baba, SPt.
4. Drs. A. Ilham Mahmud, MM.
5. DR. Suharman Hamzah, MT
6. Jumiaty Nurung SP. (staf Pascasarjana)
7. Ida (Staf adm Jurusan Ilmu Tanah)

Program Committee:
1. Dr. Ir. Muh. Danial Rahim
2. Dr. Ir. Muh. Arsyad
3. Dr. Muh. Yusuf (Peternakan)
4. Dr. Ir. Doddy Setyanto (Fak. Perikanan dan Kelautan)
5. Yuni (Pasca)

Symposium Committee:
1. Prof. DR. Ir. Asmuddin Natsir (Fak. Peternakan)
2. Dr. Hasrullah (Unit KKN)
3. Dr. Ir. Burhanuddin Rasyid
4. Dr. Zaenal SP (Unit KKN)
5. Dr. Ir. Novaty Dungga

Accommodations and Equipment Committee:
1. DR. Ir. Doddy Dharmawan
2. DR. Ir. Muchtar Solle MSc (Fakultas Pertanian)
3. DR. Amiruddin MSi.
4. DR. Nurdin Dalya (Fakultas Kehutanan)
5. Jibril, MSi. (Pascasarjana)
6. Morex, SE (Kasubag RT Unhas)
7. KKN International Graduate Students 2013 + Participant 2014
Consumption Committee:

1. Wati (Pasca)
2. Ir. Ratna Maruddin (Mhs. Pascasarjana)
3. Ir. Nurhaya (Mhs. Pascasarjana)
4. Mahasiswa Lulusan KKN International 2013+ peserta 2014
Theme: Promoting Sustainable Agriculture in the Tropics through Higher Education Network between Indonesia – Japan

Constitution: Indonesia – Gadjah Mada University (UGM), Bogor Agricultural University (IPB), Hasanuddin University (UNHAS) Japan – Ehime University, Kagawa University, Kochi University

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<thead>
<tr>
<th>Day/date</th>
<th>Time</th>
<th>Activity</th>
<th>Presenter</th>
<th>Place</th>
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<tbody>
<tr>
<td>Friday, 12 Sep 2014</td>
<td></td>
<td>Pick up participant at the airport</td>
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<td>Airport</td>
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<tr>
<td>Saturday, 13 Sep 2014</td>
<td>07.00</td>
<td>Breakfast and free time</td>
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<td>Hotel</td>
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<td></td>
<td>10.50</td>
<td>Gather in the lobby</td>
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<td>Hotel</td>
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<td></td>
<td>11.00</td>
<td>Depart from hotel for Dean’s Meeting at Hasanuddin University</td>
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<td>Hotel</td>
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<td></td>
<td>11.30 – 13.30</td>
<td>Lunch with Deans's of Agriculture, Marine and Fishery, Forestry, Animal Science</td>
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<td>Post graduate building Unhas, GB Meeting Room</td>
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<td></td>
<td>13.00 – 14.30</td>
<td>Quick Campus Tour (to be confirmed)</td>
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<td>Teaching Industry (Chocolate Factory), Teaching Farm &amp; Lab Facilities</td>
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<td>14.30</td>
<td>Return to hotel</td>
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<td>Location</td>
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<td>15.00 – 16.30</td>
<td><strong>Six Universities SUIJI Promotion Office Meeting</strong></td>
<td>SUIJI coordinator</td>
<td>Clarion Hotel</td>
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<td>16.50</td>
<td><strong>Gather in the lobby</strong></td>
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<tr>
<td>17.00</td>
<td><strong>Depart Hotel for Makassar City Major's Government House</strong></td>
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<td>18.00 – 20.45</td>
<td><strong>Welcome Dinner by Makassar City Major</strong></td>
<td>Makassar city Major</td>
<td>Baruga Aning Mamiri (Shichou no gehinkan)</td>
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<tr>
<td>20.45 – 21.00</td>
<td><strong>Photo session</strong></td>
<td>Abd. Aziz dan Sakti S. Karuru</td>
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<td>21.00 – end</td>
<td><strong>Return to hotel</strong></td>
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<td><strong>Sunday, 14 Sep 2014</strong></td>
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<td>07.00</td>
<td><strong>Gather in the lobby</strong></td>
<td>Hotel</td>
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<tr>
<td>07.30</td>
<td><strong>Depart from hotel to Hasanuddin University</strong></td>
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<tr>
<td>08.00 – 08.30</td>
<td><strong>Registration</strong></td>
<td>Gedung IPTEKS</td>
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<tr>
<td>08.30 – 09.00</td>
<td><strong>Opening Remarks</strong></td>
<td>Rector of Unhas</td>
<td>Gedung IPTEKS</td>
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<td></td>
<td>Makassar City Major</td>
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<td>09.00 – 09.10</td>
<td><strong>Paddupa dance (5-10 minutes)</strong></td>
<td>BK-Fahutan</td>
<td>Gedung IPTEKS</td>
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<tr>
<td>09.10 – 10.45</td>
<td><strong>Symposium “Toward New Research Initiatives: Working with Communities through Post Graduate Join Degree Program for Collaborative Research”</strong></td>
<td>Prof. Asmuddin Natsir (moderator)</td>
<td>Representative of Ehime University (10 minutes presentation) Representative of Bogor Agriculture University (10 minutes presentation) Representative of Hasanuddin University (Direktur PPs)</td>
<td>Gedung IPTEKS</td>
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<tr>
<td>Time</td>
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<td>Speaker/Leader</td>
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<td>10.45 – 11.00</td>
<td>Signing MoA JDP-DC</td>
<td>Dr. Ir. Dorotea Agnes Rampisela, M.Sc</td>
<td>Gedung IPTEKS</td>
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<td>11.00 – 13.00</td>
<td>Scientific Lecturer/Researcher Forum  &lt;br&gt; (Thematic) : Japan-Indonesia collaboration research for development. &lt;br&gt; <strong>Poster Presentation</strong>: Presentation of some collaborative research results or proposals.  &lt;br&gt; <em>(Snack and Coffee/Tea Break will be served)</em></td>
<td>Master of Ceremony (MC)</td>
<td>Gedung IPTEKS</td>
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<tr>
<td>13.00 – 14.00</td>
<td>Lunch Break</td>
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<td>Gedung IPTEKS</td>
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<td>14.00 – 14.10</td>
<td>United four-ethnics dance</td>
<td>BK-Fahutan</td>
<td>Gedung IPTEKS</td>
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<td>14.10 – 16.30</td>
<td>Rector Forum</td>
<td>Prof. Dr. Dwia Aries Tina Pulubuhu, MA  &lt;br&gt; (also acts as moderator)  &lt;br&gt; President of Ehime University  &lt;br&gt; Rector of Gadjah Mada University</td>
<td>Gedung IPTEKS</td>
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<td>16.30 – 17.00</td>
<td><strong>Closing of Rector Forum</strong></td>
<td>President of Kagawa University</td>
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<td>Gedung IPTEKS</td>
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<tr>
<td>17.00 – 17.15</td>
<td><strong>Photo session</strong></td>
<td>Abd. Aziz dan Sakti S. Karuru</td>
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<td>Unhas Lake Side</td>
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<td>17.15 – 17.30</td>
<td><strong>Coffee/Tea Break</strong></td>
<td>Rector of Hasanuddin University</td>
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<td>8th floor, Rectorat Unhas</td>
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<td>18.30 – 20.00</td>
<td><strong>Hospitality Dinner</strong></td>
<td>Rector of Hasanuddin University</td>
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<td>8th floor, Rectorat Unhas</td>
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<td>21.00 – end</td>
<td><strong>Return to hotel</strong></td>
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<td>Monday, 15 Sep 2014</td>
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<td>07.00</td>
<td><strong>Gather in the lobby</strong></td>
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<td>07.30</td>
<td><strong>Leave Hotel for Post graduate building</strong></td>
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<td>08.30 – 09.00</td>
<td><strong>Registration</strong></td>
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<tr>
<td>09.00 – 11.00</td>
<td><strong>Student Forum: Understanding other cultures</strong></td>
<td>Dr. rer.nat Zainal, STP (Moderator)</td>
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<td></td>
<td>Student of Ehime University (15 minutes)</td>
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<td>Student of Bogor Agriculture University (15 minutes)</td>
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<td></td>
<td></td>
<td>Student of Hasanuddin University (15 minutes): Inter Cultural Understanding between Makassar and Shikoku</td>
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<td>Activity</td>
<td>Speaker/Location</td>
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<tr>
<td>11.00 – 11.15</td>
<td>Closing</td>
<td>Prof. Dr. Dadang A. Suriamiharja, M.Eng Post graduate building Unhas</td>
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<tr>
<td>11.15 – 11.30</td>
<td>Photo session</td>
<td>Abd. Aziz dan Sakti S. Karuru</td>
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<tr>
<td>11.30 – 12.30</td>
<td>Lunch</td>
<td>Post graduate building Unhas</td>
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<tr>
<td>12.30 – 15.00</td>
<td>Campus and City tour</td>
<td>Hasanuddin University surrounding, Chocolate Factory, Somba Opu Souvenirs Shops</td>
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<tr>
<td>15.00</td>
<td>Leave Makassar to Airport</td>
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<tr>
<td>17.20</td>
<td>Depart from Makassar to Jakarta</td>
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Memorandum of Agreement for
the SUIJI Joint Degree Doctor Program (SUIJI-JDP-Dc) (Draft)

Ehime University, Kagawa University and Kochi University of Japan and Universitas Gadjah Mada (UGM), Bogor Agricultural University (IPB) and Universitas Hasanuddin (UNHAS) of Indonesia agreed to the SUIJI (Six-University Initiative Japan Indonesia) Consortium concept and concluded "An Agreement for a SUIJI (Six-University Initiative Japan Indonesia) Consortium for Sustainable Agriculture in the Tropics" on March 16, 2011. The parties agree to the memorandum below to set up a doctoral course joint degree program (SUIJI-JDP-Dc) based on the second clause of the agreement.

The general aim of this agreement is to establish the regulations of the SUIJI Consortium to certify that a student who is registered to the SUIJI-JDP-Dc (Program student) of each university* has completed the SUIJI-JDP-Dc, by meeting the requirements of the home university, by completing the Joint Educational Program operated by the host university and by writing a dissertation under the joint supervision of the home university and the host university.

1 SUIJI-JDP-Dc
1.1 An outline of the three-year doctoral course schedule

A Program student, in principle, will first take classes at the home university for six to twelve months, then classes at the host university for six to twelve months, and return to the home university for the remaining period.

1.2 Study and research support system

A Program student will study and conduct research under the direction of supervisors from both the home and host universities.

1.3 Host University

One of the three Indonesian universities will be the host university for a Program student from the Japanese universities, and one of the Japanese universities will be the host university for a Program student from the Indonesian universities.

* Each University in this MoA includes The United Graduate School of Agricultural Science, Ehime University (consists of Ehime University, Kagawa University and Kochi University), Graduate School of Integrated Arts and Sciences, Kochi University, Universitas Gadjah Mada (UGM), Bogor Agricultural University (IPB) and Universitas Hasanuddin (UNHAS).
1.4 Joint Educational Program

The host university will run the Joint Educational Program and provide a Program student with instruction in English. The Joint Educational Program consists of classes, which will be determined separately.

1.5 Credits

The Program student will take classes in the Joint Educational Program, obtaining the required credits at the host university on the basis of the doctoral course curriculum which is offered by the home university.

1.6 Dissertation

The Program student will write a dissertation under the joint supervision of both the home and host universities.

2 Program-Students

2.1 Applicants

Doctoral course students of each university are eligible.

2.2 Number of Program-students

A few students will be accepted as Program-students at each university each year.

2.3 Program-student Selection

Rules regarding the selection of the Program-student will be determined separately.

2.4 Status of the Program-student at the host university

The status of the Program-student will be that of 'special auditor' at the Japanese universities and that of 'auditor (mahasiswa pendengar khusus) etc.' at the Indonesian universities.

3 Recognition of Credit and Degree Review

3.1 Awarding credits for the Joint Educational Program

The host university will evaluate a Program-student’s learning achievement according to its standards and rules and send a transcript to the home university. The home university will then determine whether or not to award credits to the Program-student.
3.2 Dissertation review

The dissertation will be judged by a review committee organized by the home university. The review committee must include at least one supervisor from the host university.

It is desirable that one or more professors of the other universities constituting the SULJI consortium be included in the review committee.

4 Conferral of Degrees and Certificates

The Program student, who obtains the authorized credits of this program stated in 3.1 and passes the dissertation review by the procedure determined in 3.2, will be given a doctoral degree by the home university (Doctor of Philosophy degree in the case of Japanese universities, or a Doctoral degree in the case of the Indonesian universities). The Program student will be issued a certificate of completion of the program by the SULJI consortium.

5 Tuition and Fees at the Host University

The host university will not charge any testing, admission or tuition fees.

6 Other Expenses while at the Host University

The Program student, in principle, is responsible for all other necessary expenses (travel expenses, room and board, health insurance, etc.). The host university supports each Program student to find an appropriate accommodation.

7 Intellectual Property Rights

Rules regarding intellectual property rights will be determined separately.

8 Publication of Research Results

Rules regarding publication of research results will be determined separately.

9 Terms of the Memorandum

This memorandum shall remain in force for a period of five years, beginning on the date this memorandum is signed, and may be extended or modified according to agreement by all the parties. This memorandum may be terminated according to an agreement by all the parties at any time even though the term is not yet over.
10 Addition

This memorandum will be written in English, in six duplicate. All six copies will be equally official. Each party shall keep one signed copy.

Date:                                        Date:

Signature:__________________________        Signature:__________________________
Rector                                      President
Universitas Gadjah Mada (UGM)              National University Corporation
Indonesia                                   Ehime University
                                             Japan

Date:                                        Date:

Signature:__________________________        Signature:__________________________
Rector                                      President
Bogor Agricultural University (IPB)         National University Corporation
Indonesia                                   Kagawa University
                                             Japan

Date:                                        Date:

Signature:__________________________        Signature:__________________________
Rector                                      President
Universitas Hasanuddin (UNHAS)              National University Corporation
Indonesia                                   Kochi University
                                             Japan
SUIJIジョイントディグリー・ドクター・プログラム（SUIJI-JDP-Dc）覚書（案）
（和訳）

SUIJI（Six-University Initiative Japan Indonesia）コンソーシアムを構成する日本国国立大学法人愛媛大学、国立大学法人香川大学、国立大学法人高知大学とインドネシア共和国ガジャマダ大学、ボゴール農業大学、ハサヌディン大学は、熱帯農業に関するSUIJIコンソーシアム協定書を2011年3月16日に締結した。この協定書第2項に基づき、大学院博士課程のSUIJIジョイントディグリー・ドクター・プログラム（SUIJI-JDP-Dc）を創設するための以下に記載する事項について同意する。

本覚書は、各大学に在籍するSUIJI-JDP-Dc履修学生（以下、プログラム学生という。）が、受入大学で実施される共同教育プログラムの単位を修得したうえで、在籍大学の定めた修了要件を満たし、在籍大学と受入大学の共同による研究指導の下で博士論文を作成することにより、大学院博士課程のSUIJI-JDP-Dcを修了したことをSUIJIコンソーシアムが認定するための規定を定めることを趣旨とする。

1 SUIJI-JDP-Dc

1.1 大学院博士課程在学3年間のスケジュールの概略

プログラム学生は、原則として、入学後の半年間から1年間を在籍大学での履修に、次の半年間から1年間を受入大学での履修に、そして残りの期間を在籍大学での履修にそれぞれあてる。

1.2 教育・研究の指導体制

プログラム学生は、在籍大学と受入大学双方の指導教員から、教育・研究の指導を受ける。

1.3 受入大学

日本側大学に在籍するプログラム学生の場合はインドネシア側大学のいずれかが受入大学となり、インドネシア側大学に在籍するプログラム学生の場合は日本側大学のいずれかが受入大学となる。

1.4 共同教育プログラム

プログラム学生の受入大学は、受け入れたプログラム学生に対し、英語で共同教育プログラムを実施する。共同教育プログラムは、別途定める授業科目から構成される。

1.5 単位

プログラム学生は、受入大学において共同教育プログラムの授業科目について定められた単位数を履修し、在籍大学において各大学の定めた履修方法に基づき授業科目を履修する。

1.6 博士論文

プログラム学生は、在籍大学と受入大学の共同による研究指導の下で博士論文を作成する。
2 プログラム学生
2.1 対象学生
各大学において、博士課程に在籍する学生であること。
2.2 プログラム学生数
各大学のプログラム学生数は、毎年、若干人とする。
2.3 プログラム学生の決定方法
プログラム学生の決定に当たって必要な事項については、別途定める。
2.4 プログラム学生の受入大学における身分
日本側大学における受入学生の身分は、「特別聴講学生」とし、インドネシア側大学においては「聴講生（mahasiswa pendengar khusus）」等とする。

3 単位認定と学位審査
3.1 共同教育プログラムの単位認定
プログラム学生の受入大学は、受入大学の規定に従って学習の達成度を評価し、プログラム学生に単位を付与し、学業成績証明書を在籍大学に送付する。プログラム学生の在籍大学は、在籍大学の規定に従って単位認定を行うことができる。
3.2 学位論文審査
学位論文（博士論文）は、プログラム学生の在籍大学における学位論文審査委員会により審査される。なお、学位論文審査委員会には受入大学の指導教員を1人含むことが必須である。また、学位論文審査委員会にはSUIIコンソーシアムを構成するその他の大学の1人以上の教員を含むことが望ましい。

4 修了認定と修了証書の授与
3.1に定める認定単位数が本プログラムの修了認定単位数を満たし、かつ、3.2に定める方法で学位論文審査に合格し、在籍大学の学位（日本側大学では「博士（農学）」、「博士（学術）」、インドネシア側大学では「Doctor」）が授与された者は、SUIIコンソーシアムにより本プログラムの修了が認定される。

5 受入大学における授業料等
受入大学はプログラム学生に関わる検定料・入学科及び授業料を徴収しないものとする。

6 受入大学での履修に関わる経費
プログラム学生は、原則として、旅費、宿舎費、健康保険費を含めて自己に必要な経費を支払う責任があるものとする。受入大学は、プログラム学生が適切な住居を確保できるよう支援する。
7 知的所有権
知的所有権については、別途定める。

8 研究成果の公表
研究成果の公表については、別途定める。

9 有効期間
この覚書は、調印の日から発効し、5年間有効とする。ただし、6大学の合意に基づき、変更又は更新することができる。また、この覚書は有効期間内であっても、6大学の合意が得られた場合は、いかなる時点においても解消することができる。

10 その他
この覚書は、英語で6部を等しく正文として作成し、各自1部を保有するものとする。

ガジャマダ大学長
署名

年月日

愛媛大学長
署名

年月日

ポゴール農業大学長
署名

年月日

香川大学長
署名

年月日

ハサヌディン大学長
署名

年月日

高知大学長
署名

年月日
Guideline for the United Graduate School of Agricultural Sciences, Ehime University
SUIJI Joint Degree Doctor Program (SUIJI-JDP-Dc) (Draft)

The general aim of this program is that the SUIJI Consortium will certify a student registered to the SUIJI-JDP-Dc (Program student) of the United Graduate School of Agricultural Sciences, Ehime University (UGAS) has completed the SUIJI-JDP-Dc, by meeting the requirements of UGAS, by completing the Joint Educational Program operated by the host university and by writing a dissertation under the joint supervision of UGAS and the host university.

(Host university = one of three universities in Indonesia: Universitas Gadjah Mada, Bogor Agricultural University, Hasanuddin University)

1. SUIJI-JDP-Dc

(1) Schedule outline

A Program student, in principle, will first take classes at UGAS (hereafter referred to a ‘home university’) for 6 to 12 months, then take classes (including the Joint Educational Program) at the host university for 6 to 12 months, and return to the home university for the remaining period of study.

(2) Study and research support system

A Program student will study and conduct research under the direction of supervisors from both the home and host universities.

(3) Joint Educational Program

The Joint Educational Program will be provided to a Program student in English at the host university. The program consists of the subjects listed below.
Joint Educational Program

<table>
<thead>
<tr>
<th>Subject</th>
<th>Required / Elective</th>
<th>Credits</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dissertation Tutorial</td>
<td>Required</td>
<td>1</td>
<td>Referred to the attached list of Required Subjects of Joint Education Program for SUIJI-JDP-Dc.</td>
</tr>
<tr>
<td>Seminar</td>
<td>Required</td>
<td>1</td>
<td>Referred to the attached list of Required Subjects of Joint Education Program for SUIJI-JDP-Dc.</td>
</tr>
<tr>
<td>Comprehensive Agricultural Science II</td>
<td>Elective</td>
<td>1</td>
<td>Referred to the attached list of Required Subjects of Joint Education Program for SUIJI-JDP-Dc.</td>
</tr>
<tr>
<td>Required number of credits to complete the Joint Education Program</td>
<td></td>
<td>2 or more</td>
<td></td>
</tr>
</tbody>
</table>

(4) Curriculum and Required Credits for Completion

The Program student must obtain 2 credits from the required subjects of the Joint Educational Program at the host university for completion of the SUIJI-DP-Dc. The Program student can add two more credits from the elective subjects (1 or 2 credits) provided from the host university, including the ‘Comprehensive Agricultural Science II’ (1 credit). Up to 4 of the 12 required credits for completion of the doctoral course of UGAS can be obtained at the host university. The Program student must submit the list of elective subjects, which is not listed in the table of the Joint Education Program, to the dean in advance by necessary procedures.

(5) Dissertation

The Program student will write a dissertation under the joint supervision of both the home and host universities.

The Program students must select a supervisor at the host university at the time of application to the program.
The list of the supervisors’ names and the subjects of research at the 3 host universities in Indonesia is provided in the Appendix.

2. Program-Students

(1) Applicants
The students registered to UGAS, and possess Japanese citizenship or have permanent residence status, are eligible for this program.

(2) Candidates
A few students will be accepted each year as Program-students.

(3) Application Process
Attach and submit the following documents to the office in charge of SUIJI-JDP-Dc at each assigned university (the SUIJI Promotion Office at the Faculty of Agriculture at Ehime University, the General Affairs office at the Faculty of Agriculture at Kagawa University, and the Office of Student and Educational Affairs at the Monobe General Affairs Division at Kochi University). Students must submit the documents by the end of April for those who enroll in April and by the end of October for those who enroll in October.

1) SUIJI-JDP-Dc Application Form (English)
2) A statement of the reason for applying (English)
3) A letter of consent by a supervisor
4) Research proposal (English)
5) Proof of communication with an expected supervisor in Indonesia (A record of email communication is acceptable)
6) An English proficiency examination certificate, such as TOEIC (or an academic transcript in which the linguistic results in the last fiscal year are considered acceptable.)
7) Academic record for the last fiscal year (English)
8) Medical examination certificate

(4) Program-student Selection
The SUIJI Promotion Office carries out the documentary examination and interview.
The SUIJI Promotion Office will conclude the selection process by the end of May for those who enroll in the doctoral course in April. The selection process for those who enroll in the doctoral course in October, will be made by the end of November.

(5) Status at the host university and the time of outbound

A Program student at the host university will have the status of "Auditor".

Program students, in principle, will be accepted at the host university from August for those who enroll in the doctoral course in April.

Those who enroll in the doctoral course in October will be accepted at the host university from February.

3. Recognition of credits and Doctorate review

(1) Awarding credits for the Joint Educational Program

The host university will evaluate the Program student’s learning achievement according to its own standards. The academic record will be sent to the Ehime University United Graduate School of Agricultural Sciences from the host university.

The Ehime University United Graduate School of Agricultural Sciences will award credits to the Program student according to the regulation of Ehime University.

(2) Dissertation review

Dissertation review and evaluation of the final examination will be carried out according to the regulations of UGAS.

The supervisor of the host university must be included in the review committee.

It is desirable one or more professors of the other universities constituting the SUIJI consortium be included in the review committee.

Limited to this SUIJI-JDP-Dc, the supervisor of the host university can participate in the dissertation review through TV meeting.
4. **Conferral of Degrees and Certificates**
   
   The Program student, who obtained the authorized credits of this program stated in 3.1 and passes the dissertation review by the procedure determined in 3.2, will be given a doctoral degree by the home university (Doctor of Philosophy degree in the case of Japanese Universities or a Doctor degree in the case of the Indonesian universities). SUIJI consortium will issue a certificate of completion of the program to the Program student.

5. **Tuition and Fee at the Host University**
   
   The host university will not charge any testing, admission or tuition fees to the Program student.

6. **Other Expenses while at the Host University**
   
   The Program student, in principle, should cover all other necessary expenses (travel expenses, room and board, health insurance etc.).

7. **Intellectual Property Rights**
   
   When a Program student invents something while studying at the host university, the host university should immediately notify the invention according to its regulations and should quickly determine to whom to attribute the invention.

   If the invention is determined to have been a joint venture by a Program student and a supervisor of the host university then it is possible to choose to ① transfer the patent rights to Ehime University or ② transfer the patent rights to the host university or ③ let the patent rights remain with the Program student. If, as in ①, the patent rights are to be transferred to Ehime University, then the Program student and Ehime University must agree to a contract of transfer with Ehime University, the host university and Ehime University must agree to a contract of transfer and these should be submitted jointly with the patent application. If patent rights are to be transferred to the host university then the Program student and the host university must sign a contract of transfer and the host university alone will submit the patent application. If the Program student is to hold the patent rights, then a contract of transfer should be signed with the host university and they must submit a joint patent application.
8. **Publication of Research Results**

Before publishing the research results for work done under this program, the Program-student must send a written notification of the contents to be published to the home and host supervisors.

All rights, title and interests in any studies, reports, graphics, or other materials, prepared by a Program-student will belong to the student and may not be used except with that student’s permission.
愛媛大学大学院連合農学研究科
SUIJI ジョイントディグリー・ドクター・プログラム (SUIJI-JDP-Dc) ガイドライン（案）

本プログラムは、愛媛大学大学院連合農学研究科に在籍する SUIJI-JDP-Dc 履修学生（以下、プログラム学生という。）が、受入大学で実施される共同教育プログラムの単位を修得したうえで愛媛大学大学院連合農学研究科の定めた修了要件を満たし、愛媛大学大学院連合農学研究科と受入大学の共同による研究指導の下で博士論文を成すことに、大学院博士課程の SUIJI-JDP-Dc の修了を SUIJI コンソーシアムが認定することができる制度です。（受入大学は、インドネシア 3 大学：ガジャマダ大学、ボゴール農業大学、ハサヌディン大学のうちの 1 大学。）
※SUIJI: Six-University Initiative Japan Indonesia の略

1. SUIJI-JDP-Dc

(1) スケジュールの概略
プログラム学生は、原則として、入学後の半年から 1 年間を愛媛大学大学院連合農学研究科（以下、在籍大学）での履修に、次の半年から 1 年間を受入大学での履修（共同教育プログラムを含む。）に、そして残りの期間を在籍大学での履修にそれぞれあてる。

(2) 教育・研究の指導体制
プログラム学生は、在籍大学と受入大学双方の指導教員から、教育・研究の指導を受ける。

(3) 共同教育プログラム
プログラム学生は、受入大学において、英語による共同教育プログラムを受ける。共同教育プログラムは下記に定める授業科目から構成される。

<table>
<thead>
<tr>
<th>共同教育プログラム</th>
<th>科目名</th>
<th>必修/選択</th>
<th>単位数</th>
<th>備考</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dissertatior Tutorial</td>
<td>必修</td>
<td>1 単位</td>
<td>別表の受入大学別共同教育科目リスト参照</td>
<td></td>
</tr>
<tr>
<td>(学位論文演習)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seminar</td>
<td>必修</td>
<td>1 単位</td>
<td>別表の受入大学別共同教育科目リスト参照</td>
<td></td>
</tr>
<tr>
<td>(各専攻セミナー)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comprehensive Agricultural Science II</td>
<td>選択</td>
<td>1 単位</td>
<td>別表の受入大学別共同教育科目リスト参照</td>
<td></td>
</tr>
<tr>
<td>(総合農学概論Ⅱ)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>共同教育プログラム修了要件単位</td>
<td></td>
<td>2 単位以上</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
(4) 履修方法及び修了に必要な単位数

プログラム学生が、SUIJI-JDP-Dc の修了要件を満たすためには、受入大学において共同教育プログラムの必修科目 2 単位を履修しなければならない。さらに、前記必修科目に加えて、受入大学で履修する選択科目（総合農学概論Ⅱ、1 単位）を含む選択科目（1～2 単位）を履修することができる。プログラム学生は、合計 4 単位まで愛媛大学大学院連合農学研究科の修了要件単位（12 単位）に含めることができる。なお、履修するにあたって、上記表中に定める 3 科目以外の選択科目を履修する場合は、事前に所定の手続きを経て研究科長に届け出るものとする。

(5) 学位論文

プログラム学生は、在籍大学と受入大学の共同による研究指導の下で学位論文を作成する。プログラム学生は、受入大学における指導教員をプログラムへの申請時に決めておかなければならない。受入大学となるインドネシア 3 大学の指導教員名とその研究テーマは、付録に掲載されている。

2. プログラム学生の募集

(1) 対象学生

愛媛大学大学院連合農学研究科に在籍し、かつ日本国籍を有する者又は日本への永住が許可されている学生。

(2) 募集人数

若干人とする。

(3) 申請方法

4 月入学生の場合は 4 月末までに、10 月入学生の場合は 10 月末までに、下記の申請書類を添えて、配属大学の担当窓口（愛媛大学農学部事務課内 SUIJI 推進室、高知大学物部総務課学務室、香川大学農学部庶務係）に提出すること。

① SUIJI-JDP-Dc 申請書（英語）
② 志望理由（英語）
③ 主指導教員の承諾書
④ 研究計画書（英語）
⑤ インドネシアにおける指導教員予定者との面接記録（e-mail でも可）
⑥ TOEIC 等の英語検定試験の証明書
（無い場合は前年度の語学成績が記載された成績証明書）

⑦前年度分の成績証明書（英語）

⑧健康診断証明書

(4) 決定方法

SUIJI 推進室は申請書類による書類審査及び面接を実施し、4月入学生の場合は5月末までに、10月入学生の場合は11月末までに決定する。

(5) 受入大学における身分と派遣時期

プログラム学生は、受入大学においては「聴講生」となる。なお、派遣の時期は、原則として4月入学生の場合は8月から、10月入学生の場合は2月からとする。

3. 単位認定と学位審査

(1) 共同教育プログラムの単位認定

プログラム学生が履修する共同教育プログラムの成績は、受入大学の規定に従って評価される。その成績証明書は受入大学から愛媛大学大学院連合農学研究科に送付される。愛媛大学大学院連合農学研究科は、愛媛大学の規定に従って単位認定をおこなう。

(2) 学位論文審査

学位論文の審査及び最終試験の合否は、愛媛大学大学院連合農学研究科の規定に従って行う。学位論文審査委員の中に、受入大学の指導教員を含む。また、SUIJIコンソーシアムを構成するその他の大学の教員を含むことが望ましい。本プログラムの学位論文審査に限り、論文審査における受入大学指導教員がテレビ会議によって論文審査に加わることができるものとする。

4. 学位と修了証書の授与

3.(1)に定める認定単位数が本プログラムの修了認定単位数を満たし、かつ、3.(2)に定める方法で学位論文審査に合格し、在籍大学の学位（日本側大学では「博士（農学）」、「博士（学術）」、インドネシア側大学では「Doctor」）が授与された者は、SUIJIコンソーシアムにより本プログラムの修了が認定される。

5. 受入大学における授業料等

受入大学は本プログラム学生に関わる検定料・入学料及び授業料は徴収しないものとする。
6. 受入大学での履修に関わる経費

プログラム学生は、原則として、旅費、宿舎費、健康保険費を含めて自己に必要な経費を負担する。

7. 知的財産権

プログラム学生が受入大学において受入期間中に SUJI-JDP-Dc に関して発明をした場合は、受入大学の規定に基づき速やかに当該発明を届出るものとし、受入大学は当該発明の帰属を速やかに決定する。

当該発明が受入大学の指導教員とプログラム学生との共同発明と決定された場合は、プログラム学生は自己の持つ「特許を受ける権利」を①在籍大学へ譲渡するか②受入大学へ譲渡するか③自己保持するかを選択できる。プログラム学生が、①「特許を受ける権利」を在籍大学へ譲渡する場合は、プログラム学生と在籍大学の間で譲渡契約締結し、在籍大学と受入大学との共同出願契約を締結後、共同出願する。②「特許を受ける権利」を受入大学へ譲渡する場合は、受入大学とプログラム学生との間で譲渡契約を締結し、受入大学が単独出願する。③「特許を受ける権利」を自己保持する場合は、受入大学とプログラム学生との共同出願契約を締結し、共同出願する。

8. 研究成果の公表

プログラム学生は、本プログラムを通じて得た成果を公表する前に、文書によって在籍大学と受入大学両方の指導教員に公表内容を申し出すものとする。

プログラム学生が作成した研究論文、報告書、図表、その他の材料・資料に関わるすべての権利、権原、及び権益はプログラム学生に帰属し、第三者は学生の承諾なくして利用することはできない。
United Graduate School of Agricultural Sciences, Ehime University

1. Dissertation Tutorial (Required)
   Student will receive instruction from a supervisor at a host university on doctoral dissertation research.

2. Seminar (Required)
   This series of lectures, mainly in English, can be taken at each constituent school through the video conferencing system. One lecture (90 minutes) is given for each unit in each major (2-5 units per major). One credit is awarded for taking 5 or more lectures from units in your own major.

3. Comprehensive Agricultural Science II (Elective)
   Comprehensive Agricultural Science II consists of lectures conducted in partnership with six united graduate schools of agricultural science throughout the country using a video conferencing system. The intensive series of six lectures (90 minutes each, in English) is held over three days in November at The United Graduate School of Agricultural Sciences, Ehime University. A credit is awarded for attending five or more lectures.

Universitas Gadjah Mada

1. Dissertation tutorial (Required)
   Student will stay at the host university and the supervisor will give guidance and assistance on the dissertation research, discussion on obtained data from experimental lab or fieldwork and facilitate writing scientific publication and doctoral dissertation.

2. Seminar (Required)
   Seminar is designed to train students to communicate the results of their research to the community and participate in research discussions. Student is required to attend student seminar and also present a seminar on their doctoral research topic and the progress of their research.

3. Capita Selecta (Elective)
   This course introduces student to agricultural, environmental and natural resource science. Some lecturer will give lecture on their special field. Students are required to attend five or more lectures and write report correlated with their dissertation.
**Bogor Agricultural University**

1. **Research Methodology (Required)**

   The lecture series will be held and focused learning on special subject which related with dissertation theme, review on the relevant literature, create conceptual framework and develop research design, preparation of a dissertation research proposal, discussion on obtained data from experimental lab or field work and facilitate writing scientific publication and doctoral dissertation. One credit is awarded by attending 6 times lectures in one subject. The lectures will be delivered in English.

2. **Seminar (Required)**

   Seminar is designed to train students to communicate the results of their research to the community and participate in research discussions. Students are required to attend in the fourteen series seminar and present a seminar on their doctoral research topic and the progress of their research. Students have to attend in seven seminars which the same field and seven seminar in the different field.

3. **Philosophy of Science (Elective)**

   This series of lectures will address central issues of the major area of knowledge and science, the meaning of observation, data, hypothesis, prediction, confirmation and explanation, theory of quality, causality and correlation, and the role of science and technology in the society. One credit is awarded by attending 6 times lectures in one subject. The lectures will be delivered in English.

**Universitas Hasanuddin**

1. **Dissertation Tutorial (Required)**

   Student will stay at the host university and the supervisor will give guidance and assistance on the dissertation research, discussion on obtained data from experimental lab or fieldwork and facilitate presentation seminar, writing scientific publication and doctoral dissertation.

2. **Special Topic (Required)**

   This series of lectures will be carried out to enrich the student knowledge on the agricultural, environmental and natural resource science, which is correlated to their research. The subjects will be taken from several compulsory elective and some lecturer will give lecturer on their special field. Students are required to attend five or more lectures and write report correlated with their dissertation.
3. **Sustainable Agriculture (Elective)**

   This lecture series will address the evolution of agriculture sustainability concepts, new conceptual frameworks and alternative farming systems to cope climate changes and land management and aquatic agriculture toward sustainability. Students are required to attend five or more lectures and field visit and write a report.
SUIJI-JDP-Dc 共同教育プログラム科目概要（案）

愛媛大学大学院連合農学研究科

1. 学位論文演習【必修】

学生は、受入大学で受入れ指導教員から学位論文研究に関わる指導を受けることにより1単位が付与される。

2. セミナー【必修】

英語を主に使用したオムニバス形式の講義で、多地点制御遠隔講義システムを利用し、それぞれの配属大学のキャンパスで受講できる。各分野から、教員ユニット（2〜5ユニット/分野）ごとに1講義（各90分）が提供され、自専攻内のユニットが提供する講義を、5講義以上受講することにより1単位が認められる。

3. 総合農学概論II【選択】

遠隔講義システムを利用して、全国の6連合農学研究科が「連合一般ゼミナール」として共同開講する講義科目。愛媛大学大学院連合農学研究科では、11月に3日間連続して集中講義方式で6講義（1講義90分、英語）が行われる。5講義以上を受講することで1単位が認められる。

ガジャマダ大学

1. 学位論文演習【必修】

学生は、受入れ指導教員から学位論文研究に関わる指導を受ける。学生は本演習を通じて、実験またはフィールドワークから得られる成果についての指導、また、学術論文および博士論文の執筆方法に関する指導を受ける。

2. セミナー【必修】

本セミナーでは、学生が研究成果を地域社会に公表し、研究に関わる議論に加わるための能力を育成する。受講学生は、学生セミナーに出席し、博士論文の研究内容と進捗状況について発表する。

3. 総合概論【選択】

本科目では、学生に農業、環境および天然資源分野の知識を提供する。授業担当教員から各自の専門分野に関する講義内容が提供される。学生は、5講義以上の講義に出席し、受講内容と学位論文研究とを関連づけたレポートを提出する。
ボゴール農業大学

1. 研究方法論【必修】

学生は、学位論文のテーマに特化した専門知識に学習の焦点をあて、関連文献のレビュー、研究枠組みの構築と研究計画の立案、研究計画書の作成、実験またはフィールドワークから得られたデータに関する考察、学術論文および博士論文の執筆方法について指導を受ける。6講義に出席することにより、1単位が付与される。講義は英語により行われる。

2. セミナー【必修】

本セミナーでは、学生が研究成果を地域社会に公表し、研究に関わる議論に加わるための能力を育成する。学生には、14回のセミナーに出席し、博士論文の研究内容と進捗状況について報告することが求められる。学生は、学位論文研究に関連する分野のセミナーに7回、異なる分野のセミナーに7回出席しなければならない。

3. 科学哲学【選択】

本科目では、科学知識の根幹をなす、実験観察、データ、仮説、予測、証証と解釈、質の理論、相関関係と因果関係の意義、社会における科学技術の役割について取り上げる。6講義に出席することにより、1単位が付与される。講義は英語により行われる。

ハサヌディン大学

1. 学位論文演習【必修】

学生は、受入れ指導教員から学位論文研究に関する指導を受ける。学生は本演習を通じて、実験またはフィールドワークから得られる成果についての指導、また、学術論文および博士論文の執筆方法に関する指導を受ける。

2. 特別トピック【必修】

本科目では、学生の研究に関連する農業、環境、天然資源分野の知識を高めることを目的としている。学生は本科目を構成する選択必修講義から受講する講義を選択する。また、授業担当教員から各自の専門分野に関する内容が提供される。学生は、5講義以上の講義に出席し、受講内容と学位論文研究を関連づけたレポートを提出する。

3. 持続的農業【選択】

本科目は、農業の持続可能性概念の進化、気候変動に対応できる新たな営農体系と新たな概念枠組み、持続可能性に向けた水産業と土地利用・管理について紹介する。学生は、5講義以上の講義に出席し、受講内容と学位論文研究を関連づけたレポートを提出する。
Schedule for SUIJI-JDP-Ms participant selection for the academic year 2015

· From Indonesia to Japan ·

< Until the end of September >

· The three Indonesian home universities, which are UGM, IPB and UNHAS, will share the guidelines, which will be disclosed to the students, to the three Japanese host universities, which are Ehime, Kagawa and Kochi university.

· Recruit students who wish to participate in the SUIJI-JDP-Ms at 3 home universities.

< Until the end of October >

· Select and decide students who participate in the SUIJI-JDP-Ms at 3 home universities.

· The SUIJI coordinators at the home universities will inform the list of selected students along with substitutes students to the SUIJI promotion office, Ehime University.

< Until mid-November >

· The arrangement between the SUIJI-JDP-Ms students and the supervisors at the host universities will be done and indicated to the home universities.

< Until the end of November >

· Submit admission application, documents applying for a certificate of authorization of resident eligibility to the SUIJI Promotion office of each host universities, which the SUIJI-JDP-Ms students would be registered.

< Until the end of December >
• The Admission certificate and the invitation letter from the host university will be sent to the home university.

<Mid-January to end of January>

• Authorization of resident eligibility will be issued and sent to the home university.

• Indonesian students start the procedure to obtain the visa (except for some documents).

<Until mid-February>

• Visa necessary to stay in Japan will be issued.

<Beginning of March>

• Indonesian students come to Japan.

• Six universities would establish an emergency call network to be shared within the SUIJI.
Minutes (Draft)

The 2nd Six Universities SUIJI Promotion Office Meeting for the Year 2014
15:30-17:00, September 13, 2014
At Hotel SWISS-Belinn Makassar

Attended by SUIJI Promotion Office of
[UGM] Lilik Sutiarso, Nursigit Bintoro,
[IPB] Edy Hartulistiyoso, Nahrowi, Dahrul Syah
[UNHAS] Agnes Rampisela, Burhanuddin Rasyid
[Kagawa] Hisashi Kato, Shigeyuki Tajima, Harushisa Zushi, Kaori Ichimura
[Kochi] Kazuhiro Ohtani, Kazuya Masuda
[Ehime] Hiroki Oue, Osamu Kobayashi, Motoko Shimagami, Zaenal Abidin, Chise
Yamamoto, Manami Tominaga

1. SUIJI-JDP-Dc
1-1. Contents of Memorandum of Agreement for the SUIJI-JDP-Dc (draft) was confirmed.
1-2. Guideline for the UGAS SUIJI-JDP-Dc (draft) was shared. It was agreed that each university will prepare the Guideline for SUIJI-JDP-Dc.
1-3. Credit Transfer for the SUIJI-JDP-Dc Joint Educational Program between each University (draft) was confirmed.
1-4. Framework of the Japanese MEXT’s Joint Degree Program was shared.
   · Global Cooperation Course has to be established jointly
   · Recognition from DIKTI is inevitable to be recognized by MEXT
1-5. It was agreed that SUIJI will target to start JDP based on MEXT’s concept from 2016. In order to get recognition from DIKTI, academic paper (naskah akademik) has to be prepared.

2. Certify SUIJI-JDP-Ms Certificate for the three students
2-1. Necessary documents to certify the completion of SUIJI-JDP-Ms for the three students (Takuro Matsumoto, Amalya Nurul Khairi, Auliya Qisthina Heryandari) were shared and confirmed.
2-2. each subject of Joint Education Program is expected to have international code number.

3. The schedule for SUIJI-JDP-Ms selection (for Indonesian students)
3-1. The schedule for SUIJI-JDP-Ms selection (for Indonesian students) was shared and confirmed.
4. The schedule and sites for the coming SUIJI-SLP in Indonesia
   4·1. It was agreed that the coming SUIJI-SLP in Indonesia will be held around the
   same period as the last SUIJI-SLP in Indonesia (23 February – 17 March, 2014). The schedule will be decided at least at the end of September, 2014.
   4·2. The sites will be decided at least at the end of October, 2014. The sites of the
   last SUIJI-SLP are expected to be included for the next SUIJI-SLP

5. The schedule and budget for the next year’s SUIJI-SLP in Japan
   5·1. The budget to support Indonesian students to participate in SUIJI-SLP in Japan
Symposium:

“Toward New Research Initiatives: Working with Communities through Post Graduate Join Degree Program for Collaborative Research

1. Hiroshige Nishina (Dean Faculty of Agriculture, Ehime University)
2. Dahrul Syah (Dean of Post Graduate, Agricultural Institute of Bogor)
3. Suryani As’ad (Assistant Directure PPs, Hasanuddin University)
4. Ikuo Kataoka (Dean Faculty of Agriculture, Kagawa University)
5. Sri Raharjo (Deputy for Research in Institute of Research and Community Service, Gadjah Mada University)
6. Katsutosi Sakurai (Director of General Administration and International, Kochi University)
**SUJII-JDP**
A Program that Responds to Society's Needs

Hiroshige Nishina  
Dean, Faculty of Agriculture  
Ehime University

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**The System of the SUJII-JDP**

- SUJII Joint Degree Program is that the SUJII Consortium will certify a student registered to the SUJII-JDP-Ms/Dc of the Graduate School of Six Universities
- has completed the SUJII-JDP-Ms/Dc, by meeting the requirements of the home university,
- by completing the Joint Educational Program operated by the host university
- and by writing a dissertation under the joint supervision of the home and the host university

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**SUJII-JDP-Ms**
Acceptance at Ehime Univ. (2012)

- **Number of students accepted**
  - 2012: 5/5 students (UGM:2, IPB:1, UNHAS:2)
- **Research Theme**
  - Application of EVI Data MODIS to Identify Water Availability and Cropping Patterns
  - Health monitoring for Quality Recognition of Tomato fruit at Greenhouse Cultivation Using Non Destructive Technology
  - Antioxidant activity on tempe (fermented soy bean) during fermentation in various time due to acceptable flavor of tempe
  - Application of EVI Data MODIS to Identify Water Availability and Cropping Patterns Case Study in Bil-Bili Irrigation System, South Sulawesi, Indonesia
  - Early Selection Method for Salt Stress Tolerance Enhanced By Seed Priming Technology Tested In Indonesian Rice Varieties

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**SUJII-JDP-Ms**
Acceptance at Ehime Univ. (2013)

- **Number of students accepted**
  - 2013: 4/6 students (UGM:1, IPB:1, UNHAS:2)
- **Research Theme**
  - Study of the Effect Sorting, Hydrocooling, and Stacking on Transportation to Maintain Quality of Vegetable (Case Study of Mustard)
  - In Vitro Immuno Enhancement Activities of Rambutan / Aphelanthum (jappaeum) Fnd Extract on the Lympho cell Culture of Water Rat
  - Vermicompost Use as Rehabilitation way for Mangrove Ecosystem
  - The Influence of Supply Chain Performance and Competitiveness of the Horticulture Vegetable Commodities through the Development of the Region in Uchiko Town, Ehime Prefecture (Karari Fresh Food Park)

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**SUJII-JDP-Ms**
Acceptance at Ehime Univ. (2013, 2014)

- **Number of students sent**
  - 2013: 5/8 students (Ehime:5, Kagawa:1, Kochi:2)
  - 2014: 1/5 students (Ehime:1, Kagawa:3, Kochi:1)
- **Research Theme**
  - Association of wooden stilled houses with forests in South Sulawesi, Indonesia
  - Reconstruction of the village in the red zone areas of Mt. Merapi
  - A Research on growth and bixia of transplanted coral
  - Alkaloid and Acid treatment on some natural zoedhias from Indonesia and its surface properties
  - Synthesis of Fasalluniosilicate composite and its application on adsorption of DNA from virus
  - Adsorption and decomposition of organic matter by volcanic ash soil

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**Companies etc. that employed SUJII-JDP students**

- Water Treatment Industry
  - Daiki AXIS (Matsuyama, Japan)
  - PT.BESTINDO AQUATEK SEJAHTERA (Jakarta)
  - Pearl Cultivation
  - Otsuki Pearl (Kobe, Japan)
  - PT.TIMOR OTSUKI MUTIARA (Jakarta)
  - Agricultural Machinery
  - IBEXI & Co. LTD. (Matsuyama, Japan)
  - PT.IMEKI INDONESIA (Runtan, East Java)
  - Real Estate
  - Marimo Co. LTD. (Hiroshima, Japan)
  - PT.MARIMO PROPERTY (Jakarta)
Course Reformation in the Faculty of Agriculture from 2016

- In present state
  - 7 Departments
- After Reformation
  - 3 Department and 3 Special Courses
    - Department of Food Production
    - Special course in Intelligent Food Production Science
    - Department of Applied Biochemistry
    - Special course in Health Function and Nutritional Science
    - Department of Biological Environment
    - Special course in Reclamation Science of Water Environment

Special course will compose a six-year curriculum

Contribute to the society through
Research in Water Resource Management
Research on Pollution by Drain Water from Farming
- Water shed analysis related to agricultural irrigation and water resource management
- Improvement on facilities related to water supply and disposal analysis

Contribute to the society through
Research in Efficient Food Production
Research Center for Intelligent Greenhouse Plant Production
- Speaking Plant Approach
- Installing a intelligent technology into greenhouse system to secure food safety and stable food supply

Contribute to the society through
Research in Functional Food and Health Science
Research Center for Food and Health Science
- Collaboration with the Producers, Food Industries and Local Government
- Development of high function food products with the collaboration between Medical Science and Agricultural Science
- Developing a new domestic brand product and commercialize

Contribute to the society through
Research in Environmental Conservation
Center for Marine Environmental Science
Laboratory for Industrial Environment Science
- "MIURA" (Donated)

Contribute to the society through
Research in Environmental Conservation
- Center of Advanced Technology for the Environment
- Sustainable use of water resource and stock management of water supply facilities

Contribute to the society through
Research in Innovative Fish Cultivation
Nanyo Fishery Research Center
- Social Science
- Life Science
- Environmental Science
- Drawing the future vision on marine fishery
- Collaborating with the local government
- Solving the problems and leading the innovation in fishery by responding to the needs especially to fish cultivation
- Supporting the domestic fish culture with research results

Contribute to the society through
Research in Environmental Conservation
- Elevation (m)
- Distance (m)
- ρa (ohm-m)
- FWL (30.81 m)
- Weathered Granite Clay
- Grout
- Loose Sand
- Medium Sand
Future Projection of SUIJI-JDP at the Faculty of Agriculture

- Increasing the number of supervisors to receive Indonesian JDP students.
- Expanding the courses for the SUJI Joint Education Programs
- Recruiting Japanese JDP students to be sent to Indonesia
- Enhance collaboration between globalized domestic companies.
Toward New Research Initiatives:
Working with Communities through Post Graduate Joint Degree Program for Collaborative Research

Bogor Agricultural University
Indonesia

Agenda
- What global citizen needs?
- How we equip our next generation?
- Role of Research and Education
- Way forward

What global citizen needs?
- Smart
- Explore all opportunity and challenges
- They need competencies

How we equip our student?
- Appropriate Learning Outcomes
- Respect other people
- Working with people from different background
- Multitasking capability
- Manage many works at the same time
- Respect different culture
- Interacting with different culture

Which Competencies?
- To Think, To Do, To Act
- Cognitive and Psycho-motoric
  - Gained from field of study
- Attitude as global citizen
  - Respect other people
  - Multitasking capability
  - Respect different culture

Role of a New Collaborative Research Initiatives:
- First year Students (Entry Qualification)
- Communities
- Research and Education
  - Education Process
  - Doing Research
  - Examination Process
  - Training Process
  - Administration Process

Continuous quality improvement
### What community needs?
- **Research and Innovation**
  - Solve problem without harming environment
- **Indonesian Case**
  - Increase the quality of growth
  - Distribute welfare optimally
  - Decrease Gini Ratio (currently 0.41)

### Way Forward

#### Community needs
- Research and Innovation
  - Solve problem without harming environment
- Indonesian Case
  - Increase the quality of growth
  - Distribute welfare optimally
  - Decrease Gini Ratio (currently 0.41)

#### Research and Education
- Student

#### Impact on People Welfare
- Research Field, Institutional Framework

### Some Highlights of Currently Cooperation (09-14)

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<th>CEA</th>
<th>Others</th>
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</tbody>
</table>

**DD**: Double Degree; **JD**: Joint Degree; **CEA**: Credit Earning Activity

### 5 Research Focus in IPB
1. Food Security and Safety based on Indigenous Resources/Knowledge
2. Sustainable Bio-Energy
3. Environmental Management
4. Basic Biomedical Research
5. Poverty Alleviation

### Some Examples from IPB

1. Increase in soy-based food self-sufficiency
2. Increase ruminant based production and food safety systems
3. Increase national rice production and logistics systems
4. Development of production technology and management of water resources (fresh water and sea water)
5. Utilisation of biomass and wastes to produce advanced biofuels to support national energy sovereignty
6. Development of biomaterials for enhancement of conventional energy production
7. Development of adaptive agricultural systems to climate change and local environmental conditions
8. Agrarian reform and strengthening community capacity for poverty alleviation and food self-sufficiency
9. Increase in response and control system of infectious disease and zoonoses
10. Development of biomedical products degenerative disease

### Flowchart in IPB
1. **Successful Applicant for Ph.D Program in Bogor Agr. Univ.**
   - Yes
   - No
2. **Regular Ph.D. Student in Bogor Agricultural University**
   - Yes
   - No
3. **Apply to SUIJI JDP-De**
   - Yes
   - No
4. **Scholarship and TÖFTI Score > 500**
   - Yes
   - No
5. **Eligible research proposal**
   - Yes
   - No

**Resources/Knowledge**
- 12 mo. approved by Advisor for BAU
- Sufficient research proposal
- TOEFL Score > 5
- Scholarships and TOFSET Score > 500
- Eligible research proposal

**Impact on People Welfare**
- Research Field, Institutional Framework
- Sufficient research proposal
- TOEFL Score > 5
- Scholarships and TOFSET Score > 500
- Eligible research proposal
Funding Sources

Research
- DGHE
- Ministries
- Private Sector

Education
- Scholarship
- >70% GS
- DGHE
- Ministries
- Private Sector
- Other type

Funding Integration, especially for Graduate Student
1. INTRODUCTION of Hasanuddin University Graduate School

2. UNHAS PPs Link to SUIJI PROGRAM
   Karakaupan SUIJI adalah agrocomplex maka mohon diinfokan program studi S2 dan S3 yang terkait agrocomplex dan lingkungan

IMPROVEMENT OF RESEARCH AND COMMUNITY SERVICE QUALITY

- Integration of research and community service activities and management
- Providing research roadmap for all study programs
- Increase of the number of academic staff winning national and international competitive research
- Increase of research fund from various sources
- Increase of research fund from collaboration
- Increase of e-journal subscription to support research activities
- Increase of the number of national and international publication
- Increase of the number of community service funding

Theme: Promoting Sustainable Agriculture in the Tropics through Higher Education Network between Indonesia – Japan

GRADUATE SCHOOL
HASANUDDIN UNIVERSITY
AND
SUIJI

SURYANI AS’AD
VICE DIRECTOR for ACADEMIC and QUALITY ASSURANCE
GRADUATE SCHOOL UNHAS

GRADUATE SCHOOL
UNHAS 2014
 Reliable education system
 Research and community services
 Effective organization and management
 Beauty and friendly campus environment

TO BE INTERNATIONAL STANDARD UNIVERSITY

Symposium 2014 "Toward New Research Initiatives: Working with Communities through Post Graduate Join Degree Program for Collaborative Research"

GRADUATE SCHOOL
UNHAS 2018

INTERNATIONAL STANDARDS OF LEARNING SYSTEM BASED ON SCL
INTERNATIONAL QUALITY OF RESEARCH
UNIVERSITY SOCIAL RESPONSIBILITY AT LOCAL, REGIONAL & INTERNATIONAL

TO BE INTERNATIONAL STANDARD UNIVERSITY

CURRICULUM
- Innovative

QUALITY OF STUDENTS

QUALITY OF TEACHING LEARNING

QUALITY OF RESEARCH (COMPETENCE)
- MASTER
- Doktor

QUALITY OF RESEARCH - PROFESSIONAL

COMPETENCY STANDARD
QUALITY

“STANDARDS FOR QUALITY IMPROVEMENT”
Strategic Plan UNHAS Post Graduate Program (2014-2018)

1. Research Funding 20%
2. Research Excellence Center in PPs UNHAS
3. Qualified Lecturers S3 Professor
4. Joint Double Degree Program S2 and S3
5. International Student PPs UNHAS 2%
6. Green Campus PPs UNHAS
7. International Class
8. International Journal PPs UNHAS
10. Research Collaboration
11. Student exchange
12. Scholar exchange 2-5 professor/year

RESEARCH FUNDING SOURCES
DIKTI (DIRECTORATE OF HIGHER EDUCATION)
KEMENKES (MINISTRY OF HEALTH)
KEMENTAN (MINISTRY OF AGRICULTURE)

NUTRITION RESEARCH AREA IN RISBIN IPTEKDOK 2010-2013

2011: Started Joint-Degree Program for Master Course in the field of agriculture, forestry, and fishery
- One of our Master JDP at Ehime Univ with classmate and lecturer
- Interview with village people
Japanese experiences and context
- Advanced country with low population growth
- Environmental deterioration
- Abandoned farm fields
- Low interest of young generation to study and practice agriculture
- Increasing demand for the university to strengthen the agricultural sciences and practices

Indonesian experiences and context
- Developing country with high population growth
- Environmental destruction
- Decreasing size of farm fields
- Low interest of young generation to study and practice agriculture
- Increasing demand for the university to strengthen the agricultural sciences and practices

Hasanuddin University appreciated the uniqueness of SUIJI in agricultural field to be promoted to resolve common problems faced by both countries Indonesia and Japan.

BENEFIT
- So far with 3 graduates and 2 on going program we believe that this Joint degree Program not only enhance the students knowledge and experience but also strengthen the collaboration between researchers (supervisors) and positive impact to Graduate school curriculum.

WHAT NEXT?
SUIJI
CONTINUE TO DOCTORAL PROGRAM

DOCTORAL PROCESS:
POSTGRADUATE PROGRAM UNHAS 2014

CONDUCT RESEARCH and dissertation writing
QUALIFICATION EXAM
RESEARCH PROPOSAL
SEMINAR INTERNATIONAL
EXAM PUBLICATION
PROMOTION
SEMINAR RESEARCH RESULT

SUIJI Program to promote agriculture is very suitable with the condition in Indonesia, because Indonesian government and especially under new elected President stated the importance of Food Security and development of agriculture related infrastructure will be prioritize.

We have a responsibility to prepare a reliable agricultural scientist and practitioner.

We hope that SUIJI stick on this characteristic and after several years will show significant result.

SUIJI will be the model for other study program to develop its own characteristic activities.
How to finance the program

• DIKTI several schemes
• KEMENKES several schemes
• KEMENTAN several schemes
Research activities and prospect for collaboration
Faculty of Agriculture Kagawa University
Dr. Ikuo Kataoka  Dean

Climatic conditions
Yearly average temp. 17.0℃
Monthly max. temp. 34.7℃
Monthly min. temp. 2.1℃
Yearly precipitation 988 mm
Hours of sunshine 2,065 hr
Days with rain/year 87 days

"Sanuki Udon" a special local noodle

Geographic conditions

Agriculture & Agro-Products in Kagawa

Strawberry production by bag culture system
Environmental and Ecological Sciences
- Ecological theory and life history of terrestrial and aquatic ecosystems
- Structure and function of plant communities in the environment
- Diversity of food- and energy-productive ecosystems
- Behavioral ecology on coral reef includes climate change
- Studies on the mating behavior of animals
- Studies on the adaptation of animal to fluctuating environmental changes on coral reefs
- Environmental assessment and raw material circulation in aquatic ecosystems

Biological Molecular Chemistry
- Molecular structure and quantum theory of quantum mechanics
- Chemistry, biosynthesis, biodegradation of living systems
- Plant growth science
- Development of novel techniques for gene expression in plants
- Metabolomics analysis of living organisms
- Chemical analysis of natural substances
- Metabolomics of living organisms
- Analysis of sugar metabolism in specific organisms
- Metabolomics of the rare sugar derivative and its applications for medical and biochemical fields
- Development and testing of new molecules
- Chemical analysis on search, applications, and synthesis of plant functional components

Plant Science
- Molecular physiology of gene regulation in plant microstructure
- Molecular biology of plant-plant interactions
- Molecular and biochemical aspects of plant cell regulation
- Mechanism of stress resistance of higher plants
- Identification of novel components for improving quality of higher plants
- Plant cell wall and its role in stress resistance
- Plant defense against viral and bacterial infection
- Biochemistry and molecular biology of stress responses in plants

Food Safety and Nutraceutical Science
- Advanced research for food safety and functional food

Research Centers (Faculty)

- Plant Genome and Resource Research Center
  Advanced research of plant genes responsible for environmental stress tolerance and useful properties for the plant

- Advanced Biochemistry and Chemical Biology Center
  Advanced research with a merge of biochemistry, chemistry, and chemical biology

Application Aspects of Research Outcome

- Rare Sugar Studies and product development
  Professor emeritus Izumori discovered an enzyme from bacteria converting fructose into the rare sugar D-Psicose.
  This rare sweetener functioning to reduce body fat catches a great deal of attention.

- Food Safety and Nutraceutical Science Center
  Advanced research for food safety and functional food

- Agricultural Resources and Technology Center
  Advanced research for development of new agro-technology and resources

- Environmental and Ecological Sciences
  Advanced research for development of new agro-technology and resources
Interspecific hybrid grape cultivar characterized by extremely high anthocyanin and polyphenol contents even under hot climate. Good for processing wine and sweets.

\textit{Sanuki Yoimai} Rice cultivar for rice wine (Sake) making. The new cultivar has been used by all major Sake brewers in Kagawa prefecture due to its superior characteristics.

\textit{Sanuki Kiwikko} New kiwifruit cultivar developed by collaboration project of Kagawa University and Kagawa prefecture. It has good tasting quality and high productivity adapting to warm climate.

Olive leaf extract containing rich polyphenolic compounds is added to tea, cake, bread, ice cream, candy, or chocolate, and so on, for contributing a development of health-oriented foods and food products.

Recently, residue of the oil extracts and dried leaves of olive are utilized as the feeds of beef cattle and young yellow tale fish culture to improve the quality of their meat.

**Prospects of Research Collaboration through SUIJI Consortium**

**Steps for Collaboration**

- Exchange of graduate students
- Exchange of Research Information
- Finding common research topics
- Planning of Research Project
- Conduction of Research Project
- Educational Outcome
- Social Outcome
- Academic Outcome
- Exchange of researchers

**Topics for Collaboration**

- Food safety and health function
- Adaptation to climatic change
- Utilization of natural resources
- Conservation of environment
- Sustainable rural society system
- Sustainable development of local community

Bridge toward the future!

Seto-Ohashi Bridge

Thank you for your attention
UGM Initiatives to Drive Research on Working with Communities through Post Graduate Collaborative Research

The 4th SUIJI Symposium and Seminar
Makassar, 13-15 September 2014

Research Initiatives and Working with Communities means…
- Go to the People.
- Live among them, Love them, Learn from them.
- Start from where they are, Work with them, Build on what they have.
- With the best leadership, When the task is accomplished, The work completed,
- The people all remark: “We have done it ourselves”.

UGM Initiatives on
- Forestry on dry land
- Water sourcing for remote communities
- Natural disaster risk management
- Food and feed safety
- Biological control for plant disease

Wanagama, Universitas Gadjah Mada Forest, 600 Hectare of dry land (1963)

Wanagama Forest (2013), has become Educational Forest

On going initiatives
- Wanagama II
  - Kebumen District
- Wanagama III
  - Jambi Province
- Wanagaman IV
  - Mangunan, Bantul District
Plantation of the Coastal Area in Kebumen, Central Java

9 Changing from no vegetation and sandy area to green area

In 2004, an underground clean water resource was found by SCS – CEL students.

• The water resource was located in a cave below Giricahyo Village which was 107 meters below ground level and 2 meters in diameter.

Giricahyo Village had suffered drought for decades. The only water resources for the village was a rainwater pond which was used for washing, cooking, and human & animal drinking.

Further observations were conducted using different approaches and instruments to find out the site of water resource and to measure water debit.

(Involving undergraduate and graduate students for final thesis)
Power Plants for Water Lifting

Electrical generator with 55kVA using biofuel

Solar panel

Approaches to Form the Water Supply Management Body

1. Identification and recognition on local problem and potency
2. Forming water management organization
3. Determining legal status for the organization
4. Trainings on management and water supply operation
5. Program implementation and maintenance

Water Reservoirs

- Reservoir capacity is 60m³
- Distribution to 7 villages are supported by 26 outlet points

Training the community on how to reduce the risk of natural disaster through Land Slide Early Warning Program

Mycological Aspect of Food and Feed Safety

Research and Community Outreach on Mycotoxin – The Indonesian Experience

Department of Food and Agricultural Product Technology
Faculty of Agricultural Technology
Universitas Gadjah Mada

No 9 # 62.6 ppb
No 1 # 54.5 ppb
No 4 # 38.5 ppb
No 7 # 48.4 ppb
No 22 # 55.5 ppb
No 15 # 34.8 ppb

No 1 # 54.5 ppb
No 4 # 38.5 ppb
No 22 # 55.5 ppb
No 15 # 34.8 ppb
Field School for farmers

- Knowledge and skills on:
  - Selection of peanut seed
  - Good Agricultural Practices
  - Good pre and post harvest practices
  - Identification of plant diseases

Disseminate knowledge and technologies to the people

Dissemination of biological control technology for yellow cyst nematodes to potato farmers

Thank You
Toward new research initiatives
Katsutoshi SAKURAI
Executive Director and Vice president (General and Int’l affair)
Kochi University

- We need to settle a steering committee for research collaboration.
- This committee member could be the representative of each six universities.
- The most urgent topics should be selected by the committee based on the topics raised from each university.
- Then we need to concentrate to get a national level budget by each university.

Research Topics (Scope)
- Main target of SUJI consortium is “Promoting Sustainable Agriculture in the Tropics”.
- Rector Forum should assign one of the strongest coordinator of each university, who can control the research topics related with the human resources of the university.
- Until the next SUJII annual meeting which will be held in Kagawa Univ., the committee should propose the way for a newly established plan.

Possibilities
- We have many aspects which could be collaborated with each other.
- However, currently no progressive plan has not been carried out.
- Actually environmental conservation includes many important topics, but is difficult to carry out because it does not create any business based project.

Finally,
- Safe environment and safe food produced under it can lead to a safe living of human being.
- SUJI can be a flagship for safety of earth-net.
- Let’s proceed together aiming at the fruitful and safe future!!
Scientific Lecturer/Researcher Forum:
Japan-Indonesia collaboration research

1. (Ehime University)
2. Agricultural Institute of Bogor)
3. (Hasanuddin University)
4. (Kagawa University)
5. (Gadjah Mada University)
6. (Kochi University)
First record of economic damage on soybean caused by *Bemisiatabaci* and the natural occurrence of *Paecilomyces* sp. infecting *B. tabaci* in South Sulawesi

Ahwiyah E. Said, Jumardi, Andi Nasruddin, M. Danial Rahim, Fatahuddin, and M. Said Baco

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**ABSTRACT**

A survey was conducted in Soppeng and Wajo Districts of South Sulawesi from May to July 2014 to determine the major insect pests of soybean in those areas. During the survey, we found heavy infestations and severe plant damages due to *Bemisiatabaci* Genn (Homoptera: Aleyrodidae). To the best of our knowledge, this is the first report of economic damages on soybean caused by the insect in South Sulawesi. In addition, the natural occurrence of *Paecilomyces* sp. infecting *B. tabaci* was also found during the survey. A series of studies is currently underway to develop an integrated pest management to control the insect, including the assessment of the effectiveness of *Paecilomyces* sp. as a biological control agent against *B. tabaci*.

**Key Words:** Whitefly, *Bemisiatabaci*, biological control, *Paecilomyces* sp.
Plastic particles in silverside (Stolephorusheterolobus) collected at Paotere fish market, Makassar

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³Bodega Marine Laboratory, University of California at Davis - USA

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ABSTRACT

Plastics represent the latest contaminant in the marine environment. Although plastics without doubt represent a uniquely valuable material particularly in construction, packaging and fishing gear applications. The global as well as the national trend has been consistently growth in the use of plastics consumption. The scale of contamination of the marine environment by plastic debris is vast. It is found floating in all the world’s oceans, everywhere from polar regions to the equator. Research on plastic debris in digestive tract content of pelagic fish is part of ongoing collaboration between University of Hasanuddin and University of California at Davis. Locally caught and consumed Silverside (Stolephorusheterolobus) has been performed. Four out of 10 fish investigated were found to contained plastics particles in their digestive tract. This is the first work on plastics particle in fish gut ever conducted in the region. This finding is in support to previous works on plastics particles elsewhere and will be further discussed for their possible effects, both on food safety and human toxicology.

Keywords: plastics particle, digestive tract, Stolephorusheterolobus.
The viability of ultraviolet irradiated sperm in three different energy rates to fertilize eggs of *Cyprinus carpio*

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ABSTRACT

This research was aimed to investigate the number of ultraviolet irradiated energy expose to carp (*Cyprinus carpio*) sperm with the intention of inactivated its chromosome but then the sperm still viable to fertilize eggs. Three irradiated energy were used: A treatment was $10 \times 10^2 \mu J/cm^2$, B treatment was $15 \times 10^2 \mu J/cm^2$ treatment was $20 \times 10^2 \mu J/cm^2$, the duration time of ultraviolet irradiation was 1.5 min. A control treatment was prepared using sperm without ultraviolet irradiation. The sperm then were used to fertilize eggs through artificial fertilization technique. The viability of sperm to fertilize eggs was identified by measuring the percentage of fertilization rate and survival rate of embryos. An advance analysis was further conducted by measuring the hatching rate of embryos. All data were analyzed by two-way ANOVA using SPSS 17.0 statistical software at $P>0.05$. The result showed that the percentages of fertilized eggs among treatments were 75.00% (A treatment), 88.88% (B treatment), 91.29% (C treatment), and 93.08% (control treatment), respectively. The survival rate of embryos were 67.99% (A treatment), 70.44% (B treatment), 69.95% (C treatment), and 93.13% (control treatment), respectively. The hatching rate of embryos were 54.70% (A treatment), 41.73% (B treatment), 33.34% (C treatment), and 87.86% (control treatment), respectively. This study suggested that ultraviolet irradiated carpssperm in particular energy rate had viability to fertilized eggs and promoted embryonic development up to hatched.
Soldierfishes (Holocentridae) of Spermonde Archipelago South Sulawesi

Andi Iqbal Burhanuddin¹, Yukio Iwatsuki ²

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²) Division of Fisheries Science, Faculty of Agriculture, Miyazaki University, Japan.
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ABSTRACT

A study has been carried out to describe the soldierfishes from Spermonde Archipelago, South Sulawesi, Indonesia. This study was conducted from August 2010 to January 2013. The specimens had been collected mostly by hand-line and small trawl operated by local fisherman and were purchased in Rajawali Fish Landing Port and Paotere Fish Landing Port and fish markets in Makassar. Results showed that 14 species representing three genera inhabiting the area were examined and identified: Myripristis adusta, M. berndti, M. hexagonatus, M. kuntee, M. violacea, M. pralinea, Neoniphon opercularis, N. sammara, N. argenteus, Sargocentron caudimaculatum, S. diadema, S. cornutum, S. spineferum, S. voilaceum. The Common name available of each species was given.

Key words: Soldiersfishes, Holocentridae, Spermonde, South Sulawesi
Land use changes with a particular reference to spatial planning regulations at Kelara catchment area: An analysis using geospatial information technology

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ABSTRACT

The main purpose of this study is to assess land use change in Kelara Catchment Area, and to examine spatial matching between present land uses and their changes and spatial planning regulations for Kelara Catchment Area. This study employs integrated techniques of ground surveys, remote sensing, and geographic information systems (GIS) technology. Spatial information used in this research includes Land sat ETM 7+ (2009) and LANDSAT 8 (2014), and a set of vector data bases developed by local government. Time series land use layers were originated from the above images (2009 and 2014), where supervised classification and visual interpretation as well as image analysis were performed to classify land use for the two dates. The results show that some areas that should be protected according to the Kabupaten Jeneponto land use scheme, in fact, were converted to, or already been practiced for long as the management functions, like dry land agriculture, paddy field, and residential. At the same time, land use/land cover change analysis also indicates that residential area has increased substantially within the last five years, followed by a substantially decrease in mangrove and forest. Such land use change information set may give insights into the future anticipation of land use development on the region on a spatial basis, and thus useful for devising the future land resource management control.

Keywords: Jeneponto, Kelara, land use change, GIS, remote sensing, spatial planning regulations
Correlation between lithology factor with type and pattern of landslides in Salo Lebbo sub watershed, Budong-Budong watershed, Mamuju Tengah district, West Sulawesi province

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\textbf{ABSTRACT}

Landslides are the result of natural geological and geomorphological activity and associate with active exogenous processes in a watershed (DAS). A natural process that can be accelerated by human activities and caused catastrophic for human beings, due to lack of human knowledge in recognizing and understanding the management. This research aims to study one of the triggering factors of landslides that is the lithology factor and the correlation between type and pattern of landslides produced in Salo Lebbo Sub Watershed. The study was conducted by the geological mapping of rock characteristics and geomorphological mapping. The results showed that the presence of tuff unit contained in a rock formation, either as a member or as insertion of the formation is a major factor of the landslides at slopes ≥40% with a sliding type of movement and type of material in the form of rock slides and debris slides. Landslides pattern has evolved into a mixture of landslide material with overflow of river water volume (flash flood). Vulnerability of rock type to the mass movement can be inhibited by the application of the vegetative method to the foot slope for reduce the impacts.

\textbf{Keywords}: landslide, tuffs; rock slides; debris slides; vegetative methods
Milk production and milk quality of etawah cross breed dairy goat either fed on *Gliricidia maculata* or complete feed

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ABSTRACT

Strategy of feeding provision in form of complete feed is a strategy that has long been applied in the dairy cow industry but its use in dairy goat production system is still limited. The purpose of this research was to study the application of complete feed to increase milk production and milk quality of dairy goat in Enrekang, South Sulawesi. Twelve of 3-4 month lactating goats (Etawah cross breed) were randomly divided into two groups (6 goats/group). Each group was either fed on *Gliricidia maculata*/control ration = C (a ration typically used by the Enrekang farmers for feeding their goats) or fed on complete feed= CF (control diet + multi nutrient supplement). The amount of Multi nutrient supplement (MNS) given to the animals was about 1% of the body weight. MNS was formulated from feedstuff locally available. The animals were fed for one month. Analysis of variances showed that dry matter intake was similar (P>0.05) for both treatments, i.e. 1,578 g/d for C and 1,753 g/d for CF, respectively. Average milk yield was also similar (P>0.05) for C (198 ml/d) and CF (274 ml/d). Feed efficiency also were not different (P>0.05) for both treatments, i.e. 0.1287 (C) and 0.1586 (CF). Physical and chemical properties of the milk of both groups were also not affected (P>0.05) by the treatments. In conclusion, provision of complete feed (multi nutrient supplement + the basal diet/*gliricidia maculata*) did not significantly improve the milk yield and chmeical composition of the milk of dairy goat in Enrekang, even though there was a tendency that provision of multi nutrient supplement on top of the basal diet may improve milk yield and feed efficiency.

Keywords: complete feed, dairy goat, feed efficiency, milk yield, milk quality
Integrated farming system based on rambutan to support sustainable agriculture in dry land

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ABSTRACT

South Sulawesi has a dry land area of 1.802.510 hectares, which is scattered in several districts. To create bright prospects for agriculture in dry land, the concept of integrated farming can be applied. One of the integrated farming system that can be applied in dryland is hedgrow farming systems with livestock combination. This research aims to develop an integrated farming system based on rambutan as one of the business that can increase revenue and continuity of production (productivity). The method used is integrated farming system based on rambutan that combined with gamal (Gliricidia sepium) hedgrow, maize, elephant grass (Pennisetum purpureum) and goats livestock. The research design used was a randomized complete block design with five treatments of integrated farming systems and two replications. The results showed that maize planted between hedgerow increasing of maize production significantly. P4 and P3 Treatment significantly different to P2. Integrated farming provide a variety of benefits and advantages of the various components of system that are cultivated (rambutan-gamal-maize-elephantgrass-goats livestock) if it is compared to only one type of plant production (monoculture).

Keywords: Dry land, Rambutan, Maize, Goats livestock, Gliricidia sepium, Pennisetum purpureum
The *Trigona spp.* honey quality of apisilvikultur system

Budiaman

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ABSTRACT

The population of *Trigona spp.* honey bees is abundant in the agroforestry region and potential to produce 13 kinds of high-value products required by the food industry, beverage, pharmaceutical and beauty, which is the main raw material derived from plants such as flower nectar and pollen (anthers / pollen), and parts of plants other than extranutritional flower nectar is a sweet liquid that comes from the fruit, shoots, buds, leaves, stems, branches, and twigs. This study aims to determine the quality of *Trigona spp.* honey production from apisilvikultur system. The experiment was conducted by using the survey method and laboratory testing with the following stages: The *Trigona spp.* honey bees which maintained by apisilvikultur farmers harvested using 100 mesh sieve and packed. Furthermore, in tests in laboratory with test procedures and standard of SNI (Indonesian National Standard) 01-3545-2004. The test results will be analyzed by comparing with several standard test values. The results showed that the parameters of *Trigona spp.* honey quality that meet quality requirements of SNI 01-3545-2004 there are 7 parameters namely: ash content, solids that are not soluble in water, Hydroximethylfurfural (HMF), Sucrose, Lead, Cuprum and Arsenic metal contamination, while the parameters that do not meet the standards there are 4 parameters, namely water content, acidity, reducing sugar, and activity of diastase enzyme.

Keywords: Quality of *Trigona spp.* honey, Apisilvikultur system
Combining technology of liquid bio-ameliorant, nitrogen, and planting space in increasing nutrient uptake and productivity of maize in eco-cycle model

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ABSTRACT

Eco-cycle model is a model to integrate of ecology component in production system for agriculture and environment sustainability. Combining crop management technology in eco-cycle model by utilizing the interaction nutrient management and cropping area can be an option in improvement and increasing of maize productivity, especially in sub-optimal soil. The purpose of this research is to obtain crop management technologies in an effort to improve soil quality and increase maize production through the interaction factors of liquid bio-ameliorant, nitrogen, and plant spacing on Alfisol soil. This study was designed using factorial design consisting of 3 factors: the first factor is the spacing (A) which consists of two levels: J1 = 75 x 25 cm; J2 = 50 x 20 cm; The second factor ameliorant bio-liquid (B) which consists of three levels; B0 = no ameliorant bio-liquid (control); B1 = bio-liquid ameliorant 100 mL / L; B2 = bio-liquid ameliorant 300 mL / L; The third factor is the fertilizer nitrogen (N), which consists of three levels: N0 = no urea (control); N1 = 300 kg urea / ha; N2 = 240 kg urea / ha. Each treatment was repeated three times so that there are 54 experimental units. The results showed that treatment plant spacing of 50 cm x 20 cm + liquid bio-ameliorant 300 mL / L urea + 240 kg / ha has given high result for all parameters. In yield result this combination treatment also shown the highest yield with 9.00 tons/ha. The combination of technology liquid bio-ameliorant and plant management can be selected as technology to increase maize production in eco-cycle model.
Temporal dynamics of eutrophycation level and sedimentation rate in coral reef area of Spermonde and Nine islands, South Sulawesi

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ABSTRACT

Spermonde and Nine Islands (Bone Bay) is one of the central distribution of coral reefs in South Sulawesi. Agriculture and aquaculture activities are intensive in both areas, and the presence of rivers systems make those areas pose a risk of increasing level of eutrification and sedimentation. Data retrieval includes concentrations of nutrients (nitrate and phosphate) and the rate of sedimentation. Data collection was conducted over four months at 6 stations (island). Three stations were in Spermonde Islands (Laiya Island, Kodingareng Island, and Samalona Island), and three other stations were in Nine Islands, Sinjai (Batanglampe Island, Kambuno Island, and Burungloe Island). Data were taken from each station/island at two points as replicates. Nutrient concentration and sedimentation rate data were collected every month for 4 months. Measurement of the nutrients and sedimentation were analysed in laboratory. The results showed that phosphate and sedimentation rate was relatively higher in the Nine Islands, Sinjai. Whereas nitrate was relatively similar in both areas. Based on the concentration of nitrate, it showed that the rate of eutrophication were varies by month, with level of eutrophication from oligotrophic until eutrophic category. Eutrophication were occurred in July and September at all stations on both locations. Higher sedimentation rate was found in Nine Islands, but declined gradually until the end of the study. This decreasing pattern was effected by rainy season intensity. Instead, station in Spermonde Island, especially on Samalona and Kodingarengkeke Island was increased significantly.

Keywords: sedimentation, eutrophication, coral reefs, Spermonde, Nine islands
Effects of Various Ossification Techniques the Gel Diet That Using *Euchema cottoni* as Thickening Agent on Growth and Feed Efficiency in *Cyprinus carpio haematopterus*

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ABSTRACT

Gel diet is one of wet artificial feed for aquaculture organism pudding form that using seaweed, *Euchema cottoni* meal as thickening agent. The objective of this research is to known the effects of various ossification techniques that using gel feeds with seaweed as thickening agent in *Cyprinus carpio haematopterus*. The main ingredients of the experimental diets were fish meal, shrimp head meal, fine bran, fish oil, vitamin and mixed mineral, CMC and *E. cottoni* meal. The experimental treatments were non-ossification (treatment A), ossification with sun (treatment B), ossification with refrigerator (treatment C), and ossification with oven (treatment D). The used experimental fish were *C. carpio haematopterus* with average body weight of 13 g, and 15 fishes every treatment unit. The measured parameters were survival rate, growth, and feed efficiency. According to ANOVA results, the effect of treatments on tested parameters were not significant (p > 0.05). This study research indicated that non and with ossification (sun, refrigerator, oven) gel diets can aplicated to *C. carpio haematopterus* and other aquaculture organisms.

Keywords: Gel diet, C.carpio haematopterus, ossification technique, growth, feed efficiency
Aerobic Rice Technology for Yield Improvement under drought condition for sustainable Development in Tropical and semi tropical area

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ABSTRACT

Climate change is challenges that facing sustainable agricultural Development in Tropical and semi tropical area especially under rain fed irrigation which will lead to water stress, water scarcity and even droughts, therefore African countries especially Sudan sever from drought which is recorded since 1960s and occur during the 1980s in different regions of Sudan as a result comparison between rain fall, increased in temperature and evapotranspiration The objective of this research is to maximizing the yield of aerobic rice under drought conditions by using technology of seed priming, adoptable varieties, and suitable water interval to control soil water contents and irrigation schedule. Aerobic rice Cultivars will be selected based on their superior performance. The seed will treat with poly ethylene glycol (which sowing under different water interval and other cultural according to legowo system technology, so data will include crop growth parameters Yield and yield components Soil water contents. Expected results will Improved rice yield and quality under water stress conditions, reduce the amount of water by73% of irrigation water for land preparation and 56% during the crop growth period. Eliminating continuous seepage and percolation and greatly reducing evaporation of water which will help to keep water. Determine the optimum water interval to control soil water content on field capacity above welting point. Reduce the agricultural input cost which no preparing and transplanting costs. This research will lead to horizontally increase in sustainable agricultural activities to droughts areas in the future.

Keyword: drought, Aerobic rice, PEG, Water interval
The use of plant extract as natural growth regulator in producing potato mini-tubers 
(Solanum tuberosum L.) using aerophonic system

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ABSTRACT

The aim of the research was to explore how to plant extract as natural growth regulator can be increasing production of potato mini-tubers using aerophonic system. Randomized block design was used in this research. The research showed that the plant extract as natural growth regulator improve the production of potato mini-tubers better when compared with similar application using synthetic regulator (2,4-D and NAA) and water. Maize seed extract with a concentration of growth regulators gibberellin 41.23 ppm; auxin 1.67 ppm and cytokinin 53.94 ppm gives the highest production of potato mini-tubers, followed by coconut water with a concentration gibberellin 34.37 ppm; auxin 1.28 ppm and cytokinin 28.85 ppm.

Keywords: plant extract, growth regulator, potato mini-tubers
Effect of sorbitol concentration as plasticizer on the characteristics of edible film from whey dangke and agar composite

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ABSTRACT

Whey dangke, which is composited with agar, can be forming better the characteristics of edible film. The addition of sorbitol as a plasticizer is useful for flexibility and prevents cracking of edible film. Appropriate concentration of sorbitol can affect to the characteristics of the edible film. The objective of this study was to determine the effect of sorbitol concentration on the characteristics of edible films such as: thickness, yield, tensile strength, elongation and color. The study was conducted using a completely randomized design treated with different concentrations of sorbitol; 25, 35 and 45%. Each treatment was repeated for 5 times. The results of this study showed that the thickness of edible film ranging from 0.016 to 0.039 mm, yield 7.29 - 8.83%, tensile strength 10.30 - 13.20 N, elongation 40 - 93.33%, and the L value of color 86.86 - 88.81, a = -2.195 - -4.03 and b = 1.711 - 3.297. Concentrations of sorbitol did not affected the thickness, yield, tensile strength and the values of color (L and A), however, concentrations of sorbitol had significant (P <0.01) effect on elongation and values of color b. Sorbitol 25% caused elongation of edible film decreased. Sorbitol 45% caused a decrease in elongation and changes in b value of edible film color (yellowness). It can be concluded that Sorbitol 35% was the best concentration in making edible films made from whey dangke and agar composite.
Effect of temperature and water potential on sprout vigor of potato 
(Solanum tuberosum L.) seed tuber

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ABSTRACT

A study was conducted to examine sprouting on potato seed tuber over a range of different temperature and moisture conditions. The experiments were conducted under controlled environment conditions from 19 March to 6 April 2003 and carried out using a Terratec thermogradient table at the School of Agricultural Science, University of Tasmania. The trial involved exposing seed tubers sourced from one seed lot to three water potentials (-0.6 MPa, -0.02 MPa and -0.01 MPa) at each of five different temperatures (10, 15, 20 and 25 °C). Seed tubers of the cultivar Russet Burbank, size grade 40-60 g, were used in the trial. The growth medium used in the trials was vermiculite (Grade 2, Australian vermiculite and Perlite Co-P/L) and three water potential treatments were utilized based on the method developed by Whalley et al. (2001). A field capacity treatment (-0.01 MPa) was set up by saturating vermiculite and leaving it over night to drain while 0.15 g and 1.27 g water per g dry vermiculite were equilibrated to establish the -0.6 MPa and -0.02 MPa water potential treatments, respectively. Each treatment was left overnight to equilibrate and the vermiculite for each water potential preparation was placed in plastic containers. The container was sealed with a lid to prevent water loss from the container and therefore to control the water potential throughout the trial. Containers filled with vermiculite at the target water potentials were placed at each of the partitioned zones on the thermogradient table. Four seed tubers were planted in each container at a 10 cm depth and covered by the growth medium. Containers were then sealed to prevent water loss. Using a pseudo replication design with temperature as the block, the moisture treatments were randomized within each temperature treatment with two replicate containers for each water potential treatment at each temperature. The design therefore provided a total of 8 tubers for each temperature and water potential combination, and a total of 24 treatment combinations overall. An analysis of variance and least significant difference (LSD) procedure using SPSS for windows version 14.0 was performed to determine the response of the tuber seeds to temperature and moisture. Temperature and moisture significantly affected sprout growth rate, assessed as the sprouting capacity of the tubers (FW sprouts per FW tubers). Sprouting capacity of seed tubers increased with increasing temperature and water potential. There was a significant interaction between temperature and moisture treatments on the sprouting capacity (p<0.05). The differences between water potential treatments were greater at higher temperature, with differences between sprouting capacity of tubers exposed to dry and wet conditions particularly evident at temperatures of 20 and 25 °C. Relation between the result and risk in plant response to warmer climate as an impact of global warming is discussed.

Keywords: temperature, soil water potential, potato, sprouting, vigor
Microorganisms local application (MOL) improving growth of melon (*Cucumis melo* L.) in district of Sanrobone, Takalar regency

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ABSTRACT

The Research aims to improve growth of melon (*Cucumis melo* L) with local microorganisms applications (MOL) and to study the response of farmers to the local mikroogasnisme applications (MOL) on melon (*Cucumis melo* L). The Research was conducted in July until September 2013. The research was arrange with randomized block design, 4 treatments and 3 replications i.e: Control, M1 (MOL 50 cc / liter / plant), M2 (MOL100 cc / liter / plant), M3 (Giving MOL 150 cc / liter / plant). The results of the research revealed that treatment with a concentration of 150 cc / liter / plant gives the best results is 74.64 cm plant height, number of leaf is 33, and diameter of steam 2.44 cm. Respons of Farmers to MOL application on melon increasing knowledge 48.75%, attitude 40.42%, and skill 47.92%, and effectivity of extension is 74.60% (effective category).
Study physico-chemical characteristics of cacao beans result from plantation in district Mamuju West Sulawesi

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ABSTRACT

Cocoa is one of plantation commodities that can generate revenue to support community life and increase foreign exchange. Many cocoa cultivated in West Sulawesi. Their physico-chemical characters influence the are quality SNI cocoa beans. The purpose of this study was to determine the profile fat, polifenoland fat acid (oleat) fermented cocoa beans was produced by farmers and by researcher in distric Mamuju and Center Mamuju. The best result of water content came from fermented cocoa beans which was prepared by researchers and farmers from subdistrict Kaluku (6.07 to 6.30 %). This meet the Indonesian National Standard (SNI). Fat content of fermented cocoa bean which was prepared by farmers from subdistrict Kaluku and Karossa was higher than fermented cocoa beans by researchers. The highest value of fatty acids(oleat) came from fermented cocoa beans which was prepared by farmers from subdistrict West Tapalang which was 1.66 %. On the other hand, the lowest value of resulted from fermented cocoa bean which was prepared by researchers from subdistrict Tapalang which was 0.86 %. The pH value of fermented cocoa beans prepared by farmers and researchers four subdistricts were 5.52-6.71 ; respectively. The highest value polivenol came from fermented cacao bean by researchers subdistric West Tapalang which was 38.89/g.

Keywords: Cocoa, West Sulawesi, Fermentation, Cocoa Beans, Physico Chemical.
The utilization of coconut water waste as a growth media of the in vitro potato cutting

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ABSTRACT

Abstract: The purpose of this study was to determine the effect of adding knowing coconut water on the growth of the in vitro potato plant cuttings and the most effective type of treatment for the growth of in vitro the potato plant cuttings. This research was an experiment by varying the independent variable is the concentration of coconut water, then measure its effect on the dependent variable is the growth of potato (a high number of leaves and plantlets). This study consisted of 4 treatments (4 levels of coconut water concentration, ie, TQ0 (without coconut milk), TQ1 (100 ml/l), TQ2 (150 ml/l), and TQ3 (200 ml/l) and 3 repetition with completely randomized design. Results showed that the addition of coconut water on the growth of micro cuttings of potato (Solanum tuberosum L.) significant effect on the observed parameters, leaf number and weight of plantlets. Treatment with the addition of coconut water volume of 150 ml/l MS medium gave the best effect on the growth of in vitro micro cuttings of potato (Solanum tuberosum L.).

Keywords: Solanum tuberosum; Coconut Water Waste; in vitro
Fatty acid composition of individual galactolipids and phosphatidylcholine extracted from the brown seaweed *Padina australis* collected from Saugi island of Pangkep district Indonesia.

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**ABSTRACT**

Study on fatty acid compositions of individual Galactolipids and Phosphatidylcholine extracted from the brown seaweed *Padina australis* collected from Saugi Island of Pangkep District Indonesia has been conducted. Total lipids of the seaweed was extracted using chemical solvents of CHCl₃/MeOH (2:1) and galactolipid compounds, such as monogalactosyldiacylglycerol (MGDG), digalactosyldiacylglycerol (DGDG) and sulfoquinovosyldiacylglycerol (SQDG) and phosphatidylcholine (PC) were isolated from the total lipids using Thin-Layer Chromatography (TLC) with solvents of CHCl₃/MeOH/H₂O/EtOAc/IPA (5:2:1:5:5 by vol). Further purification of SQDG was conducted by TLC with mobile phase of CHCl₃/Acetone/MeOH/H₂O/HOAc (10:6:2:1:2). The purified galactolipids and phosphatidylcholine were then converted to methyl esters using 10% HCl in MeOH. The esterified galactolipids and phosphatidylcholine were purified by silica column with eluted by solvents of hexane/diethyl ether (85:15 by vol). Analysis of the fatty acid methyl esters was carried out using a Shimadzu GC-14A gas chromatograph (Shimadzu) equipped with an Omegawax 320 column (30 m x 0.32 mm i.d., Supelco, PA, USA). The results showed that the dominant fatty acids found from the major membrane lipid, galactolipids of the seaweed were the saturated fatty acids, such as myristic acid (C14:0), palmitic acid (C16:0), stearic acid (18:0), the monounsaturated acid, 16:1n-9, oleic acid (C18:1n-9), and the polyunsaturated fatty acids, linoleic acid (C18:2n-6), linolenic acid (C18:3n-3), and arachidonic acid (C20:4n-6). The precursor of eicosanoic compounds, C20:4n-6 contents (3-5% of total lipid) was very low obtained from galactolipid compounds, but the content of C20:4n-6 (25% of total lipid) was the dominant fatty acid detected from PC. Unusual fatty acid in a significant amount (15% of total lipid) was detected from MGDG. Fatty acid composition could be a feature of chemotaxonomy for many kinds of seaweed species. Identification of the unidentified fatty acid in a big amount found in this seaweed under carries out.
Storage period and egg duck quality packed with antibacterial packaging made of broiler feet skin gelatin

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ABSTRACT

Duck’s eggs, a source of food rich in protein and other nutrients, easily cause a susceptible damage, both physical and chemical or even by microorganisms. Usual precautions to maintain the quality and storage duration time is by soaking it in brine or using preservatives from plants. However, this method will affect the color and flavor of the egg if it is soaked for a longer time. In fact, salted egg is taboo for people with high blood pressure. The use of anti-bacterial packaging made of broiler feet skin gelatin and clove oil on the duck’s egg is an alternative method for preservation. This study aimed to determine the quality and storage duration time of the duck’s eggs packed with antibacterial packaging made of broiler feet skin gelatin and clove oil. It is used a completely randomized design (CRD) with a 2x5 factorial with four replications. Factor A was the method of preservation that consists of two levels, M0= treatment without antibacterial packaging and M1 = treatment with antibacterial packaging (M1). Factor B was the eggs duck storage duration time, consisted of 5 standard of treatment: 0 day (P0), 7 days (P1), 14 days (P2), 21 days (P3), and 28 days (P4). The parameters measured were the levels of protein, thick shell, yolk index, albumin diameter and number of bacteria. Based on the results, it can be concluded that the packaging made of broiler feet skin gelatin with the addition of clove oil is able to inhibit the loss of quality of duck’s eggs during storage and the increasing number of bacteria during storage.
Effectivity of azotobacter chroococcum inokulasi and Arbuscular Mycorrhizal Fungi (AMF) at cocoa seedlings and clones Sulawesi 1 and Sulawesi 2

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ABSTRACT

Rehabilitation and replanting program of the cocoa has to start providing quality plant material and can adapt well to the field conditions are less than optimal for realizing sustainable cocoa development system. One effort that can be done is the use of microbial biotechnology. Microbiology of land that is currently widely used in ecological improvement is bacteria Azotobacter chroococcum rizozfer and arbuscular mycorrhiza . This research aims to study the effectiveness of Azotobacter chroococcum and arbuscular mycorrhizal on seedlings cocoa clone Sulawesi 1 and clone Sulawesi 2. The research was conducted from end of March to October 2013 in the form of factorial three- factor based on experiment randomized block design patterns in Screen House, Faculty of Agriculture, Hasanuddin University. Type seedling clones Sulawesi 1 and Sulawesi are placed as a factor I. Inoculation of Azotobakter chroococcum as a second factor consists of without inoculation, inoculation of $10^4$ CFU and $10^8$ CFU ml$^{-1}$ of water tree$^{-1}$ are given as much as 40 ml. Arbuscular mycorrhiza inoculation as a third factor consists of without inoculation, inoculation of 5.0 g, 10.0 g and 15.0 g tree$^{-1}$. The research results showed that the inoculation Azotobakter chroococcum of $10^8$ CFU ml$^{-1}$ tree$^{-1}$ and arbuscular mycorrhiza fungi 10.0 g tree$^{-1}$ shows the content of chlorophyll a, b and leaf chlorophyll contents index, absorption of solar radiation, leaf stomata conductance, the efficiency of absorption and utilization of nitrogen, phosphorus and potassium as well as better seedling growth. Influence inokuasi Azotobacter chroococcum and Arbuscular mycorrhiza fungi on seeds cocoa clones Sulawesi 2 is better than clone Sulawesi 1. Inoculation of Azotobacter chroococcum and arbuscular mycorrhiza able to meet the needs of nitrogen and phosphorus cocoa seedlings clones Sulawesi 1 and Sulawesi 2 in the nursery phase.

Keywords: cocoa, clonal seedlings, Azotobacter chroococcum, arbuscular mycorrhiza fungi, nutrient absorption
Effectivity of white rot fungi- and bacterial rot in decomposition of cacao pod waste and in growth reduction of *Phytophthora palmivora* and *Lasiodiplodia theobromae*

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**ABSTRACT**

Cacao pod husk is a major waste of cacao plants that can be used either as an organic fertilizer or as animal feed. For 972,400 hectares of cacao plantation, produce as much as 572,900 tons of cacao beans, while the waste generated reached 1.8766 million tons/year. Only 94,515 tones of cacao waste have been utilized. Given the composition of twigs, leaves and cacao pods that contain lots of lignin and cellulose, further research is needed to find microbes that effective in decomposing of cacao waste in field conditions, kinds of media that can enhance the growth of rot fungi and production of celulolytic enzymes. Various isolates of white rot fungi and bacterial rot have been isolated and collected. To determine its growth rate, these isolates were grown in three different culture media and measure their colony diameter in two days interval. Isolates were then tested qualitatively for their ability to produce cellulolytic enzymes in vitro. The analysis of the cellulose, hemicellulose and lignin content in leaf and cacao pod after treatment with fungal and bacterial isolates in vitro were conducted. The result showed that all of isolates were capable in cacao waste degradation. Treatment with fungal isolate caused high percentage reduction of hemicelluloses components on cacao leaf. Lignin component generally has not experienced a significant reduction in all fungal treatments. On cacao pod, decreased of lignin components 30 days after inoculation was still very low in all treatments. The ability of fungal and bacterial decomposer in the combination treatment has also been tested in this study. It also observed the ability of decomposer in reducing of pathogen inoculums contained in the cacao pod husk waste (*P. palmivora* and *Lasiodiplodia theobromae*). The combination treatment proved, not only able to degrade the cacao waste faster than in a single treatment, but it also can reduce the amount of pathogen inoculums in cacao waste. The competence to suppress the growth of the two main cacao pathogens showed satisfactory results. Currently research for the development of microbial decomposers ready-made formulations are being conducted.

**Keywords:** cacao pod husk waste, fungal and bacterial decomposer, *P. palmivora* and *L. theobroma*
Snakehead fish (*Channa striata*) culture in South Sulawesi: Current status and prospect

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ABSTRACT

Snakehead fish (*Channa striata*) becomes populer due to its albumin and micro mineral contents that have a role in human health. Snakehead fish protein extract significantly increases the level of albumin in hypoalbuminemia patients and and accelerate the process of wound-healing in post-surgery patients. We have extracted protein contain albumin from snakehead fish and produce tablet as a food supplement. However, producing albumin tablet faces obstacle on colecting the fish fillet as raw materials. Snakehead fish have not culturedyet in South Sulawesi. Its ecology and reproductive biological aspects are still unknown. To provide information on those aspects, we have identified its morfological, sexual and water quality characteristics. Description of its morphometric and meristic showed that the fish has 42–43 dorsal fin, 14–15 pectoral fin, 6 ventral fin, 25 anal fin and 13 caudal fin. This fish also has 1 pair of short antennae. Its operculum has grey color, brownies and white. Abdomen color is mostly white in female and with many of small black dots in male. The number of linealateralis is around 50–53, vertebrae is 48 – 49, and number of gill is 4. The female fish is relatively bigger than the male one. The body length is approximately 20 cm for male and 25 cm for female. The body weight is approximately 150 g for male and 200 g for female fish. The morphology of fish head showed that female’s head more flat compare to the male one. The male fish performed equivocal in the area between eyes and head edge. Histologic parameters of gonad showed that it was clearly different from female gonad and male gonad. The female gonad showed small follicles and chorion was performed. The male gonad showed testis tissue contained spermatogonia. Water quality parameters showed temperatur was 25–28 °C, salinity was 4–7 ppt, pH was 3.5–7.6, dissolvedoxigen was 3–6 ppm and appearancy was 1–1.5 m. The parameters performed values in a range of tolerant for aquaculture fish. These parameters showed the prospect of snakehead fish culture as economically potential commodity for acid soils contains high organic matterand low level of oxigent.
Phytophthora pod rot in local clones in North Kolaka, Sulawesi

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ABSTRACT

Cocoa farmers in Sulawesi have to cope with a number of pests and diseases which cause severe losses to production. One of the most important of these is Phytophthora pod rot (Ppr) or black pod caused by the stramenopile pathogen Phytophthora palmivora. This soil-borne pathogen also affects stems, seedlings and mature leaves, but most losses are incurred by Ppr. Ppr was evaluated between June 2010 and May 2012 in local cocoa clones in a trial in North Kolaka, Sulawesi. Average Ppr incidence for the cumulative harvest of two years was 13.0% and 14.2% in PBC123 and M01, respectively, higher than in the same clones grown in other districts such as Pinrang and Polman, presumably due to the particularly high annual rainfall in North Kolaka (1869 mm in 2011). Ppr incidence was positively correlated with total monthly rainfall and the number of wet days per month. This is consistent with motile zoospores being the primary infection agent and their dispersion by rainsplash from other infected pods. Some clones had a lower average Ppr incidence for the two-year evaluation period than other clones, but even these clones were susceptible to Ppr in particularly wet periods. Ppr incidence in all ripe pods was two to three times as high as in ripe pods infested with cocoa pod borer (CPB): for example, CPB-infested pods of PBC123 and M01 were infected with Ppr at rates of 3.7% and 5.1%, respectively. The reason for the disparity in infection rates between CPB-infested ripe pods and total ripe pods is uncertain but ripe pods infested with the pest may have been harvested earlier than other ripe pods, reducing the opportunity for infection by P. palmivora zoospores. Sanitation by the removal of all infected pods is essential to maintain sustainable production on cocoa farms.
Development strategies agroindustry passion fruit in Gowa regency

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ABSTRACT

Purple passion fruit (Passiflora edulis f. edulis) is one of the leading commodity in Gowa, with typical acid taste and high vitamin C content. Gowa supplies passion fruit into a large industry in Makassar and sekitanya and perform processing. But the processing of the product carried out low competitive power caused the lack of value-added products, the less processed products aneke, designs products that are less interesting, and weak market access. This research was conducted to obtain an analysis of the development strategy of the industrial hub of passion fruit in Gowa, South Sulawesi province, which brings together the principal players in one of the industrial centers of activity passion fruit capable of creating added value, an increase in the competitiveness of a given impact on the improvement of the local community economy. This research was conducted in the Gowa based on certain criteria. 1) conducts development of a variety of passion fruit derived products; 2) innovating packaging display so it has the characteristic of packaging and into attraction; Institutional Strengthening of agro-industries) 3 passion fruit; 4) the use of information technology for marketing the product and 5) Improved coordination between stakeholders (the Government, farmers, traders, processors).

Key words: passion fruit, development of agro-industries, food industry, Gowa Regency.
The potency of *Azotobacter sp.* isolated from Rhizosfer cocoa plants (*Theobroma cacao* L.) in producing hormones Indole Acetic Acids (IAA)

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**ABSTRACT**

The potency of *Azotobacter sp.* in producing hormones IAA influenced by root exudates and isolate origin (source isolates). Rhizosphere region is an area of biological and chemical activity of soil influenced by the root compounds released by intensive and is food for soil microorganisms. This research was conducted to analyze the potency of *Azotobacter sp* isolates were isolated from the rhizosphere of cocoa plants. A Total of 17 *Azotobacter sp.* bacterial has been isolated from the rhizosphere of cocoa plants in Sulawesi. Tests have been run to determine the ability of the isolates in producing Indole Acetic Acid (IAA). To measure the production of IAA by the isolates, the bacterial were cultured on NB medium suplemented with 0.1g L-Triptofan and incubated for three days. The results revelead that the isolate *Azotobacter* produced IAA in range between 0,80 ppm – 3,30 ppm. The highest amount of IAA (3,30) was produced by isolate Az 24.

**Key word**: cocoa, rhizosfer, azotobacter, indole acetic acid
Seed priming technology application with halopriming agents on rice crop tolerance improvement to saline stress

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ABSTRACT

This is an ongoing experiment. We are applying halopriming agents on rice seed to test their effect in improving stress tolerance in rice plants to saline stress and determine which of agent halopriming that have better effectiveness in improving saline stress tolerance. The experiment was designed using Split Plot Design. Main plots were varieties consisted of two varieties, i.e.: Banyuasin representing saline tolerant variety and Membramo representing susceptible variety. Halopriming was set as sub plot consisting of four types of halopriming agents, namely NaCl, salt, CaCl₂, Ca(OH)₂, and control treatment of distilled water. Electrical conductivity (EC) of the salt’s solution prepared is equivalent to 15 mS cm⁻¹, but for an agent halopriming form Ca(OH)₂ the maximum EC that can be achieved was 8 mS cm⁻¹. Fresh water irrigation was supplied at the beginning of plant growth (up to age 30 DAP) and was subsequently changed to saline water. Irrigation water salinity conditions were kept at high salinity level (12 - 16 mS cm⁻¹). Preliminary result indicated that all the priming agent in effect increased adaptivity in the non tolerant variety but did not show any different between the agents applied. Flowering time occurred almost at the same age in the salt intolerant Membramo varieties for all priming agents, i.e. 68.67 DAP which is considered as normal when compared to variety description flowering data (approximately 70 DPA), whereas for Banyuasin (tolerant varieties) flowering flowered normally (80 DAP).

Keywords: seed priming, halopriming, stress copy, varieties, tolerance.
The correlation between climate suitability indices with maize yield in the humid tropics of South Sulawesi

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ABSTRACT

Beside management practices, maize production depends on environmental conditions. The main environmental factors influencing maize growth are precipitation, moisture, temperature and solar radiation. Maize shows tolerance to a wide range of climate environmental conditions. The primary aim of this study is to assess the correlation between climate characteristics and maize yields in the humid tropics of South Sulawesi, Indonesia. The study area covers various climate types throughout South Sulawesi where maize is cultivated. Ten year meteorological data used in this study were collected from eleven climatology stations. Maize yield data were collected from 61 sites of farmer’s maize cropping rainfed plot. Data of maize yield were correlated to climate characteristics as well as climate indices with Pearson correlation. Climate indices was determined using Square Root method. The highest average productivity can be found in the southern region with relatively dry climate (E type), while the lowest productivity is in the northern region with relatively wet (humid) (A type). There is strong indication that climate type of A (humid, no dry month) have a lower maize yield compared to those which have 2 – 4 dried month (D and E). The precipitation of growing cycle, actual sunshine hour (development and maturation stage) and climate indices show significant correlation with maize yield on the three different climate region of South Sulawesi (with $R^2=0.515$).

Keywords: climate suitability indices, maize yield, humid tropics, South Sulawesi
The role of artificial seagrass on macrozoobenthic community

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ABSTRACT

Sea grass ecosystem is important in supporting marine biodiversity. However, this ecosystem is threatened by anthropogenic factor due to its proximity to the human activity on the land. Area of sea grasses is decreasing all over the world, but only limited data available to show the phenomena accurately. Therefore, people awareness is needed to start thinking on how to conserve or even doing rehabilitation on this system. The objectives of the research were: 1) to analyze the effect of some types of artificial and transplanted sea grass on improvement of marine biodiversity with focus on macrozoobenthic community; 2) to analyze the ecological function achievement of artificial sea grass by comparing macrozoobenthic community found in artificial, transplanted, and natural sea grass habitat. The study was experimentally designed using two types of artificial sea grass (ribbon shaped of polypropylene dan scrub shaped of plastic leaves), transplanted, and natural sea grass. The size of the artificial sea grass was 4x4m² with 3 replicates. Sampling of macrozoobenthic community (using grab sampler) was done every two week for 3 months. It was found 116 species of macrozoobenthos in artificial sea grasses and 91 species out of it was gastropods. There was no significant difference both in species number and density of macrozoobenthos between treatments. In comparison to the transplanted natural sea grass, artificial sea grass made from plastic leaves (scrub shaped) showed higher density of macrozoobenthos. Diversity index was also higher in the artificial sea grass compared to the transplanted natural sea grass. There were a distinct separation in community structure of macrozoobenthos found in the artificial seagrass/transplanted sea grass and natural seagrass bed.

Keywords: artificial sea grass, transplanted sea grass, macrozoobenthos
A preliminary study of *Graphium androcles* boisduval (Lepidoptera : Papilionidae) in Bantimurung-Bulusaraung national park, South Sulawesi

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**ABSTRACT**

*Graphium androcles* Boisduval (Lepidoptera : Papilionidae) is the one of butterflies species who lived in Bantimurung-Bulusaraung National Park, Maros District South Sulawesi, Indonesia. Currently, the research about behaviour, larval and pupae morphology and life history of *G. androcles* and their food plant has never been done. The purpose of preliminary study to know the presence of *G. androcles* in nature. Our survey in Bantimurung-Bulusaraung National Park was conducted in January to February 2013 by explore butterflies habitat and interview with local people. Our preliminary result was showed, *G. androcles* population decreasing mainly caused by illegal wild hunting and harvest from nature. *G. androcles* not included in Indonesian regulation about the trade and utilization of wild animals and plants, i.e PP 7 and 8 year 1999 and UU no. 5 year 1990. Based our result, the presence of *G. androcles* in Bantimurung-Bulusaraung need more research to avoid them in endangered species status.

**Key words**: *Graphium androcles*, life history, behavior, butterflies
Comparison of body dimension of Gaga’ and Pelung chicken as Indonesian song type chicken

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ABSTRACT

Gaga’ chicken (Laughing Chicken) is an indigenous local chicken from South Sulawesi Indonesia. This chicken was known as one of Indonesian germ plasm animal and ornamental chicken in Indonesia that have to be conserved. Gaga’ chicken have the unique characteristic of crowling voice that like human laughing voice with several interval voices, have attractive feather color, good body performance and have high economical price. Unfortunately, there were limited research and scientific publication about body dimension of Gaga’ chicken. The aim of this research was to determined some body dimensions of Gaga’ chicken as quantitative traits and to compare it with other singing and local type of chicken in Indonesia for providing more information data that can be used in breeding and development of Gaga’ chicken. The body measurement parameters, which were measured from 22 birds of Gaga’ chicken in Slow type and 42 birds in Dangdut type at Parepare city, Sidrap regency, Barru regency, Soppeng regency, were body weight, shank length, shank circumference, drumstick length, thigh length, breast length, chest girth, breast width, body length, wing length, neck length, and comb height. The measurement tools were weight scale, metric line, and caliper. The data were analyzed using descriptive statistical. Results showed that all body dimension of Gaga’ chicken (Slow type and Dangdut type) were smaller than Pelung chicken. There were no body size differences between Dangdut type and Slow type of Gaga’ chicken. The percentage of heterogenity of Gaga’ chicken population (base on the body dimensions) were low (CV = 0,1-0,5%) and it is not recomended to do the selection activity in those Gaga’ chicken population.

Keywords: Gaga’ chicken, singing chicken, body dimension, germ plasm
Early Adaptation of Ten Rice Varieties to Salinity Stress Using the Seed Priming Technology at Germination Stage

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2Master student, Agriculture Systems, Hasanuddin University Graduate School, Makassar, Indonesia
3Undergraduate student, Agrotechnology, Faculty of Agriculture, Hasanuddin University, Makassar, Indonesia.

ABSTRACT

The aim of the present study was to evaluate tolerance of rice seed from 10 varieties at germination phase under salinity stress through "seed priming" technology with NaCl priming materials, and gain adaptation methods of rice seeds to salinity stress, through the applicable technology. Seed germination experiments was conducted at the Laboratory of Plant Breeding and Seed Science and Technology, Department of Agriculture, Faculty of Agriculture, University Hasannuddin, in May 2012. Salinity stress in general lowered seed germination, but the decline was greater in the seed without seed priming (control) compared to priming. Variety of rice used was a highly significant factor in the germination, shoot length, root length, and root to shoot length ratio of rice plants grown in saline media (at 15.9 mS or 150 mMNaCl). Halo-priming was a very significant factor in seed germination and root to shoot length ratio, and only affected root length significantly but did not significantly affected length of the shoot measured. Interaction between rice variety and halo-priming level gave significant effect on germination variables and on the variable of shoot length, root length, and the ratio between the length of root and shoot length.

The results of this study indicated that halopriming increased germination rate and other growth parameter in rice seed varieties tested grown on saline media. However, each variety had certain NaCl priming concentration for optimal germination with maximum of 150 mMNaCl to induce tolerance to salinity stress in several rice varieties tested.

Keywords: Rice, early adaption, salinity stress, seed priming, halopriming
Evaluation on forages quality obtained from post-mining land of P.T. Vale Tbk. to support ruminant development in South Sulawesi

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² Post graduate student, Faculty of Animal Science, Hasanuddin University, Makassar, Indonesia (90245)
³ Tropical pasture Lab., Faculty of Agriculture, University of the Ryukyus, OKINAWA, 903-0213, Japan
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ABSTRACT

The purpose of this research was to evaluate biomass production, botanical composition, dry matter and organic matter digestibilities, heavy metal content (Ni, Cr and Pb) of forages obtained from post-mining land of PT. Vale Tbk. (previously known as PT. Inco Tbk.) Soroako, East Luwu Regency, South Sulawesi Province, Indonesia. This research was done in 2 stages. The first stage was carried out at post-mining land of P.T. Vale Tbk. to evaluate the existing growing forage (biomass production and botanical composition) by taking forage samples using the modified Dry Weight Method. The second stage was conducted at the Chemical Feed Labortory, Faculty of Animal Science, Hasanuddin University to determine heavy metal content (Ni, Cr and Pb) of the forage, fibre composition (NDF, ADF, ADL, cellulose, and hemicelluloses) of the forage, and forage digestibility. The results of study indicated that botanical composition of forages consisted of 87% Brachiaria decumbens (BD), 6% Centrosema pubescens (CP), 4% Calopogonium muconoides (CM), and 3% Impatra cylindrical (IC). Dry matter yield was 13.68, 3.96, 0.8, and 0.8 ton/ha/year for BD, CP, CM and IC, respectively. Dry matter and organic matter digestibilities of BD, CM, and CP were much higher than that of IC. The heavy metal (Ni, Cr and Pb) content of the forages was above the safety threshold level of that set by BPOM (Food and Drug Observatory Agency), therefore it has a potency to instigate negative impact when used as feeding for ruminant.

Keywords: Post-Mining Land, Heavy metal content, Forage Production; In vitro digestibility
Bringing Hope to Marginal Environments: The Potential of the Carbon Isotope Discrimination Technique to Select Wheat Cultivars in Drought-Prime Environments

Introduction

Whitefly, Bemisia tabaci, causes severe economic damages in various crops, including wheat, which has a high-value market. The whitefly is a significant pest in the developing world and causes severe economic losses. The introduction of various crops to whiteflies has been a significant challenge in agricultural production.

To tackle this, the use of volatile organic compounds in the atmosphere is being explored. The use of volatile organic compounds has been found to be effective in controlling whitefly populations. However, the use of volatile organic compounds has been limited due to their high cost and environmental impact.

Results

The use of volatile organic compounds is a promising technique to control whitefly populations. However, the use of volatile organic compounds has been limited due to their high cost and environmental impact.

Discussion

The use of volatile organic compounds is a promising technique to control whitefly populations. However, the use of volatile organic compounds has been limited due to their high cost and environmental impact.

Conclusion

The use of volatile organic compounds is a promising technique to control whitefly populations. However, the use of volatile organic compounds has been limited due to their high cost and environmental impact.

Acknowledgments

The authors acknowledge the support from the South African National Apartheid Museum.

References


Table 1. The potential of the carbon isotope discrimination technique to select wheat cultivars in drought-prime environments.

<table>
<thead>
<tr>
<th>Cultivar</th>
<th>Control</th>
<th>Drought</th>
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</thead>
<tbody>
<tr>
<td>A</td>
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<td>1.5</td>
</tr>
<tr>
<td>B</td>
<td>1.3</td>
<td>1.6</td>
</tr>
<tr>
<td>C</td>
<td>1.4</td>
<td>1.7</td>
</tr>
<tr>
<td>D</td>
<td>1.5</td>
<td>1.8</td>
</tr>
</tbody>
</table>

Fig. 1: Percent plant height compared to the control.

Fig. 2: Percent plant height compared to the control.

Fig. 3: Percent plant height compared to the control.

Fig. 4: Percent plant height compared to the control.

Fig. 5: Nymphs infected by B. tabaci.
Rector Forum:

Discussion on strategy of partnership between the university and the local community, placement of SUIJI

1. Yasunobu Yanagisawa (President, Ehime University)
2. Herry Suhardiyanto (Rector, Agricultural Institute of Bogor)
3. Dwia Aries Tina Pulubuhu (Rector, Hasanuddin University)
4. Seigo Nagao (President, Kagawa University)
5. Pratikno (Rector, Gadjah Mada University)
6. Hiroshi Wakiguchi (President, Kochi University)
The SUIJI Program to Strengthen the Network of Higher Education Between Indonesia – Japan

Yasunobu Yanagisawa
President, Ehime University
Rector Forum,
4th SUIJI Seminar
UNHAS, Sep 14-15, 2014

Outline of SUIJI Programs

Service Learning Program (SLP)

The Role of SUIJI-SLP both to the University and Community

• To Undergraduate Education
  ☃ Providing multidisciplinary programs throughout social to natural science
  ☃ Learning history, culture and intellectual in the community
  ☃ Bringing the academic knowledge and ability into full play for the community
  ☃ Strengthening the cooperation with the community

• To the Community
  ☃ Providing an opportunity to lead the community to a breakthrough by international knowledge exchange
  ☃ Globalizing the community by international community service

JDP-Dc

Host
Joint Education
Comprehensive Agriculture Science

Joint Program
Seminar

Home
Doctor Program at Home
Students spend a year for research in the area of Tropical Agriculture at the home university.

JDP-Ms

Host
Joint Education
Tropical Agriculture

Joint Program
Seminar

Home
Master Program at Home
Students spend 6 months in year for research in the area of Tropical Agriculture at the home university.

Development of SLP in Ehime Univ: Now and future

1. Strengthening and expanding the program by obtaining two funds of Rector’s discretion.
   - Developing a new curriculum “Project Planning Based Learning PP-BL” for training the practical skills and planning ability of servant leaders.
   - Expanding the service learning program to the whole university as a curriculum to train generic skills

2. Implementing SUIJI-SLP as an elective course in Faculty of Transdisciplinary Regional Studies, that will be established in 2016.
Future Projection of SUIJI-JDP

1. Adapting SUIJI-JDP to the "MEXT's JD Scheme" to be approved by the government.
   - Japanese Ministry of Education (MEXT) recognizes our SUIJI-JDP having been carried out
   - MEXT has announced an official guideline of JD in detail

2. Expanding the subjects of SUIJI-JDP
   - From Tropical Agriculture to other fields in natural science and social science.
   - Expanding the system to other faculties

Future Prospects of the SUIJI Program

Adapting to the "MEXT's JD Scheme"

MEXT's JD Scheme

- A university in Japan and one/multiple university in foreign countries should jointly issue a single diploma with the names of multiple universities.
- A university in Japan and another in a foreign country should establish a jointly organized major.
- A university in Japan will recognize the credits issued by foreign universities as equivalent to those issued by themselves.
- Graduation will be approved when the students earn more than a half of their credits in their home university and must earn more than 1/4 of their credits in the host university.

Comparison between SUIJI-JDP and MEXT-JD

I would kindly like to ask for your continuous efforts to strengthen our SUIJI network and collaborate to promote Sustainable Agriculture in the Tropics toward our future.

Thank you for your attention.

Terima kasih
Center of Community:
Kochi University’s new goal

- **Aim**: strengthening the functions of Kochi University as a leader within its local communities
- **University function**: the focal point of human resources, information, and technology that can be applied to community problems

The 3rd SUIJI Seminar 2013

Thank you very much for joining us in Kochi! Terima Kasih!

“University for the Communities”

- To take countermeasures against community problems together with regional stakeholders
- To promote Community Collaboration Education

Center of Community:
Kochi University as a Center of Community

Hiroshi Wakiguchi President, Kochi University

2014 SUIJI-SLP: An ideal stage for the students to develop international ideas and perspectives.

Activities in Kochi took place in three sites: Kashiwajima Island, Yasuda Town and Muroto City
Aug. 21 – Sep. 5, 2014

Beach Cleaning (SUIJI)

Together we cleaned Shirahama Beach, a famous swimming resort.
Clearing the Road to the Wells in the Rice Terraces (SUIJI)

In times of natural disasters, the wells are the only water sources. Clearing the road on the villagers’ request.

Cooking Local Food (SUIJI)

The students experienced cooking local food with the help of ladies of the island.

Students’ Photo Gallery (SUIJI)

Students took and displayed photos of the beautiful island. Local people will vote for the best photos to make postcards.

Survey Among Local People (SUIJI)

Interviewing village people about life in the community.

JICA Training on Comprehensive Disaster Risk Management

It took place from August 12 to September 3, 2014 with 15 participants from 11 countries.

Lecture on Measures against Storm and Flood Damages (Prof. Koji Sassa)

The picture shows a weather experiment on Aug. 21, 2014.
Observing the Construction of a Sea Wall
(Prof. Tadashi Hara) JICA Training 1

The technology used was developed in Kochi’s companies.

Improvement of Education in Remote Areas
-For the Achievement of MDGs and EFA-

JICA Training 2

The training period is 2 weeks from Sept. 4 to Sept. 17 with 19 participants from 12 countries. It focuses not only on the system and policy but also on methods of teaching and school management in remote area education.

Work shop for problem analysis
JICA Training 2

The trainees picked up the problems in education common to the participating countries, and had discussions to search for the solutions.

Observing “Training for teaching license renewal” in Kochi University
JICA Training 2

As a part of the introduction to the Japanese teacher’s license system, participants made observation the training of teaching license renewal.

Faculty of Regional Collaboration will start in April 2015.

Mission:
To cooperate with local people and organizations to solve local problems.

Capacity:
60 students/year.

It will be the first faculty of this kind among national universities in Japan.

Pupils of a primary school in remote area of Kochi prefecture gave welcome speech to the course participants as they made observation visit there.
The Faculty of Regional Collaboration aims to foster people who will create new businesses with the combination of all industries, agriculture/forestry/fishery, manufacturing, and service.

Our students already assist rural communities with different tasks and, in return, gain invaluable experiences. Here they are carrying the portable shrine during an autumn harvest festival in the mountain area.

Students’ learning promotes regional collaboration and problem solution. This is a view of a small tea plantation where the students help and learn to pluck the tea leaves.

1st to 4th year undergraduate students will do fieldwork in many localities of Kochi Prefecture. They will also take part in regional problem solution and devise their own plans for activation of local communities.

The students’ power helps revitalize and develop the local communities. Here they are helping to clean up the harbor.

Let’s Study Together!

Hiroshi Wakiguchi
President, Kochi University
Initiative for Second Stage Development of SUJI Consortium:

Appreciating the First Stage:
- MoU/MoA
- Student mobility (SLP)
- Joint Master Program

Toward Second Stage:
- Joint Doctoral Degree Program
- Joint Research and Publication
- Promoting sustainable Agriculture in The Tropic

IPB
Scientific Field:
• Food Security and Safety based on Indigenous Resources/Knowledge
• Sustainable Bio-Energy
• Environmental Management
• Basic Biomedical Research
• Poverty Alleviation

Methodology and Modality:
• Integration of community need and research and education with respect of Impact on People Welfare
• Formulating Research Field, Building Institutional Framework
• Funding Integration, especially for Graduate Student

UNHAS
Scientific Field:
• Food Security
• Development of agriculture related to infrastructure

Methodology and Modality:
• Joint research related to graduate program
• Optimizing Financial Research Funding from Ministries and Other Sponsors
• Improving academic and research quality

Ehime University
Scientific Field:
• Environmental Conservation
• Water Resource Management
• Efficient Food Production
• Innovative Fish Cultivation
• Functional Food and Health Science

Methodology and Modality:
• Increasing the number of supervisors to receive Indonesian JDP students.
• Expanding the courses for the SUJI Joint Education Programs
• Recruiting Japanese JDP students to be sent to Indonesia
• Enhance collaboration between globalized domestic companies.

Kagawa University
Scientific Field:
• Food Production
• Horticultural Science
• Environmental and Ecological Science
• Biological Molecular Science
• Plant Science
• Life Science and Biotechnology
• Food Science

Methodology and Modality:
• Exchange of Research Information
• Finding common research topics
• Planning of Research Project
• Conduction of Research Project

UGM
Scientific Field:
• Forestry on dry land
• Water sourcing for remote communities
• Natural disaster risk management
• Food and feed safety
• Biological control for plant disease

Methodology and Modality:
• Interdisciplinary approach
• Setting priority research themes
• Working with communities
• Facilitating resources
• Enabling staff and students
• Administrating and controlling
Kochi University

Scientific Field:
- Promoting Sustainable Agriculture in the Tropics
- Research topics related with the human resources of the university.

Methodology and Modality:
- Settle a steering committee for research collaboration.
- This committee member could be the representative of each six universities.
- The most urgent topics should be selected by the committee based on the topics raised from each university.
- Concentrate to get a national level budget by each university.

Initiative from Members of SUJI Consortium:

Note of today's Presentation

Formulating Second Stage of SUJI Consortium Activities:
- Continuing First Stage: Student Mobility, Master and Doctoral Degree
- Staff Mobility
- Identifying Research Priority
- Setting Management in regards to Government Regulation: Japan and Indonesia
- Settle a steering committee for research collaboration
- Funding Resource Alternative
Development of Field Work Programs at Kagawa University

Dr. Seigo Nagao
President, Kagawa University

The 4th SUIJI Seminar
Six University Initiative Japan Indonesia
Makassar, Indonesia
14th - 15th September 2014

Kagawa University

Kagawa University has 4 campuses

Kagawa University consists of over 11,000 people working together

COC project establishes cooperation with self-governing bodies to introduce many students

1. Cooperation with self-governing bodies through the Seto Inland Sea area vitalization project
2. Equal Financial support (5:5) between university and self-governing body for the project
3. Contribution of resources of local public policy of Kagawa University Graduate School of Management

COC project establishes cooperation to solve local problems

Seto Inland Sea Area Vitalization Projects
1. Takamatsu City Settlement and Tourism Promotion Project
2. Takamatsu City Town Vitalization and Industry promotion Project
3. Marugame-City Settlement Promotion Project
4. Mitoyo-City Regional Vitalization Project
5. Kannonji-City Settlement Promotion Project
6. Higashikagawa City Settlement Promotion Project
7. Utazu-Town Regional Vitalization Project

Creation of New Industries
1. Rare Sugar Projects
2. Medical Welfare Projects
3. Manufacture Project

Creation of Initiatives of Human Power Development

Kagawa Prefecture

Students
- Undergraduate 5,636
- Graduate 817
- International 193

Affiliated schools 1,987

Faculty & Staff
- Full time 1,892
- Part time 981

OUR TEAM 11,506
Kagawa University created a new curriculum to meet new challenges

1. Creating new curriculum “Seto Inland Sea Area Vitalization Projects” for all colleges
2. Introduction of project type class lesson, especially field work type class lesson
3. Start of Internship in regional firms
4. Enrichment of field type lessons like service learning program for talent training which can contribute to regional vitalization

2013 Seto Inland Sea Vitalization Projects were a great success

COC Program Higashi Kagawa City: Students took pride in their results

Japanese & Indonesian students developed communication ability working in a local area

Field Work Class in Seto Inland Sea Area Vitalization Projects had a strong positive impact

1. Local areas face declining populations in the young generation and students are key for regional vitalization
2. Fresh opinions and proposal by students are significant for local people
3. For students, field work in a “local society” is a new experience and is significant to experience real society
4. Seto Inland Sea Area Vitalization Projects have a strong impact to show the university to local people, local government and local businesses

2014 Seto Inland Sea Vitalization Projects expanded on previous successes

1. Local areas face declining populations in the young generation and students are key for regional vitalization
2. Fresh opinions and proposal by students are significant for local people
3. For students, field work in a “local society” is a new experience and is significant to experience real society
4. Seto Inland Sea Area Vitalization Projects have a strong impact to show the university to local people, local government and local businesses
The students organized a Nakayama rice terrace support group and started the activity in 2014. Supported traditional local events such as “Mushiokuri”.

SUIJI Project Program leads to the future

1. Successful operation of 2013 program was performed and student participants increase from 11(2013) to 21(2014) in the domestic service learning program in Kagawa University.
2. From 2014, the introductory subject of SUIJI-SL was added university wide to the curriculum, and students from the faculties of engineering and economics joined the SUIJI-SL Program in 2014.
3. As a student oriented project, Nakayama Rice Terrace Support Group started in 2014 mainly organized by SUIJI-SL experienced students and obtained financial support from Kagawa University.
4. In 2013-2014, six master course students were involved in student exchange as part of the joint degree program between Kagawa University and Indonesian universities.

Kagawa University will host the 5th SUIJI Seminar

Development of Field Work Programs at Kagawa University

Thank you very much
See you in Kagawa in 2015!

Dr. Seigo Nagao
President, Kagawa University
1. SLP Service Learning Program (KKN-International)
   - Learn Regulation of Ministry of Education/DIKTI on Join Degree accreditation.

3. JDP-Dc (Join Degree Doctoral Program)
   - MoA Signing: 14 September 2014
   - Guideline: One guideline for 3 Universities or 3 guidelines (One each) ---- possibilities
   - We need to learn Indonesian regulation on Joint Degree and its accreditation and revised the guideline accordingly

2. JDP-Ms (Join Degree Program of Master)
   - MoA-signing: 2012
   - 6 graduated students (3 students will be inaugurate today)
   - Guideline: to be revised according to the MEXT regulation: the Recognition of DIKTI is a requirement

Agenda:
1. SUIJI-JDP-Dc
2. Certify SUIJI-JDP-Ms certificate for the three students
3. The schedule for SUIJI-JDP-Ms selection (for Indonesian students)
4. The schedule and the sites for the coming SUIJI-SLP Indonesia
5. The schedule and budget for next year's SUIJI-SLP Japan
The general aim of this agreement is to establish the regulations of the SUIJI Consortium to certify that a student who is registered to the SUIJI-JDP (Program-student) of each university has completed the SUIJI-JDP-Dc, by meeting the requirements of the home university, by completing the Joint Educational Program operated by the host university and by writing a dissertation under the joint supervision of the home university and the host university.

The status of the Program-student will be that of 'special auditor' at the Japanese universities and that of 'auditor (mahasiswa pendengar khusus) etc.' at the Indonesian universities.

The dissertation will be judged by a review committee organized by the home university. The review committee must include at least one supervisor from the host university.

It is desirable that one or more professors of the other universities constituting the SUIJI consortium be included in the review committee.

Rules regarding the selection of the Program-student will be determined separately.
Issues to be discuss in 2014-2015

To settle a steering Committee for research Collaboration
We need to search way for financing and budget (DIKTI etc)
Involvement of Private, industry and business sectors
Lets proceed together aiming at safe future

SUIJI Characteristics:
1. Promoting Sustainable Agriculture in the Tropics
2. SIX (6) University Ehime, Kochi, Kagawa – UGM,IPB and UNHAS ties two countries JAPAN – INDONESIA
3. SUIJI Promotion Office and Coordinator in each University ensure the coordination and activities

Other issues

1. Promoting Sustainable Agriculture in the Tropics
2. SIX (6) University Ehime, Kochi, Kagawa – UGM,IPB and UNHAS ties two countries JAPAN – INDONESIA
3. SUIJI Promotion Office and Coordinator in each University ensure the coordination and activities

Thank you very much Arigatou gozaimashita
Student Forum:
Understanding Other Culture Towards New Global Citizen

- Chisato Oue Naoko Ban, Ayane Nakado Airi Kikugawa (Ehime University)
- Imran Marjuni, Maryati, Andi Massoeang Abdillah (Hasanuddin University)
- Masahiko Suzuki, Yuya Matsumae (Kagawa University)
- Resti Diah Utami (Gadjah Mada University)
- Chisa Futa (Kochi University)
Experience and suggestion about SLP

What is SUIJI-SLP?
Six University Initiative Japan Indonesia -Service Learning Program
Work in rural area
Find key to settlement

Activity in JAPAN
Cleaning

Activity in JAPAN and INDONESIA
Connection

Activity in JAPAN
Wish for SUIJI-SLP

OUTLINE
What is SUIJI-SLP?
Activity in JAPAN
Activity in INDONESIA
What will we do?
Wish for SUIJI-SLP
Activity in INDONESIA
Found garbage problem
Picked up garbage
Took to garbage bank

Activity in INDONESIA
Made sign board about garbage

Activity in INDONESIA
Went to school
Sharing of Japanese culture, origami

Activity in INDONESIA
Went to school
Telling about Garbage problem
Garbage disturb a beautiful scene

What will we do?
Make Compost
Grow plant
Educate

Make compost
Recycle of organic garbage
Make good soil
Grow plant

Vegetable from compost

Education

Difference between organic and plastic

Wish for SUIJI-SLP

- Divide two sites (Sepermonde and Traja)
- Make compost before SLP by UNHAS students

Thank you for your attention...
Terima kasih
Intercultural Understanding Between Japan and Indonesia: Shikoku Island and Makassar

DIFFERENT THINGS BETWEEN JAPAN AND INDONESIA

We decide in 3 groups:
- Society
- Environment
- Economy

THAT'S THE REASON WHY WE NEED UNDERSTAND EACH CULTURES

Society

<table>
<thead>
<tr>
<th>Japanese</th>
<th>Indonesian</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Habits Habit of drinking beer</td>
<td>Reasonable</td>
</tr>
<tr>
<td>Wake up time in the morning</td>
<td>07:00 AM</td>
</tr>
<tr>
<td>Time Management</td>
<td>On time</td>
</tr>
<tr>
<td>Eating raw food: Fresh fish</td>
<td>Like</td>
</tr>
</tbody>
</table>

Environment

JAPAN
- Not crowded
- No traffic jam
- No pollution

INDONESIA
- Crowded
- Traffic jam
- Pollution

Interaction

Rarely
Well established
Shy
Friendly

Communication between neighbors
Attitude children when we first met
Communication with new visitors

Communication

Some people welcome and some people reject us

Wake up time in the morning
Praying time for Moslem
Time Management
Eating raw food:
- Fresh fish

THAT'S THE REASON WHY WE NEED UNDERSTAND EACH CULTURES
THAT’S THE REASON WHY WE NEED UNDERSTAND EACH OTHER CULTURES
CLOSING REMARK

First of all, let us be grateful and praise God for His Blessings to our health that all of us can get together in this room to finish the 4th SUIJI conference from Indonesian Universities and Japanese Universities. This session is to look at the urgency of developing mutual understanding to improve the quality of human relation through cultural exchange between Indonesia and Japan in constructing cultural perspective to live together in this lovely planet, especially in the Pacific belt.

We would like to express our gratitude to all students who have presented some experiences, perspectives, suggestions, and understandings in bridging the gap between two cultures Indonesia and Japan. We considered that this session is very fruitful to both sides of students from Indonesia and Japan who will develop more intensive collaboration in the future to solve common problems facing in the era of borderless cultures.

In this closing ceremony allows me to introduce you with the identity of Torajanese, Buginese, and Makassarase. It may be relevant to us in understanding other cultures.

Every Torajanese collectively wishes that their life achieves marendeng (happiness) by looking after kapiradesan (diversity) through tasiayoka (harmony). Their life mission is formulated as follows:

- *Situndansipakilala* (mutually awaking and reminding).
- *Solaki’ torro situndan rau-rau* (Unity in complexity, among all the differences).

In term of proper management of natural resources, they should remember of future generation through the formulation of their poem:

**Equity and Fairness among Generations**

- *Apasidurukdkale,* What you can pile up (will be)
- *Bua pa’bo’yo’-bo’yo’,* From the results of your effort
- *Sandannibati,* Think of our descendants, (they may)
- *Da’nasumpulalanna* Not be in eternal difficulty.

**Wise Priority**

- *Tang ma’anggetumorai,* Unlimited intention,
- *Tudikaduangina,* We need all,
- *Tappu’ meloi,* Choose wisely,
- *Umbannamupadolo.* Which one is priority (to do).

**Wise Leadership (Buginese)**

- *Naia riasenge pannawanawa,* A wisely creative leader is,
- *Mapacingi ri atina,* A man of sincere,
- *Sappairinawanawana,* Looks for solution of problems
- *Nalolongengnisininaadai* He is facing, (whether for)
- *Enrenegegau e napoleieja’* Avoiding catastrophes, or
- *Enrengenapoleiedeceng.* Gaining benefits
Eagerness (Buginese)

*Purababbar' sompekku,*
*Puratangkisi' golikku,*
*Ulebbirentellengenato' walie.*

Our sail has been unfolding,
Our rudder has been prepared,
Better to sink than to shore.

Obeying Custom Rules (Makassarese)

*Adakkangji, tojeng,*
*iyajiranrangtatappu’;*
*talarang bawang,*
*mananjo natunrung bara’.*

Consistently to grasp custom rules, (one will find)
An unbroken rope of anchor;
Unchanged (from the place where it is located),
Even inundating by storm.

Senandung Biru (by Former President of Ehime University)

風が吹けば 波が立ち、
波が立てば、船は揺れます。
それが自然の理法というものです。
いわゆる自然の理法に反することが不可能
だということです。
自然の理法にかかっていれば、
どのような困難にも、おのずから道がひらけてきます。

Ketika angin berhembus, tumbuhlah ombak;
Ketika ombak tumbuh, perahu bergoyang;
Itulah aturan alam.
Melawan aturan alam, mustahillah jadinya,
Berselancar bersama aturan alam,
Betapa pun rumitnya, akan terbentang jalan keluar.

Finally we would like to express our sincere appreciation to all Presidents of Japanese Universities, Rectors of Indonesian Universities, SUIJI Coordinators, and all participants. We hope our spent time will be fruitful for our co-existence and co-evolution. Thank you.

Makassar, September, 15th, 2014
Organizing Committee,

Prof. Dr. Dadang A. Suriamihardja, M.Eng
Chairman
Memorandum of Agreement for
the SUIJI Joint Degree Doctor Program
(SUIJI-JDP-Dc)

4th SUIJI INTERNATIONAL SYMPOSIUM AND SEMINAR
Makassar, 13-15 September 2014
Memorandum of Agreement for
the SUIJI Joint Degree Doctor Program (SUIJI-JDP-Dc) (Draft)

Ehime University, Kagawa University and Kochi University of Japan and
Universitas Gadjah Mada (UGM), Bogor Agricultural University (IPB) and Universitas Hasanuddin (UNHAS) of Indonesia agreed to the SUIJI (Six-University Initiative Japan Indonesia) Consortium concept and concluded "An Agreement for a SUIJI (Six-University Initiative Japan Indonesia) Consortium for Sustainable Agriculture in the Tropics" on March 16, 2011. The parties agree to the memorandum below to set up a doctoral course joint degree program (SUIJI-JDP-Dc) based on the second clause of the agreement.

The general aim of this agreement is to establish the regulations of the SUIJI Consortium to certify that a student who is registered to the SUIJI-JDP-Dc (Program-student) of each university* has completed the SUIJI-JDP-Dc, by meeting the requirements of the home university, by completing the Joint Educational Program operated by the host university and by writing a dissertation under the joint supervision of the home university and the host university.

1 SUIJI-JDP-Dc
1.1 An outline of the three-year doctoral course schedule

A Program-student, in principle, will first take classes at the home university for six to twelve months, then classes at the host university for six to twelve months, and return to the home university for the remaining period.

1.2 Study and research support system

A Program-student will study and conduct research under the direction of supervisors from both the home and host universities.

1.3 Host University

One of the three Indonesian universities will be the host university for a Program-student from the Japanese universities, and one of the Japanese universities will be the host university for a Program-student from the Indonesian universities.

* Each University in this MoA includes The United Graduate School of Agricultural Science, Ehime University (consists of Ehime University, Kagawa University and Kochi University), Graduate School of Integrated Arts and Sciences, Kochi University, Universitas Gadjah Mada (UGM), Bogor Agricultural University (IPB) and Universitas Hasanuddin (UNHAS).
1.4 Joint Educational Program

The host university will run the Joint Educational Program and provide a Program-student with instruction in English. The Joint Educational Program consists of classes, which will be determined separately.

1.5 Credits

The Program-student will take classes in the Joint Educational Program, obtaining the required credits at the host university on the basis of the doctoral course curriculum which is offered by the home university.

1.6 Dissertation

The Program-student will write a dissertation under the joint supervision of both the home and host universities.

2 Program-Students
2.1 Applicants

Doctoral course students of each university are eligible.

2.2 Number of Program-students

A few students will be accepted as Program-students at each university each year.

2.3 Program-student Selection

Rules regarding the selection of the Program-student will be determined separately.

2.4 Status of the Program-student at the host university

The status of the Program-student will be that of 'special auditor' at the Japanese universities and that of 'auditor (mahasiswa pendengar khusus) etc.' at the Indonesian universities.

3 Recognition of Credit and Degree Review
3.1 Awarding credits for the Joint Educational Program

The host university will evaluate a Program-student's learning achievement according to its standards and rules and send a transcript to the home university. The home university will then determine whether or not to award credits to the Program-student.
3.2 Dissertation review

The dissertation will be judged by a review committee organized by the home university. The review committee must include at least one supervisor from the host university.

It is desirable that one or more professors of the other universities constituting the SUIJI consortium be included in the review committee.

4 Conferral of Degrees and Certificates

The Program student, who obtains the authorized credits of this program stated in 3.1 and passes the dissertation review by the procedure determined in 3.2, will be given a doctoral degree by the home university (Doctor of Philosophy degree in the case of Japanese universities, or a Doctoral degree in the case of the Indonesian universities). The Program student will be issued a certificate of completion of the program by the SUIJI consortium.

5 Tuition and Fees at the Host University

The host university will not charge any testing, admission or tuition fees.

6 Other Expenses while at the Host University

The Program student, in principle, is responsible for all other necessary expenses (travel expenses, room and board, health insurance, etc.). The host university supports each Program student to find an appropriate accommodation.

7 Intellectual Property Rights

Rules regarding intellectual property rights will be determined separately.

8 Publication of Research Results

Rules regarding publication of research results will be determined separately.

9 Terms of the Memorandum

This memorandum shall remain in force for a period of five years, beginning on the date this memorandum is signed, and may be extended or modified according to agreement by all the parties. This memorandum may be terminated according to an agreement by all the parties at any time even though the term is not yet over.
10 Addition

This memorandum will be written in English, in six duplicate. All six copies will be equally official. Each party shall keep one signed copy.

Date: 14 Sep 2014
Signature: [Signature]
Rector
Universitas Gadjah Mada (UGM)
Indonesia

Date: 14 Sep 2016
Signature: [Signature]
President
National University Corporation
Ehime University
Japan

Date: 14/09/2014
Signature: [Signature]
Rector
Bogor Agricultural University (IPB)
Indonesia

Date: 14/09/2014
Signature: [Signature]
President
National University Corporation
Kagawa University
Japan

Date: 14/09/2014
Signature: [Signature]
Rector
Universitas Hasanuddin (UNHAS)
Indonesia

Date: 14/09/2014
Signature: [Signature]
President
National University Corporation
Kochi University
Japan
Registration

Deans meeting at the Professors Meeting Room of post graduate building Unhas
Visiting to Teaching Industry welcomed by Prof Salengke

Visiting to breeding seahorses in Marine science and Fisheries Faculty Unhas
SUIJI promotion office meeting at Swiss Belinn Hotel

Welcome dinner by makassar city major at Baruga Angin mammiri, the Government House of Makassar city major
Handover mementos from Makassar City Major

Opening of Rektor Forum and Research Forum at Senate Room, The Rektorat Building, Hasanuddin University
Symposium session at Senat room, rektorat unhas building

Poster presentation athall of rektorat building unhas
Rector forum at Senat room, rektorat unhas building

The Rectors, Photo session after rector forum have ended (1)
All delegation, Photo session after rector forum have been finished(2)

Hospitality dinner at Hasanuddin University Teaching Hospital
Student forum at IPTEKSBuilding unhas.