



UNIVERSITAS
GADJAH MADA



The 1st
ICCEEDS

INTERNATIONAL CONFERENCE ON
COMMUNITY ENGAGEMENT AND
EDUCATION FOR SUSTAINABLE
DEVELOPMENT

November
7 - 8th

| 2018

DIRECTORATE FOR **COMMUNITY SERVICES** UGM



The 1st

ICCEED

INTERNATIONAL CONFERENCE ON
COMMUNITY ENGAGEMENT AND
EDUCATION FOR SUSTAINABLE
DEVELOPMENT



PROGRAMME BOOK 2018

DIRECTORATE FOR [COMMUNITY SERVICES](#) UGM

Assalamualaikum Wr. Wb.

Good morning, Ladies and Gentlemen, Dear Colleagues

I am pleased to welcome you to the first ICCEESD International Conference on theme “Innovating Engagement and Sustainability for Society Inclusive Welfare”

In implementing the Tri Dharma of Higher Education, which is to carry out education, research, and community service, we are not simply passive recipients of technologies created and shared by others. On the contrary, we have acquired high levels of expertise science and technology. We use this expertise to innovate for own benefit but also share it with our colleagues and the community, one of them being through education and sustainable development.

Ladies and Gentlemen.

ICCEESD such as this provide a valuable opportunity for research scientists, industry specialists, lectures, students, and decision-makers to share experiences. This is part of our contribution to ensuring that science and technology achieve their full potential for the benefit of humankind.

In addition, many of lectures and architecture students at UGM lectures and students kicked to create a project that combined art, science, and community involvement.

I am grateful to the many experts from Indonesia and many countries who have come to share their knowledge on this conference. I also welcome the many representatives of journal management, lectures and students who have joined us.

I am sure you will have fruitful and rewarding exchanges in this conference. I wish you every success with this important conference and I look forward to learning about the outcome.

Community Engagement activities can refer to seventeen Sustainable Development Goals (SDGs). Through the objectives of each SDGs objectives, namely: against the poverty; without starvation; good health and well-being; quality education; gender equality; clean water and sanitation; clean and affordable energy; economic growth and decent work; industry, innovation, and infrastructure; reduce inequality; the sustainability of cities and communities; responsible consumption and production; climate action; underwater life; life on land; strong judicial institutions and peace; and partnerships to achieve goals. Mapping, planning, and implementation of an integrated business are needed to achieve all SDGs goals. Studies in the form of literacy studies, field studies, conferences, and dialogues to open views and synergize movements are needed.

In addition, to support the need for reference in realizing SDGs especially for people who are engaged in Community Engagement, I am committed to supporting this process. I wish to conclude by assuring you of my full commitment to support the continuation of this dialogue. I am also determined to ensure that the community engagement and education on sustainability development remains high on the Agenda of next Commission.

I wish you a productive and enjoyable conference.

Welcome to the meeting!

Thank you.

Best Regards,

Wassalamualaikum Wr. Wb.

Prof. Ir. Irfan Prijambada, M. Eng., Ph.D.
Director of Directorate of Community Services UGM

Foreword from Scientific Committee Chairperson of 1st ICCEESD 2018

Assalamualaikum Wr. Wb.

Ladies and Gentlemen, Dear Colleagues,

I am pleased to welcome you to the International Conference on Community Engagement and Education on Sustainability Development (ICCEESD).

It is high time that such an event took place to highlight the remarkable contribution which nuclear applications make in so many areas of our lives. A glance through the list of presentations planned for today reveals the amazing diversity of these applications.

I am pleased to note that 1st ICCEESD has scheduled a Two-days conference with the theme “Innovating Engagement & Sustainability for Society Inclusive Welfare” during this meeting. This workshop will be invaluable in contributing to the production of food, which is clean, of high quality and safe for human consumption.

The 1st ICCEESD series is not only a conference activity but also accompanies best practice visits to several UGM target locations in the Special Region of Yogyakarta. Various community service schemes are embodied in the UGM such as Built Village program, UGM Appropriate Technology (TTG), and so on. UGM also has Indonesian Journal of Community Engagement which is a scientific multidisciplinary journal published by Directorate of Community Services Universitas Gadjah Mada. It is in the national level that covers a lot of common problems or issues related to community services. The aim of this journal publication is to disseminate the conceptual thoughts or ideas and research results that have been achieved in the area of community services.

Indonesian Journal of Community Engagement (Jurnal Pengabdian kepada Masyarakat), contains various activities of the teaching staff in UGM in handling and managing the various potentials, obstacles, challenges, and problems that exist in society. Implementation of service activities also involve the

participation of the community and partners. Service activities are organized into an activity aimed at improving the welfare of society.

Ladies and Gentlemen, Conferences such as this provide a valuable opportunity for research scientists, industry specialists and decision-makers to share experiences. I am grateful to the many experts who have come to share their knowledge today. I am sure you will have fruitful and rewarding exchanges in this conference. I wish you every success with this important conference and I look forward to learning about the outcome.

Thank you.

Best Regards,

Wassalamualaikum Wr. Wb.

Nanung Agus Fitriyanto, S.Pt., M.Sc., Ph.D.

Scientific Committee Chairperson of 1st ICCEESD 2018

Foreword from Organizing Committee Chairperson of 1st ICCEESD 2018

Assalamualaikum Wr. Wb.

Distinguished Professors, Doctors, Delegates, Colleagues, Guests

We are delighted and honored to host this 1st International Conference on Community Engagement and Education on Sustainability Development (ICCEESD) today and to welcome you all to Yogyakarta, Indonesia.

I wish to extend a warm welcome to fellow delegates from the various fields and background. ICCEESD is one of the international scientific platforms in community service, specifically to realize Community Engagement and SDGs both in local, regional and global level. The conference aims to identify, synergize, facilitate and disseminate ideas about Community Engagement and SDGs so that they can be optimally realized in various fields. Short listed papers accepted by the ICCEESD 2018 will be proposed for publication to published at Indonesian of journal of Community Engagement (JPKM), The Asian Journal of Social Science, Journal of Indonesian Economy & Business, and Journal of Tropical Biodiversity and Biotechnology. In addition, the importance of the two key concepts carried out, Community Engagement and SDGs, so that scientific documentation for scientific dissemination and best practices that are available can be referred by various interested parties. I do hope this conference shall enable to build a productive dialogue and network between researcher fellows, professional and academician.

Distinguished Professors, Doctors, Delegates, Colleagues, Guests, today's society in the era of globalization and digitalization has a dynamic character both in all its problems and potential. Therefore, Community Engagement should be able to be a counterweight to problems and their potential so that a mechanism can be realized and the creation of an organic development system that is rooted in local and sustainable wisdom. 'Engagement, commitment and sustainability' is some of the key success factor towards a successful development and global education of society and the environment that is manifested in Community Engagement that also has a deep and holistic scope.

In closing, I wish to express my gratitude to all delegates and observers for their full cooperation and contribution to the ICCEESD. I take this opportunity to highly appreciation to Keynote Speaker, Pannelist Speaker and to the Advisory Committe, Steering Committee, Organizing Committee and Directorate of Community Engagement (DPkM) UGM for organizing this meeting and for providing the necessary funding.

I wish all presenters and participants a very fruitful and productive meeting/session.

Thank you.

Best Regards,

Wassalamualaikum Wr. Wb.

Rika Fatimah P.L., S.T., M.Sc., Ph.D
Organizing Committee Chairperson of 1st ICCEESD 2018



“Innovating Engagement & Sustainability for Inclusive Society Welfare”

November, 7-8th 2018

Yogyakarta

| Subtheme:

- Community Services, People, Local Food Security,
- Training, Marketing, Appropriate Technology, Design
- Community Empowerment, Social Access,
- Student Community Services
- Border Region, Less Developed Region,
- Education for Sustainable Development



RUNDOWN ICCEEDS

Schedule

Day One: Wednesday, 7th November 2018

Time	Event
07.00 – 08.00	Registration & Morning Coffee
08.00 – 08.45	Opening Ceremony
	National Anthem
	Organizing Committee's Report
	Vice Director of Community Services UGM
	Dr. Rachmawan Budiarto
	Welcome Address and Opening Speech from Director of Community Services UGM
	Director of Community Services Universitas Gadjah Mada
	Prof. Ir. Irfan Dwidya Prijambada, M.Eng., Ph.D.
5 Minutes	Photo Session
08.45 - 09.05	Keynote Speech
	Department of Environmental Geography, Faculty of Geography Universitas Gadjah Mada
	Prof. Dr. Suratman, M.Sc
09.05 - 09.20	Coffe Break
09.20 - 12.05	Plenary Session
	<i>Community Empowerment, Social Access</i>
	Department of Sociology National University of Singapore
	Saroja Dorairajoo, Ph.D
	<i>Border Religion, Less Developed Region</i>
	Halal Business & Society Development Institute, Songkhla, Thailand – Thailand
	Asae Sayaka, Ph.D

Student Community Services

Department of Mechanical and Engineering
Universitas Gadjah Mada

R.Rachmat A. Sriwijaya, S.T., M.T, D.Eng

Question and Answer

Moderator: **Nanung Agus Fitriyanto, S.Pt., M. Sc., Ph. D**

12.05 -13.00

Lunch Break

13.00 - 16.00

Paper Presentation – Parallel Session



Day Two: Thursday 8th November 2018

08.00 - 10.00	Plenary Session
	Implementation ESD in Higher Education
	Secretary Directorate of Partnership, Alumni, and Global Initiatives
	Dr Puji Astuti, M.Sc., Apt.
	Rular infrastructure development and people empowerment
	Faculty of Social and Political Sciences UGM
	Prof. Dr. Sunyoto Usman
	Local natural resources based community services in industrial revolution 4.0 era
	Faculty of Biology UGM
	Eko Agus Suyono, SSI., MAppSC., Ph.D.
	Moderator: Rika Fatimah P. L., S.T., M.Sc., Ph. D
10.00 - 10.30	Coffee Break
10.30 - 11.30	Question and Answer From Audience
11.30 - 12.00	Closing Ceremony
	Awarding Best Paper
	Closing Speech
	Director of Community Universitas Gadjah Mada
	Prof. Ir. Irfan Dwidya Prijambada, M.Eng., Ph.D.
12.00 - 13.00	Lunch Break
13.00 - 16.00	Field Trip
16.00 - 16.30	Back To Hotel

Rundown Presenter

Wednesday, November 7th 2018 (Day 1)

Room 1

Community Services, People, Local Food
Security
Education for Sustainable Development

Session Chair

Zaki Utama, S.T.P., M.P.

Time	Title	Authors
13:00 - 13:15	Digging the Women Power for Supporting Cacao Farming Activities in Giripurwo Village, Kulon Progo Regency, Indonesia	Ratih Ineke Wati, Ani Widiastuti, Desi Utami, Fathkhiyah Rohmah
13:15 - 13:30	Developing a Healthy Cacao Farm in Giripurwo Village, Kulon Progo Regency, Yogyakarta, Indonesia	Fathkhiyah Rohmah, Ratih Ineke Wati, Ani Widiastuti, Desi Utami, Alia Bihrajihant.
13:30 - 13:45	Collaborative Alumni – Student Community Services in Lombok Earthquake Aftermath: A New Disaster Response and Recostruction Perspective	Ahmad Agus Setyawan, Adam Caesar, Muhammad R. Aziz, Stefany D.R., Rezky P., M.Hanafi, Ervina Kurniasari, Medina D. Pnanutun, Angga Prayogo, Muhammad A.F.N., Muhammad A., Arifianto, Dita M.S.
13:45 - 14:00	Implementation of Education for Sustainable Development in Local Economic Resources Development Course: Toward Smart Village Agriculture in Sleman Regency	Rini Rachmawati, Abdur Rofi, Luthfi Muta'Ali

14:00 - 14:15	Overview of Initiating the Establishment of Tourism Village Karang Tengah, Imogiri, Bantul Through Role of Independent and Sustainable Technopreneurship and Dynamic Sustainable Enterprise Based-Small and Medium Enterprises (SMEs)	Widodo
14:15 - 14:30	Improvement of Central Development Innovation of Edu Park Natural Tourism Area Based on Organic Agriculture in Banyuroto Village, Sawangan, Magelang	Ganies Riza, Rina Sri, Muhammad Fauzi.
14:30 - 14:45	Establishing Homestay in Girikerto Village to Conserve Mountain Flora of Mount Lawu, Ngawi Regency, East Java	Atus Syahbudin, Noviyanti Listyaningrum, Dina Dwi, Dyah Ayu, Eka Fitriani, Herdiana, Nkyoo, Ratris Kurnia, Tiara Dwika
14:45 - 15:00	GConnect2: Disaster-resilient Area Development Through Convergences of IoT-Cloud and Community Re-silience	Mardani Rhiasetyawan, Bambang Nurcahyo.
15:00 - 15:15	Awareness fo Education for Children In Elementary School as Future Planner Towards the Sustainable Development of Karst Area in Pacarejo Village, Semanu District, Gunungkidul Regency	Estuning Tyas Wulan Mei, Arry Retnowati, Mohammad Isnaini Sadali, Warsini Handayani, Alia Fajarwati, Ifa Meilyana, Pratistha Citta Kintani, Aji Dwi Pratama, Dwi Wahyu Arifuddiin Najib
15:15 - 15:30	Symbolic Motivation as Education Tourism Capital of Pura Mangkunegaran Solo	Suryo Ediyono, Setyo Budi, Sahid Teguh Widodo
15:00 Coffee Break Served by Hotel		

Room 2

Training, Marketing, Appropriate
Technology, Design
Student Community Services

Session Chair

Dr.dr. Rustamaji, M.Kes

Time	Title	Authors
13:00 - 13:15	Sekolah Asyik Peduli Sapi (Sampah Piyungan): Intensify Early Students' Awareness in Waste to Decrease Environmental Degradation in Final Disposal Site Piyungan	Cahyadi Ramadhan, Yolla Yulianda, Rahma Aulia Zahra
13:15 - 13:30	Education for Sustainable Development through Student Community Service Program on Environmental and Technology Improvement in Jepara Wetan, Cilacap	Nevy Ardianto, Ahamad Agus Setyawan, Jannatiana Suwinda, Adetia, Ilham Fahmudin.
13:30 - 13:45	Multifunction Wastewater Treatment Plants as Educational and Recreational Parks for the Community	Ova Chandra Dewi, A.D. Ismoyo, C.S. Saskia, I.F. Rizqio, R. Felly
13:45 - 14:00	Design An Energy-Saving Distiller for Processing Patchouli Leaves Into Indonesian National Standard Patchouli Oil for Small Company in Kulon Progo	Nasih Widya, Karna Wijaya, Farida, Widi Kurniawati.
14:00 - 14:15	Influencing Characteristics for Buying Decision and the Potential for Success of Salak Fruit Based Products in Supporting the Culinary Tourism at Purwobinangun Village	Pujo Saroyo, Nafis, Guntrati TM, Anjar Puspita
14:15 - 14:30	Establishment of Girikerto Tourist Village in Mount Lawu Indonesia through Community Empowerment by Student of Community Service UGM	Atus Syahbudin.
14:30 - 14:45	Empowerment of Green Chemistry Community for Transfer Technology of Patchouli Oil Processing to MSMEs in Sleman	Karna Wijaya
14:45 - 15:00	Implementation of Batik Machine to Improve Hand-Drawn Batik Production Lead Time	Andi Sudiarso, Rindi Kusumawadhani

15:00 - 15:15	Teknologi Fermentasi pada Pembuatan Pakan Sapi Berbasis Limbah Lignoselulosa di Kelompok Peternak Sekitar Hutan Sodong Kabupaten Gunungkidul	Dennny Irawati,
15:15 - 15:30	Building Synergy in the Application of Bio Fertilizer and Sludge Biogas in Chili Farming to Develop the Integrated Organic Farming in Wukirsari Village	Dwi Umi, Utamingsih, Melinda Fajar, Hamdian
16:40 - 17:00	Analysis Trend Of Landuse Change And Settlement Distribution To Asses Land Priority Management Using Spasial Distribution Analysis	Ratih Fitrisa, Sunu Wibirama
15:00 Coffee Break Served by Hotel		

Room 3

Community Empowerment, Social Access
Border Region, Less Developed Region

Session Chair
Muhammad Sulaiman,
S.T., M.T., D.Eng.

Time	Title	Authors
13:00 - 13:15	Empowering Economic of SME with Handicraft Products in Jedong Sekarputih Balongpanggang Gresik by Creating Eco-Product	Radiyus Setyawan & Sri Lestari
13:15 - 13:30	Comparative Content Analysis and Instagram User Preferences to Disaster Information Access on A Few National News Account: Case Study of Lombok Earthquake 2018	Ari Yulianto, Rizki Laudiansyah, Budi Kusumahningrum, Alfi Wira Jaya, Novia Imasyuni.
13:30 - 13:45	Disaster Response Reconstruction Program in Tinatar, Pacitan	Hadafi Farisa, Aida Mardiana, Ahamad Agus Setyawan, RR Salma Fitri

13:45 - 14:00	Community Empowerment for Natural Orchid Cultivation in Banyunganti Hamlet, Jatimulyo Village, Girimulyo Sub-District, Kulon Progo Prefecture, Special Region of Yogyakarta	Endang Semiarti, Aziz Purwantoro, Arie Indriyanto, Aries Bagus, Oktaviana, Asri Fajar, Fauzana Putri, Aditya Nur.
14:00 - 14:15	Atraumatic Restorative Treatment by Trained Dental Nurses in Elementary School Students	Decky Joesiana, Yosi Kusum, Risqa Rina
14:15 - 14:30	Empowering The Green Chemistry Community to Transfer Patchouli Oil Processing Technology to Small Industries in Sleman and Kulon Progo	Widi Widiawati, Karna Wijaya, Nasih Widya, Mokhammad Fajar, Farida,
14:30 - 14:45	Empowering Riverbank Community by Innovation Technology and Education of Waste Management	Surani Hasanati, Raden Heru, Suratman, Sari.
14:45 - 15:00	Empowering by Mapping	Alia Fajarwati, Estuning Tyas.
15:00 - 15:15	Youth and Health Cadres Empowerment to Increase the Number of Youth Visits to Posbindu	Prima Dewi, Lastdes.
15:15 - 15:30	Reducing Stress and Increasing the Confidence of the Blind through Go-BLIND (Gamelan for Blind) as An Inclusive Education	Muhammad Ali Irham
15:30 - 15:45	A New Approach of Community Engangement for Harley Davidson Club Indonesia (HDCI) DIY: Building A Non-Competition Based Market for Village by using Global Gotong Royong (G2R) Tetrapreneur Model	Ivan Lanovara, P.L. Rika Fatimah
15:00 Coffee Break Served by Hotel		

Room 4

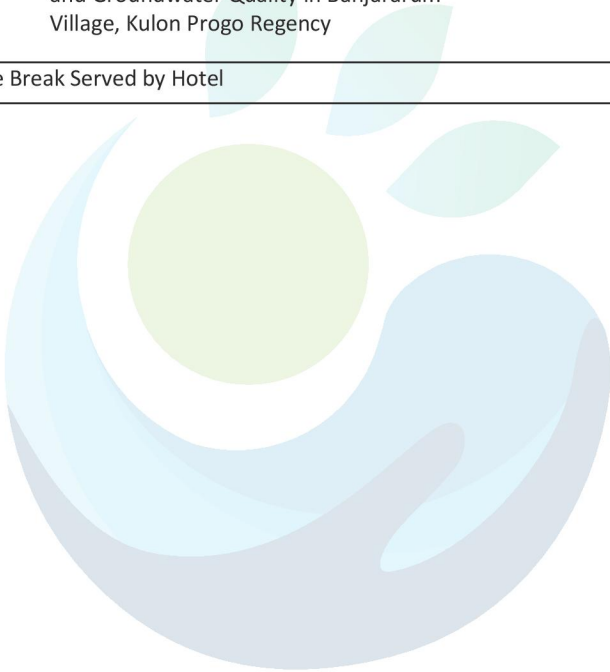
Mix Sub-Theme

Session Chair

**Dr. Ir. Ambar
Kusumandari, M.ES**

Time	Title	Authors
13:00 - 13:15	Developing a Healthy Cacao Farm by Empowering Farmer Group in Giripurwo Village, Kulon Progo Regency, Yogyakarta, Indonesia	Desi Utami, Fatkhiyah Rohmah, Ratih Ineke Wati, Alia Bihrajihant Raya
13:15 - 13:30	Making Master Plan for Banjararum Village, Kalibawang District, Kulon Progo Regency	Muhammad Sulaiman, Karen Slamet Hardjo, Atus Syahbudin, Laksmi Yustika Devi, Endah Dwi Fardhani, Pratama Tirza
13:30 - 13:45	Evaluating the Feminization of Responsibility: Perspectives from Agrarian Communities in Southcoast Java	Yuhan Farah Maulida, Subejo
13:45 - 14:00	Design of Packaging Prototype for Chocolate Drink as Visual Identity of "Desa Kakao" Banjaroya Kulonprogo	Satria Birawa, Sri Wijanarti, Ika Restu, Iman Savbarisman.
14:00 - 14:15	Business Model Canvas (BMC) Among Home Industries in Kulon Progo Regency	Pinjung Nawang Sari, Jumeri, Filigon Adiguna Puspoyudo
14:15 - 14:30	Application of Appropriate Technology for Domestic Waste Based on Community Active Participation And Development of Sustainable Human Resources In Sepanjang Village by Student Community Services	Mokhammad Fajar Pradipta, Rani Agustina
14:30 - 14:45	Engaging Students and Staffs to Develop Health Promoting University in UGM	Supriyati, Dewi FST, Sundari E, Pengastuti HS, Wicaksana AL
14:45 - 15:00	Improving Goats Reproduction Performance by Applied of a Recording System in Sentra Peternakan Rakyat Kebon Wulangreh, Jogonalan, Klaten	Bayu Andri Atmoko, I Gede Suparta Budisatria, Nono Ngadiyono, Endang Baliarti, Panjono, Tri Satya Mastuti Widi, M Danang Yulianto, Regita Aisyah Nirmala
15:00 - 15:15	Education on Sustainable Development Goals (Esd) : A Best Practice of Rce Asia Pacific – Youth Movement on SDGS Goal 13&14 (Climate Action & Life Below Water)	Emmy Yuniarti Rusadi, Brittany Hardiman

15:15 - 15:30	Community involvement in integrative pest management of Brassica oleracea L. cultivation in Ngablak village, Magelang	Kumala Dewi, Trini Susmiyati, Subeno, Christina Lilis Sutarmingsih, Shielvy Nurul Yusnita
15:30 - 15:45	Installation of GAMA-Rainfilter (Rainwater Catcher and Filter Tool Integrated with Population Wells) to Meet Clean Water Needs and Increase Groundwater Level and Groundwater Quality in Banjararum Village, Kulon Progo Regency	Agus Maryono, Adhy Kurniawan, Agus Prasetya, Pratama Tirza
15:00 Coffee Break Served by Hotel		



A large, faint watermark of the ICCEESD logo is visible in the background, centered behind the text. The logo features a circular emblem with a stylized 'C' and 'E' and the text 'ICCEESD' below it.

ICCEESD



ABSTRACT

COMPILATION



A NEW APPROACH OF COMMUNITY ENGAGEMENT FOR HARLEY DAVIDSON CLUB INDONESIA (HDCI) DIY: BUILDING A NON-COMPETITION BASED MARKET FOR VILLAGE BY USING GLOBAL GOTONG ROYONG (G2R) TETRAPRENEUR MODEL

Ivan Lanovara¹ & P.L. Rika Fatimah²

¹Think Smart Scholar, B21-1 Blok B Jln TKS 1, Kajang Sentral, 4300 Kajang, Selangor, Malaysia, email: ilanovara@yahoo.com

²Department of Management, Faculty of Economics & Business, Universitas Gadjah Mada, Indonesia, email: rika_paper@yahoo.com

Abstract

The government's poverty alleviation program that currently implemented is still in a monumental form (physical building) and touch & go. Program *Global Gotong Royong* (G2R) Tetrapreneur is one of the creative efforts in order to alleviate poverty and reduce the level of inequality that is still quite high in DIY. The G2R Tetrapreneur model was first performed in Girirejo and Wukirsari Villages, Imogiri District, Bantul District. Girirejo was chosen because the poverty rate was quite high, while Wukirsari with a wide level of economic gap. Both villages were trained and assisted to create superior village products. Stages in G2R Tetrapreneur consist of Chainpreneur (Tetra 1), Marketpreneur (Tetra 2), (Tetra 3) Qualitypreneur, (Tetra 4) Brandpreneur. This article is an implementation case for Tetra 2, Marketpreneur, namely building the non-competition based market by the Harley Davidson Club Indonesia (HDCI) Yogyakarta Special Region. It's in line with the vision and mission of HDCI DIY in the social and tourism field. The non-competition based market that create by HDCI DIY is manifested by a touring which is part of the yearly HDCI's event. The event are followed not only by the Harley Davidson, but also by many various motorcycle clubs in DIY and others districts. The end point of the touring is in Wukirsari Village.

Keyword: HDCI DIY; G2R Tetrapreneur; Marketpreneur; Community Engagement.

IMPLEMENTATION OF BATIK MACHINE TO IMPROVE HAND-DRAWN BATIK PRODUCTION LEAD TIME

Andi Sudiarso

Departement of Mechanical and Industrial Engineering,
Faculty of Engineering, Universitas Gadjah Mada
Jl. Grafika No.2, Yogyakarta, Indonesia 55281
(email: a.sudiarso@ugm.ac.id)

Rindi Kusumawardani

Departement of Mechanical and Industrial Engineering,
Faculty of Engineering, Universitas Gadjah Mada
Jl. Grafika No.2, Yogyakarta, Indonesia 55281
(email: rindikusumawardani@gmail.com)

Abstract

Batik is Indonesian artwork that has become hereditary culture from generation to generation. By UNESCO, batik has been designated as a Masterpiece of the Oral and Intangible Heritage of Humanity on October 2nd, 2009. One of the problems faced by batik industry recently is increasing demand of batik products. Nowadays, overall processing time of batik from sketches to batik products may take around 2 to 3 days, where the batik process itself may take one full day to complete. On the other hand, the number of batik craftsmen is increasingly limited, many young people are less interested in becoming batik craftsmen.

This paper describes how to increase the batik production using Computer Numerical Control (CNC)-based batik machine. Manual hand-drawn batik is copied and then applied to the batik machine to generate optimal routing path, and hence to minimize lead time. Focus of this paper is on the primary batik process (known as *klowong*) using batik machine. This process may take around 75% of overall processing time, so this technology hopefully reduces production lead time to increase productivity. The experiment results are then compared between machine and manual batik processes.

The experimet results prove that the drawings design must be taken into account and then adjusted by the feedrate, because the higher feedrate will reduce processing time. However, feedrate also has affects on product quality. The experiments results of *klowong* processing time for manual batik is around 170 minutes and processing time using batik machine is only around 72 minutes with the same design. The results show *klowong* proccesing time has been reduced by 57.65% using batik machine.

Keywords: hand-drawn batik, batik machine, *klowong*, lead time, CNC

JEL Classification: O3, O4, L6

YOUTH AND HEALTH CADRES EMPOWERMENT TO INCREASE THE NUMBER OF YOUTH VISITS TO POSBINDU

Prima D. Ratrikaningtyas^{1*}, Lastdes CF. Sihombing¹, Abdul Wahab¹

¹Department of Biostatistics, Epidemiology and Population Health / Center for Reproductive Health, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada

*primadhewi@ugm.ac.id

Abstract

Posbindu is an integrated health post for people age 15-50 year-old held by community. Government urge *Posbindu* to be carried out routinely at the hamlet level. Unfortunately, after two years running, the number of *Posbindu* visits especially teenagers in Cabeyan Hamlet was very low. The aim of this Community Partnership Program (CPP) is to increase the number of visits of youth to *Posbindu* in Cabeyan Hamlet, Panggungharjo Village, Sewon Sub-district, Bantul Distric so that youth are monitored regularly for their health. The partners involved were health cadres and youth in Cabeyan Hamlet, all of whom numbered 50 people. The activities were carried out during September 2018, namely the socialization of *Posbindu*, team-building training between health cadres and youth, counseling on non-communicable diseases, anemia screening, health examination training, organizational strengthening and brain-storming of income opportunities for self-financing so that the sustainability of this program will be maintained. To increase the visits to *Posbindu*, it was agreed that the implementation of *Posbindu* would be accompanied by community gatherings, such as youth meetings, gathering of mothers, etc. Teenagers are trained to conduct health checks on their own friends. Health cadres and youth are scheduled to become health workers at each community meeting. The community agreed that *Posbindu*'s cash will be taken from the community's cash. In addition, community agreed to utilizing vacant land by growing vegetables and fruit, later crops can be sold to increase *Posbindu* cash. This CPP provides grants in the form of two packages of medical devices, also fruit and vegetable seeds for planting in community gardens. In addition, the Panggungharjo Village Government supported this program by providing assistance in the form of medical devices and funds for *Posbindu* coordination meetings.

Keywords: empowerment, youth, teenagers, health cadres, non-communicable disease, *Posbindu*

IMPROVEMENT OF CENTRAL DEVELOPMENT INNOVATION OF EDU PARK NATURAL TOURISM AREA BASED ON ORGANIC AGRICULTURE IN BANYUROTO VILLAGE, SAWANGAN, MAGELANG

Ganies Riza Aristya^{1*}, Rina Sri Kasiamdari¹, Muhammad Fauzi¹

¹Universitas Gadjah Mada

* ganies_riza@ugm.ac.id

Abstract

Banyuroto Village, Sawangan District, Magelang Regency, Central Java is one of the many agrotourism areas that produces high local food potential. This area is located right on the edge of Merapi Tourism Park, precisely between the slopes of Mount Merapi and Merbabu. The potential that exists in this area includes the centers of local fruit and vegetable cultivation that are very popular with the people around them. In addition, local wisdom that is still very strong is felt in every behavior and activities of the community who are fond of gardening and farming in the fields. Some of the superior potentials of the area developed are strawberries and vegetables. However, this potential requires science and technology innovation because yields that are increasingly according to the cultivation techniques are still wrong and susceptible to disease attacks. Another obstacle experienced by farmers is the influence of environmental and seasonal stress on the production of fruits and vegetables so that harvest is not optimal. One technique for improving the quality and resistance of strawberries is biotechnology through genetic improvement in the genotypic and phenotypic properties of fruit, multiplication of chromosome numbers (polyploidization), this has not been done by researchers in Indonesia. Therefore, it is necessary to provide assistance, direction, training and cooperative relations from farmers with academics, industry and government to improve the quality and quality of Indonesian crops through the development and application of Appropriate Technology and community empowerment. The aim of the Partner Village Development Program is to develop integrated agricultural cultivation innovations through increasing production and greenculture in the greenhouse, developing central edu park in tourist areas that provide bio inventory of plants and animals, applying the benefits of organic farming in the cultivation of superior fruits and vegetables (broccoli , cauliflower, celery, tomatoes, chicory, mustard greens and cabbage), applying modified polyploidization technology through organic agricultural innovation to the potential of regional natural resources and providing innovation through synergy and sustainability of sustainable education about the cultivation of strawberry and vegetable crops polyploidization. In addition, it is expected that with this activity, cooperative businesses can be formed to accommodate, market and sell agricultural products, fisheries and country markets, provide regular training and assistance on cultivation-based innovations in empowering natural and human resources and provide skills. and expertise in maintenance and maintenance during sustainable strawberry cultivation. So that it is expected that at the end of this activity is able to build village independence through an industry partnership network to strengthen the potential of a rural and prosperous Agro tourism village.

Keywords: Banyuroto, *central edu park*, tourism

EVALUATING THE FEMINIZATION OF RESPONSIBILITY: PERSPECTIVE FROM AGRARIAN COMMUNITIES IN SOUTHCOAST JAVA

Yuhan Farah Maulida, Subejo
Faculty of Agriculture, Universitas Gadjah Mada
Jl. Flora, Bulaksumur, Caturtunggal, Kec. Depok, Kabupaten Sleman,
Daerah Istimewa Yogyakarta
yuhanfm@gmail.com

Abstract

Over the last few decades, women's involvements in agriculture activities has been widened and deepened due to the increasing responsibilities for household survival. It has become fashionable among development practitioners to conduct women's economic empowerment, ranging from vocational training, capacity building to micro-credit. While women have increasingly involved in economics and social activities, there has been little change in gendered division of labor within households. In this sense, women's increasing time allocations in productive, reproductive and social community activities are often overlooked. This paper aims to evaluate the unevenness of gendered responsibilities or obligations among agrarian households in the Southcoast Java. The discussion of the feminization of obligation is developed from field research and survey conducted in one of the coastal regions in Southcoast Java. The study uses data from married women in coastal area in Panjatan District where the communities mostly work in farming activities. The data is analyzed to examine the degree to which women play multiple role in productive and domestic activities. The findings underline the importance of acknowledging the women's multiple role in the family. The author suggests that the feminization of responsibility in agrarian households should not be overlooked and underappreciated in the community empowerment and development agendas.

Keywords: Feminization, Responsibility, Gender, Women, Family, Agrarian Community, Development, Community, Empowerment.

EMPOWERING BY MAPPING

By: Alia Fajarwati, S.Si., M.IDEA* and Dr. Estuning Tyas Wulan Mei, M.Sc.*

*Regional Development Study Program, Faculty of Geography, UGM

Abstract

In the Convention on the Rights of the Child, it is stated that children have four basic rights, namely the right to life, the right to grow and develop, the right to protection and the right to participate. Likewise, in Law No.23 of 2002 renewed with Law No. 35 of 2014 concerning on Child Protection also regulates those rights. Community service activities by lecturers and students of the Regional Development Study Program of the Faculty of Geography were intended as an effort to fulfill the third rights of the child to get protection. This is important based on the fact that Indonesia is considered to be in an emergency on violence against children. The activities, entitled "Child's Safe Environmental Mapping" and "Child's Body Mapping" were held in 2016 in Warungboto Kampong which is one of the Natural Laboratories of Department of Geography Development.

Those activities were participated by 30 children in kindergarten and elementary school ages. The objectives are: 1) to map the safe environment of child development; 2) to give understanding to children about their bodies in order to protect their body from violence. The methods applied to empower children are: 1) participatory mapping to map their home and playground environment followed by an explanation of a safe environment for children to play; 2) participatory child's body mapping, which is by mapping and recognizing the "private areas" of their body, accompanied by an explanation of how children should protect themselves to avoid violence.

Keywords: mapping, body mapping, children's participation, empowerment

IMPROVING GOATS REPRODUCTION PERFORMANCE BY APPLIED OF A RECORDING SYSTEM IN SENTRA PETERNAKAN RAKYAT KEBON WULANGREH, JOGONALAN, KLATEN

Bayu Andri Atmoko^{2*}, I Gede Suparta Budisatria¹, Nono Ngadiyono¹, Endang Baliarti¹, Panjono¹, Tri Satya Mastuti Widi¹, M Danang Yulianto¹, Regita Aisyah Nirmala²

¹ Laboratory of Meat, Draught and Companion Animal, Faculty of Animal Science, Universitas Gadjah Mada

² Student of Faculty of Animal Science, Universitas Gadjah Mada

*brebayuandri@gmail.com

Abstract

Goats was one type of livestock that had good development prospects in supplying meat. Goat livestock development in rural areas is one of the alternatives in increasing production, but the productivity of goats at the farmer level is not optimal, it is necessary to increase the ability to raise livestock in the livestock farmers and productivity of goats to obtain optimal results. This service program aimed to determine the goats breeding system applied by farmers at Sentra Peternak Rakyat (SPR) Kebon Wulangreh, Karangdukuh, Jogonalan and improve the reproduction performance of goats. Interviews were conducted on 10 respondents of smallholders farmers and measured of 17 goats in Sentra Peternak Rakyat Kebon Wulangreh, Karangdukuh, Jogonalan, Klaten. Descriptive quantitative and independent sample t-test analysis was applied for the information and the data. The results showed that the average age, experience and cattle ownership were 45,10±11,59 years, 8,40±8,01 years and 4 heads respectively, the farmers allocated 4 hours/day to maintain the goats. The majority of recent education was elementary and senior high school (70% and 30%), the farmer (20%) labor (80%). The livestock production purpose for saving and insurance (40% and 60%). The breeding system was semi-extensive and intensive (60% and 40%). The average of kidding interval, litter size, mortality, postpartum mating was 309.94±55.31 days, 2.00±0.70, 17,65%, 160.11±55.54 days. After the assistance and improvement of maintenance management were carried out, the reproduction performance of the goats has a significant increase compared to the previous one in the kidding interval and PPM (246.72 ± 35.12 days and 91.45 ± 35.31 days). Assistance and learning about the importance of reproduction recording of livestock were required to improve the performance of the goats that are kept by smallholders.

Keywords: Goats, Farmer profile, Maintenance system, Reproductive performance, Sentra Peternakan Rakyat

BUILDING SYNERGY IN THE APPLICATION OF BIO FERTILIZER AND SLUDGE BIOGAS IN CHILI FARMING TO DEVELOP THE INTEGRATED ORGANIC FARMING IN WUKIRSARI VILLAGE

Dwi Umi Siswanti^{1*}, Utaminingsih¹, Melinda Fajar¹, Hamdian¹

¹Universitas Gadjah Mada

^{*}dwiumi@ugm.ac.id

Abstract

The community service program in Wukirsari Village, Cangkringan Sleman has been implemented since 2013, both in the form of appropriate technology-based services, UGM PPM KKN and guided villages. The 2017 dedication program is based on a guided village with the aim of assisting Wukirsari Village to become an energy independent village and an organic food producing village. The team partnered with the Makmur Farmer Group and the Sedya Makmur Livestock Group in Wukirsari Village to develop integrated organic farming in the curly red chili commodity which is cultivated organically with bio fertilizer and biogas sludge. Bio fertilizer is a liquid fertilizer made from urine (cattle) which is given additional litter, while the biogas sludge is a biogas waste in the form of mud that is loaded with nutrients and good microbes. This year service program has successfully built a biogas reactor Wukirsari, making demonstration plots of organic chili farming, recovery and mentoring of farmers and making bio fertilizers. This service activity has been published in ugm.ac.id and covered by several local journalists and published in *Harian Jogja*, krjogja.com and kagama.com.

Key words : bio fertilizer, sludge biogas, Wukirsari, chili, farming, organic

INFLUENCING CHARACTERISTICS FOR BUYING DECISION AND THE POTENTIAL FOR SUCCESS OF SALAK FRUIT BASED PRODUCTS IN SUPPORTING THE CULINARY TOURISM AT PURWOBINANGUN VILLAGE

Pujo Saroyo¹, Nafis Khuriyati¹, Guntarti Tatik Mulyati¹, Anjar Ruspita Sari²

¹Department of Agroindustrial Technology, Faculty of Agricultural Technology,
Universitas GadjahMada

¹Department of Bioresource and Veterinary Technology, Vocational College, Universitas
Gadjah Mada

anjar_ruspita@ugm.ac.id

Abstract

Purwobinangun is one of the villages located around the tourist area of Mount Merapi. Each family of the villagers on average has 500 salak trees which can produce approximately 10 kg of fresh salak fruit per day. Unfortunately, the selling price of salak fruit is often very cheap, dropping around IDR.1,000, - IDR. 2,000 per kg. Therefore, the housewives of Purwobinangun who get joined in the group of woman farmers (KWT) have set up a number of small-scale industries that produce salak fruit based products with the hope that in the future they will support their village to become a culinary tourism village for salak fruit based products. This research was conducted to find out the characteristics of salak fruit based products which most influence consumers in buying the products and to know the potential for success in selling salak fruit based products. The study was made by conducting market survey, taking 176 respondents who attended the exhibition at the Jakarta Fair 2018, Sleman Expo 2018 and visitors of Merapi Park. The results showed that among the 9 characteristics of salak fruit based products that were measured, *Taste*, *Expiry Date* and *Halal Information* became the main reason for purchasing the products with the percentage responses of 40%, 28% and 10% respectively. Size, Color and Packaging of the products were not the main reason for purchasing consideration. Of the four types of salak fruit based products (Sarisa Salak, Geplak Salak, Dodol Salak and Krupuk Salak) which their performance were compared to those of well-known competing products, only Dodol Salak performed better in terms of consumer preference, price per unit and taste. Therefore, improvements in the characteristics of salak fruit based products still need to be conducted in order to increase the attractiveness of Mount Merapi tourists as their target of consumers.

Keywords: *Salak, Purwobinangun, Merapi, KWT*

MAKING MASTER PLAN FOR BANJARARUM VILLAGE, KALIBAWANG DISTRICT, KULON PROGO REGENCY

Muhammad Sulaiman^{1*}, Karen Slamet Hardjo¹, Atus Syahbudin¹, Laksmi Yustika Devi¹, Endah Dwi Fardani¹, Pratama Tirza¹

Universitas Gadjah Mada

* muhammad.sulaiman@ugm.ac.id

Abstract

Banjararum village is a village with natural commodity potentials such as agriculture, plantations and water resources that are quite promising. Not only the potential of the primary sector, but Banjararum Village also has the potential of secondary sectors such as industry and tertiary sectors in the form of tourism. Unfortunately, at this time the potential management Banjararum village have not found a potential management system in accordance with the existing conditions of the village. As a result, problems arise such as drought in the dry season, problems of social welfare in the population, lack of availability of employment, and so on. In addition to existing resource management issues, currently, Banjararum Village is also facing organic development potential due to the location of the village which is quite close to the new movement node construction project in the form of airports and ports in Kulon Progo Regency.

Responding to the issues and related strategic, the existence of development planning is vital in directing village development to be inclusive and sustainable. The formulation of the village master plan is present as part of the effort to mapping, manage and plan village potential & the potential of existing human resources for the implementation of inclusive and sustainable village development. The formulation of the village master plan is done by compiling and synergizing with each of the ongoing programs in Banjararum Village. The program is like a field survey to identify existing potential, focus group discussions and workshops on the preparation of a master plan to accommodate the aspirations of citizens spread across 26 hamlets, KKN activities and community service programs with appropriate technology schemes as a way of developing knowledge about development technology. In addition, an evaluation of the condition of the exiting was also carried out to determine the ideal conditions that can be formulated based on the indicators of Sustainable Development Goals (SDGs) which have become international agreements on sustainable development. Then the grand concept will be formulated for the preparation of the village masterplan in the future.

The results of the activities that have been carried out for 8 months accompanied various activities in Banjararum Village in the form of a village profile containing potential and problems in each region. Then the community participation-based development planning document has been prepared by considering the Sustainable Development Goals. The hope is that Banjararum Village can become a pilot village by adopting the standards that have been required in SDG's indicators

Keywords: Planning, Tourism Village Planning, Agropolitan Village Planning, SDG's

EMPOWERING RIVERBANK COMMUNITY BY INNOVATION TECHNOLOGY AND EDUCATION OF WASTE MANAGEMENT

Raden Heru Prasetyo, A.M.d., S.T., M.Eng. (Institute Technology Yogyakarta); Surani Hasanati (Univ. Gadjah Mada). Sari Darmasari, S.Si., M.Biotech. (Univ Gadjah Mada); and Prof. Dr. Suratman, M.Sc. (Univ Gadjah Mada)

Abstract

Indonesian River Restoration Movement is a first river restoration movement in Indonesia that has been declared in March 22nd, 2015. This movement further encouraging Riverbanks community to restore their river. Penta Helix partnership with the universities as one part of it, led many universities in Special Region of Yogyakarta to united and support this movement.

Srigading Village in Bantul Regency and Krakitan Village in Klaten Regency are the pilot villages to Empowering Riverbank Community by Innovation Technology and Education of Waste Management to support the Sustainable Development Goals and to support Three Ends.

Community empowerment applied the principles of Education for Sustainable Development (ESD). The process of solving real problems faced by target communities or development in the midst of community is combined with ESD-based learning. This will strengthen the function of local wisdom also role and potential of human and natural resources contained in the community in every activities of problem solving and development.

Keywords: community river development, appropriate technology, SDGs, Srigading Bantul, Krakitan Klaten, ESD.

INSTALLATION OF GAMA-RAINFILTER (RAINWATER CATCHER AND FILTER TOOL INTEGRATED WITH POPULATION WELLS) TO MEET CLEAN WATER NEEDS AND INCREASE GROUNDWATER LEVEL AND GROUNDWATER QUALITY IN BANJARARUM VILLAGE, KULON PROGO REGENCY

Agus Maryono^{1*}, Adhy Kurniawan¹, Agus Prasetya¹, Pratama Tirza¹

¹Universitas Gadjah Mada

*agusmaryono@yahoo.com

Abstract

The problem of lack of clean water in the city of Yogyakarta and also in all cities in Indonesia is increasing. Groundwater level reduction and decreasing groundwater quality in the city of Yogyakarta are increasingly intensive (BLH, 2015). The general causes are increased run off, reduced infiltration of rainwater, and rampant illegal efforts to absorb domestic wastewater into the ground. The problem of water shortages and land subsidence also occur in the area of Banjararum Village, Kalibawang District which is the location of community service. In contrast to the existing problems, the large potential of rainwater in Indonesia that can be utilized, can be a solution in overcoming the problem of water availability and improving its quality. The potential and character of the high rainfall in the service point, namely Banjararum Village from data obtained and sourced from BPS (2007 and 2015) have similarities, namely in January to April and November to December, the season for May to October tends to experience dry season. The data shows the potential to accommodate rainwater during the rainy season so that supplies in the dry season can be fulfilled gradually. During this time the residents of Kalibawang Sub-district use water from the River Progo children for consumption and daily activities. In addition to using this method, there are also several houses that independently make bore wells with an average depth varying between 20 to 25 meters per point at a cost that is not cheap. The long dry season also forced the people of Banjararum Village to buy water because the ground water level was down and the water availability was insufficient.

The technology of Harvesting Rainwater is one way of using appropriate technology to assist in providing clean water needs for residents in Banjararum Village, Kalibawang District. In addition, the decline in the groundwater level in the dug wells owned by residents in the village can be overcome by injecting the remaining rainwater that has been collected. In addition to being able to restore the water table at a normal point, injection of rain water can also improve the quality of dug well water. The hope is that residents will no longer have difficulty in meeting their water needs and are not afraid of health problems in consuming water they have. The number of points in implementing this activity is 2 points out of 5 points. The point is at the house of one of the village administrators and the other is at the Muhammadiyah Vocational School. Site selection. This activity also supports programs from SDGs in point 6, namely being able to manage and conserve water in the area.

Keywords: Rainwater Harvesting Technology, Injection, SDG's

BUSINESS MODEL CANVAS (BMC) AMONG HOME INDUSTRIES IN KULON PROGO REGENCY

Pinjung Nawang Sari¹⁾, Jumeri²⁾, Filigon Adiguna Puspoyudo³⁾

¹⁾ Faculty of Agriculture

²⁾ Faculty of Agricultural Food Technology

³⁾ Faculty of Economics and Business

Universitas Gadjah Mada

Abstract

Business model is a system of resources and activities, which create a value that is useful to the customer and the sale of this value makes money for the company. The purpose of the analysis of business models is to deepen and broaden the knowledge about basic components of a business model. The Business Model Canvas (BMC) is a tool that provides a clear view of what the company needs to achieve and focuses on the strategic elements that matter most and will have the greatest impact to the business. This paper discuss about BMC among home industries in Kulon Progo Regency, based on these products: “pong” tofu, white tofu, traditional snacks, various kind of “peyek”, dan various kind of tempeh (soybean, “gembus”, and “benguk”). These five home industries compared among the nine building blocks in the BMC: customer segments, customer relationships, distribution channels, value proposition, key resources, key activities, partners, cost structure and revenue streams. BMC helps the companies in creating their business models based on nine building blocks. Discussion among these home industries in Kulon Progo Regency was being conducted in order to help the entrepreneurs to use these models in the right way, and successfully plan their future business.

Keywords: business model, Business Model Canvas (BMC), home industries, snacks

COMMUNITY INVOLVEMENT IN INTEGRATIVE PEST MANAGEMENT OF *BRASSICA OLERACEA* L. CULTIVATION IN NGABLAK VILLAGE, MAGELANG

Kumala Dewi¹, Trini Susmiati², Subeno², Christina Lilis Sutarminingsih³ and Shielyv Nurul Yusnita³

¹Faculty of Biology, Universitas Gadjah Mada, Jl. Teknik Selatan, Yogyakarta

²Faculty of Animal Husbandary, Universitas Gadjah Mada, Jl. Fauna, Caturtunggal, Yogyakarta

³Research Center of Natural Resources Management of Universitas Gadjah Mada, Bulaksumur Blok B-7, Yogyakarta

Abstract

Ngablak Village is a center for horticulture production in Magelang. Farmers in Ngablak village normally cultivate *Brassica oleracea* L. as main vegetable. The production of *Brassica oleracea* decreased about 7.5% in 2015 compared to the previous year of production. This was due to many insect attacks such as *Plutella xylostella*, *Crocidoomia binotalis*, *Spodoptera litura* and *Agrotis ipsilon*. Farmers normally applying pesticides to combat the insects attack to the *Brassica* crop, however the frequent application of pesticides will left some residue that is not good for human health. Continuous utilization of certain pesticides will also induce resistance to insects. In this field study, we report the utilization of organic pesticide, trapping plants as well as methyl jasmonate to reduced the insect attacks to *Brassica oleracea* L. plants. The results showed that cultivation of *Brassica oleracea* during dry condition needs more intensive watering, and prompt treatment to combat insect attack. The plants which were treated with organic pesticide has the lowest yield (about 0.5 kg/plant), those treated with semi organic pesticide has yield about 2 kg /plant whereas those treated with commercial pesticide has yield about 1.75 kg/plant. The utilization of trapping plants such as *Cosmos caudatus*, *Physalis angulata* and *Foeniculum vulgare* have not shown any significant effect in deterring the insects investment to the plants. Application of methyl jasmonate, however, showed promising effect in reducing the damage of the *Brassica* crop by the insect investment. More evaluation still need to be conducted on the quality or nutrient content as well as the economic benefit of those *Brassica* plants treated with either organic or non-organic pesticide.

Key words : *Brassica oleracea*, insects, pesticide, methyl jasmonate, trapping plants

AWARENESS OF EDUCATION FOR CHILDREN IN ELEMENTARY SCHOOL AS FUTURE PLANNER TOWARDS THE SUSTAINABLE DEVELOPMENT OF KARST AREA IN PACAREJO VILLAGE, SEMANU DISTRICT, GUNUNGKIDUL REGENCY

Estuning Tyas Wulan Mei¹⁾*, Arry Retnowati¹⁾, Mohammad Isnaini Sadali¹⁾, Warsini Handayani³⁾, Alia Fajarwati¹⁾, Ifa Meilyana¹⁾, Pratistha Citta Kintani²⁾, Aji Dwi Pratama²⁾,
Dwi Wahyu Arifuddiin Najib²⁾

¹⁾Department of Development Geography, Faculty of Geography, Universitas Gadjah

Mada ²⁾Department of Environmental Geography, Faculty of Geography, Universitas

Gadjah Mada ³⁾Vocational School, Universitas Gadjah Mada

*correspondance email: estu.mei@ugm.ac.id

Abstract

Gunungkidul is one of the regencies dominated by karst landscape. As a unique landscape, Karst requires special understanding for managing the natural resources that suits to the environment's characteristic. On the other hand, children as the potential future nation's successors are important to understand the concept of sustainable environmental management from an early age. This community service activity is carried out in SDN Jetis, Pacarejo Village, Semanu District, Gunungkidul Regency and aims to introduce early children about the characteristics of Karst as a provision for future resource management. The activities were included the creation of a simple mini mockup by the students which is aimed to introduce the characteristics of Karst landscape and the processes within it. An explanation was also given to the teachers as the instructor in order to understand the process of forming a Karst landscape and the management that can be conducted to preserve Karst landscape. This understanding is also delivered to the wider community in the form of activities that invite students to Kalisuci tourism place for explaining Karst to other tourists in order to prepare students as the agents of change. Moreover, creating wall paintings of Karst with the landforms and the processes inside it was done as the learning media for the students. The result of the activity is a mockup presentation which shows that the students are able to explain the characteristics, the processes occurred, and the environmental management in the landscape of Karst which can be implemented in daily life. The community service activities in the form of this learning program are expected to support the implementation of an inclusive and equivalence of the education. Furthermore, it increases the lifelong learning opportunities for all who are in line with the fourth goal of sustainable development.

Keywords: Karst, Kalisuci, elementary school students, learning media, education

ENGAGING STUDENTS AND STAFFS TO DEVELOP HEALTH PROMOTING UNIVERSITY IN UGM*

Supriyati¹, Dewi FST.¹, Sundari E.¹, Pengastuti HS.², Wicaksana AL²

Universitas Gadjah Mada (UGM) is the oldest university in Indonesia and have high achievement on academic matter. Unfortunately, they were facing with health status issues for the students and staffs. According to the carrier center of the Faculty of Engineering UGM, there were 356 out of 611 fresh graduate (58%) of the faculty had a health problem.

This study was aimed to increase health literacy among students and university staff at the Universitas Gadjah Mada (UGM); and engage them on the health promoting program in UGM. Afterward, this program initiate the healthy life style among university community.

This study had been done in Universitas Gadjah Mada Yogyakarta. A total number 205 respondents (students and university staffs) were involved in this program. Data was collected through online questionnaire and analyzed descriptively. This study had conducted training, small group discussion, seminar, discussion on WhatApps group, as well as distributed posters on healthy diet, hand washing, physical activities, and smoking behavior to increase respondent's health literacy.

The results showed that most of respondents (74%) did not know yet about the non-communicable disease and its risk factors. In addition, they were less-consumed fruit and vegetable. The number of respondents that consumed 9% respondents and 1% respectively. On the other hand, 48% respondents usually 150 minutes/week, even though they do not know the recommendation of WHO on physical activities. Respondents also did not know about the critical time for hand washing. The intervention got positive response. Indeed, “posbindu Promosi Hidup sehat dan sejahtera” was created in the faculty of engineering UGM.

Keyword: healty life style – students and university staffs – health promoting university

*this study supported by hibah ESD UGM for community services.

1. Department of Health Behavior, Environment, and Social Medicine; Faculty of Medicine, Public Health, and Nursing UGM
2. Department of Nursing, Faculty of Medicine, Public Health and Nursing UGM

ANALYSIS TREND OF LANDUSE CHANGE AND SETTLEMENT DISTRIBUTION TO ASSES LAND PRIORITY MANAGEMENT USING SPASIAL DISTRIBUTION ANALYSIS

Ratih Fitria Putri¹, Sunu Wibirama²

¹Department of Environmental Geography, Faculty of Geography, Universitas Gadjah Mada, Yogyakarta, 55281, Indonesia, Corresponding E-mail: ratihfitria.putri@ugm.ac.id

²Department of Electrical Engineering and Information Technology, Faculty of Engineering, Universitas Gadjah Mada, Yogyakarta, Indonesia

Abstract

Kebumen Regency is one of the regions in Province of Central Java. Overall, the population of Kebumen Regency tends to decline every year. This dynamic population condition can also changes land use trends. Based on this background, identification of trends in land use change is quite interesting to study which aims to facilitate land use planning for stakeholders in the relevant region. The objectives of the study include (1) analyzing the dynamics of the population of Kebumen Regency, (2) analyzing the pattern of land use change, and (3) analyzing population pressure on agricultural land. Image interpretation through GIS information systems (GIS) can be done to identify land use changes. Analysis of changes in land use / land cover through GIS can be done by creating a matrix of land use / land cover changes. The results showed that (1) Kebumen Subdistrict is an area with the highest population among other sub-districts and always has population growth during that period, (2) Mixed gardens each year tend to have a decrease in area quantity, while settlements and rice fields have an increase. Settlement patterns in the central part of Kebumen Regency tend to centralize and form a block. These conditions indicate influence of population growth in the area, (3) increase in population and population density in some districts are directly proportional to the level of pressure on agricultural land which is also high.

Keywords— Landuse change, Settlement Distribution, Dynamic population, GIS.

ESTABLISHING HOMESTAY IN GIRIKERTO VILLAGE TO CONSERVE MOUNTAIN FLORA OF MOUNT LAWU, NGAWI REGENCY, EAST JAVA

Atus Syahbudin^{1*}, Dina Dwi Ratnasari², Dyah Ayu Wulansari³, Eka Fitriani³, Herdina Primasanti⁴, Nekkyoo Meishi Sugureta⁵, Noviyanti Listyaningrum⁶, Ratris Kurnia P.³, Tiara Dwika Andini⁷

¹Faculty of Forestry, Universitas Gadjah Mada, Jl. Agro No. 1 Catur Tunggal, Depok, Sleman, Yogyakarta 55281

²Faculty of Agricultural Technology, Universitas Gadjah Mada, Sleman, Yogyakarta 55281

³Faculty of Agriculture, Universitas Gadjah Mada, Sleman, Yogyakarta 55281

⁴Faculty of Humanities, Universitas Gadjah Mada, Sleman, Yogyakarta 55281

⁵Faculty of Engineering, Universitas Gadjah Mada, Sleman, Yogyakarta 55281

⁶Faculty of Geography, Universitas Gadjah Mada, Sleman, Yogyakarta 55281

⁷Faculty of Psychology, Universitas Gadjah Mada, Sleman, Yogyakarta 55281

* Email: syahbudin_atus@gadjahmada.edu.

Abstract

Girikerto is a village in Sine District, Ngawi Regency, East Java Province. This cool village is located on the northern slope of Mount Lawu at an altitude of 675-975 m asl. In 2017, Girikerto Village was inaugurated as a tourist village by regent of Ngawi. In order to promote tourism villages, students of community service UGM initiated the establishment of homestays. This study wants to know the minimum requirements and uniqueness of mountain homestay. The results prove that establishing a homestay begins with a survey in every house in Girikerto Village. Parts of the house that are observed especially in the bedroom, bathroom, living room and yard. We also discussed and unified perceptions with the homeowner regarding vision and mission of homestays. When the homeowner is willing and has one perception, socialization and training were carried out. We provided homestay assistance to finalize the program while improving the facilities of Girikerto tourist village. Four houses were successfully made homestays in house of Mr. Seman, Mr. Rohadi, Mr. Yatmin, and Mrs. Saidi. The houses that have been initiated meet the criteria for homestays, namely: 1) the host does not have a criminal record, 2) adequate home facilities and 3) house offers uniqueness described in this paper. Some requirements that are not yet suitable include the existence of native mountainous flora in the yard and bathrooms with abundant water tanks. We recommend that homestays need to be marketed online so that they are known more quickly by visitors from outside the region.

Keywords: mountain flora, Mount Lawu, community empowerment, community service

ESTABLISHMENT OF GIRIKERTO TOURIST VILLAGE IN MOUNT LAWU INDONESIA THROUGH COMMUNITY EMPOWERMENT BY STUDENT OF COMMUNITY SERVICE UGM

Atus Syahbudin

Forestry Study Program, Faculty of Forestry, Universitas Gadjah Mada, Jl. Agro No. 1
Catur Tunggal, Depok, Sleman, Yogyakarta 55281, Indonesia. Tel./Fax. +62-274-550541.

Email: syahbudin_atus@gadjahmada.edu.

Abstract

Mountain forests play an important role in regulating water cycle and protecting slope and landscape. In addition to forest fires and illegal logging, increasing population pressure on food and agricultural land is a major problem of conflict in the mountain forests. Therefore, efforts to improve the welfare of mountain communities must be in line with the preservation of forests and environment. The establishment of mountain-based tourist villages is one solution. This study intends to determine the role of students of community service UGM in order to empower community in the establishment of Girikerto tourist village. Activities take place from 2014-2018 on the northern slopes of Mount Lawu, Ngawi Regency, East Java. The time is in conjunction with the implementation of community services in July-August per year. Girikerto tourist village was successfully established in 2017 with the following strategies: 1) in the first year (2014), students identified human resources in the village included formal and informal leaders and some community groups, their roles and legality. 2) The next two years (2015-2016), they mapped natural resources, flora and fauna in detail in order to get unique location and culture. Coordination with BAPPEDA was also simultaneously carried out for getting information about the master plan and other supports. The inauguration of the tourist village and tourist awareness groups can be realized by the regent in 2017. In 2017-2018, the activities are directed to complement tourist activities such as making festival and cultural attractions, homestay development, gift or craft creation, and mountainous culinary branding.

Keywords: mountain forest, tourist village, community empowerment, community service

OVERVIEW OF INITIATING THE ESTABLISHMENT OF TOURISM VILLAGE KARANG TENGAH, IMOGIRI, BANTUL THROUGH ROLE OF INDEPENDENT AND SUSTAINABLE TECHNOPRENEURSHIP DAN DYNAMIC SUSTAINABLE ENTERPRISE BASED- SMALL AND MEDIUM ENTERPRISES (SMEs)

Widodo¹, Suparna², Joni Tri Wibowo³, Isnani⁴

^{1,2,3,4}Direktorat Pengabdian kepada Masyarakat Universitas Gadjah Mada

¹Email: widodousman@ugm.ac.id

²Email: suparna_daa@ugm.ac.id

³Email: zhonya323@gmail.com

⁴Email: isnani_namatahari@ugm.ac.id

Abstract

Desa Karang Tengah, Kecamatan Imogiri, Kabupaten Bantul, Special Region of Yogyakarta is a village , that has potency of human and natural resources, as well as Small and Medium Enterprises (SMEs), of which support it as tourism village. However, there are few problems in accordance to objectify that purpose, such as (1) the large of the place, intended to be main tourism and supporting zones have not been determined, (2) variety and potency of SMEs were not supported by an adequate product quality, and (3) the producing and marketing process of SMEs were still managed in household scale. In order to tackle those things, innovation aspect hold important role. Several innovations that might be conducted through several aspects, like (1) technology of production process, (2) marketing and network, and (3) product design.

The principle of technopreneurship through degree of dynamic sustainable enterprise constitutes an used approach to initiate the formation of tourism village Karang Tengah. It refers to such enterprise's principle, positioning technology as its driving force. In this case, technology plays on encouraging efficiency and innovation of the product. The achieved indicators upon its degree as they can comply several conditions, such as the dynamic sustainability of (1) product, (2) production process, (3) resources, and (4) strategic role.

The result of its initiatives are, (1) it has been determined of Watu Wedok as main tourist's destination, of which would be developed as tourism park completed with supporting buildings; (2) it has been arranged of ecotourism map of SMEs based- desa Karang Tengah; as well as (3) it has been conducted the training and supervision of adaptive technology' utilization and marketing.

Keywords: Desa Karang Tengah, SMEs, tourism village, technopreneurship, dynamic sustainable enterprise

GCONNECT2: DISASTER-RESILIENT AREA DEVELOPMENT THROUGH CONVERGENCES OF IOT-CLOUD AND COMMUNITY RE-SILENCE

Mardhani Riasetiawan, Bambang N Prastowo
Department of Computer Sciences and Electronics
Faculty of Mathematics and Natural Sciences
Universitas Gadjah Mada
mardhani@ugm.ac.id

Abstract

Indonesia has a geographic and geological landscape that has the same natural resource potential and risk. One of them is a landslide that occurs in rocky mountainous areas in Wonogiri Regency, precisely in Selopukang Village, about 3 hours drive from Yogyakarta. This region since 2017 has become the target area for building disaster response villages and is economically independent.

In 2018, the region was again developed into a disaster-resilient area through the Appropriate Technology Technology Community Service Program funded by the UGM Directorate of Community Services in 2018, entitled G-connect2: Provision of Disaster Detection Devices in Prone Areas

On September 24, 2018, three location points were installed as placement of the G-connect2 tool in the red-line landslide-prone area in collaboration with the Wonogiri District BPBD and 2018 UGM KKN team. Therefore, reliable environmental monitoring and data monitoring tools were needed. Combined with the previous equipment, G-connect2 is equipped with a temperature sensor, ground motion, slope, humidity and others that can be a guide to the occurrence of significant soil movement symptoms which later become a sign of landslides.

Installed devices are given a temperature sensor, ground motion including a motion sensor that is recorded at a time and sent to the cloud server periodically. Then the collected data is presented in the form of time series information and analysis of symptoms of landslide landslide movement symptoms that will be accessed by BPBD and related agencies and provide early warning to the surrounding residents.

During the installation, the G-Connect team received support from people who became operators in their daily lives and operated independently. Even though the crack path is still very long, this installation effort is a mainstay for reducing human-oriented safety.

REDUCING STRESS AND INCREASING THE CONFIDENCE OF THE BLIND THROUGH GO-BLIND (GAMELAN FOR BLIND) AS AN INCLUSIVE EDUCATION

Muhamad Ali Irham

Department of Electrical and Information Technology, Vocational School,

Universitas Gadjah Mada

muhamad.ali.i@mail.ugm.ac.id

Abstract

Gamelan has benefits that are very good for health, especially for the peace of mind for the listeners, so that the benefits of this gamelan have been developed as a medium for controlling depression in the elderly (Rita, 2013) in which the elderly generally feel lonely and burdened with problems complex. Besides that gamelan is also applied as a medium to control depression and increase self-confidence in adolescents (Warih, 2011) and several other subjects such as Psychiatric hospital patient, disabilities. The problem of depression and self-disbelief is also more or less experienced by blind people. However, in general, blind people have obstacles in playing gamelan because in playing gamelan requires precision and vision skills. So we need an alternative solution that can facilitate the visually impaired in playing the gamelan. Through gamelan electronic Go-BLIND, blind people only need to remember the tone of notation on each finger that has been attached to finger touch, through switching systems Go-BLIND can emit a tone that resembles the sound of gamelan in general. Go-Blind also features desktop-based software that can facilitate inclusive learning between blind people and mentors. Based on the results of primary research conducted shows that 100% of participants have been able to play Go-BLIND, the trial was conducted by distinguishing blind people with low vision and total blind conditions.

Electronic Gamelan, Blind, Switching System, Inclusive Education

**EDUCATION ON SUSTAINABLE DEVELOPMENT GOALS (ESD) : A BEST
PRACTICE OF RCE ASIA PACIFIC – YOUTH MOVEMENT ON SDGs GOAL
13&14
(CLIMATE ACTION & LIFE BELOW WATER)**

Emmy Yuniarti Rusadi¹, Brittany Hardiman²

¹RCE (Regional Centre of Expertise) Yogyakarta e.o RCE Asia Pacific-Youth Deputy
Email: emmy.yuniarti.rusadi@gmail.com (correspondence email)

²RCE Great Western Sydney e.o RCE Asia Pacific-Youth Leader
Email: b.hardiman@westernsydney.edu.au

Abstract

Regional Centres of Expertise (RCE) was established since 2003 as a multi-stakeholder global network and been endorsed by UNU-IAS (University Institute of Advance Science) and RCE Asia Pacific-Youth was officially run since 2016 with several communities building, online discussion, youth collaboration, SDGs Challenge and the recent one was its Virtual Youth Summit which successfully presented some best youths around the region to present their projects related to SDGs 13&14 focused on Climate Action and Life Below Water. The first Asia-Pacific SDG (Sustainable Development Goals) Challenge was held in February 2018 beforehand. From February to March 2018, it collectively engaged approximately 5,660 youth around the SDGs on 13 projects (reports received) in Malaysia, Vietnam, India, Indonesia, Bogotá and Australia which received more than USD\$7,000 worth of funding too. This paper tried to share this best practice by using case studies on data from 2016-2018. Further, it will encourage more youths to take role in practicing or localizing SDGs through making impact to society in the same time through a sustainable way.

Keyword: ESD, SDGs, RCE, Youth

APPLICATION OF APPROPRIATE TECHNOLOGY FOR DOMESTIC WASTE BASED ON COMMUNITY ACTIVE PARTICIPATION AND DEVELOPMENT OF SUSTAINABLE HUMAN RESOURCES IN SEPANJANG VILLAGE BY STUDENT COMMUNITY SERVICES

Mokhammad Fajar Pradipta¹*, Rani Agustina Wulandari²

¹Departemen Kimia, FMIPA, Universitas Gadjah Mada, Sekip Utara BLS 21, Yogyakarta, 55281.

²Departemen Budidaya Pertanian, Fakultas Pertanian, Universitas Gadjah Mada, Bulaksumur, Yogyakarta, 55281

*Penulis korespondensi. No Tel: 0274-545188. Email: fajar@ugm.ac.id.

Abstract

The village community of Sepanjang complained about the amount of garbage that had accumulated in the river around their residence. Based on monitoring, hundreds of trash wrapped in plastic bags were seen piled along the river that passed in Sepanjang Village. Trash piles also appear to hamper the flow of water. The habit of people throwing garbage in the village of Sepanjang, causing a lot of landfill in any place so that the neighborhood looks dirty. Most of the village population of Sepanjang still rely on the plantation and livestock sectors to drive the economy. Without realizing it, these plantation and livestock products produce by-products that have not received much attention, even considered as unused waste. In fact, from livestock, kitchen waste, and agricultural waste can be used as alternative energy sources, liquid fertilizer, and biochar. As many as 30 students UGM are carried out to overcome waste problems in an integrated manner. This community service activity aims to address the waste problem of agricultural waste, kitchen waste and cow dung based on community active participation and development of sustainable human resources. Student community services socialize waste management to several potential target groups to collaborate with, namely village government, Karang Taruna, Gapoktan, and Elementary Schools student. Agricultural waste has been processed into biochar, kitchen waste has been processed into liquid fertilizer, whereas cow dung has been used as biogas. Biochar as a soil amendment enhances plant growth and reduces need for water and fertilizer..

COMPARATIVE CONTENT ANALYSIS AND INSTAGRAM USER PREFERENCES TO DISASTER INFORMATION ACCESS ON A FEW NATIONAL NEWS ACCOUNT: CASE STUDY OF LOMBOK EARTHQUAKE 2018.

Yulianto Ari^{1*}, *Wijaya Alfi Wira*¹, *Kusumaningrum Prameswari Budi*¹, *Laudiansyah Rizky*¹, *Ismayuni Novia*¹

¹Departemen Geografi Lingkungan, Fakultas Geografi, Universitas Gadjah Mada, Sleman,
Indonesia

*ari.yulianto@mail.ugm.ac.id

Abstract

Indonesia as the one of an archipelago country has many types of vulnerability disaster region, such as an earthquake. By the increasing community system capacity nowadays could be balanced by social media influence as the knowledge source for accessing disasters information. The purpose of research is analyzing the information content through national news agencies of Lombok's earthquake comparatively and to knowing Instagram's users preference by the availability of disasters information through social media. The method used in the research was mix method that analyzes quantitative content by calculating the frequency of the issue and group discussion based on the topic at news agencies. The result shows that Metro TV news agency contributes the information about 14.22% more than tvOne news agency for 7.41% and Kompas TV agency for 7.37% in August 2018. The contents of news agencies not generally similar, but there were some of info graphics news available such as the earthquake, use of disaster technology, the earthquake impact to the resource, also reconstruction and rehabilitation step after all. The discussion group was dealing that the social media as the source of disasters information with actual facts, factual, and informative. The topic was favorite because presented as the summarizing and attractive content, it would be effortless to get the information. The information should be presented continuously, so the users could get more information in real time.

Keyword: Lombok earthquake, news account, disaster information access.

JEL Classification: I20, L82, Q54.

SEKOLAH ASYIK PEDULI SAPI (SAMPAH PIYUNGAN): INTENSIFY EARLY STUDENTS' AWARENESS IN WASTE TO DECREASE ENVIRONMENTAL DEGRADATION IN FINAL DISPOSAL SITE PIYUNGAN
Cahyadi Ramadhan¹*, Yolla Yulianda¹, Rahma Aulia Zahra¹

¹Environmental Geography, Faculty of Geography, Universitas Gadjah Mada
email: cahyadiramadhan10@gmail.com, yolla.yulianda@mail.ugm.ac.id,
rahmauliazahra@mail.ugm.ac.id

Abstract

Most accumulated garbage is found in TPA (Final Disposal Site) with various types of garbage but more plastic waste is found. Plastic waste (Polyethylene) takes 20 years to decompose after 500 years in a landfill. Due to the environmental impact of plastic waste, a more environmentally friendly garbage management is needed that is not only oriented to economic value, but also can provide education with a management system that involves the community and students.

The Sampah Asyik Peduli SAPI (Sampah Piyungan) was made to empower the community by providing knowledge about waste and its environmentally friendly management. The main target was started from the most basic level by providing education to elementary school students in SDN Ngablak located in the village of Sitimulyo, Bantul Regency, Special Region of Yogyakarta. The elementary school students are agents of change that have a strategic role in the development of the future. The methods used in this program are socialization, interactive training on garbage and garbage hazard, waste management as a media to grow crops, and the provision of creative modules of waste management. The result of this program is students can know the waste management with various creative preparations so that it can take the existing economic value in the garbage. It can also be a step in the effort to control the waste and optimize the value of waste in order to minimize the negative impact of waste accumulation in the environment.

Keywords: *Garbage, students, media planting, garbage bank*

ATRAUMATIC RESTORATIVE TREATMENT BY TRAINED DENTAL NURSES IN ELEMENTARY SCHOOL STUDENTS

Decky Joesiana Indrani

Fakultas Kedokteran Gigi, Universitas Indonesia, Indonesia
(deckyji@gmail.com)

Yosi Kusuma Eriwati

Fakultas Kedokteran Gigi, Universitas Indonesia, Indonesia
(yosiarianto@gmail.com)

Risqa Rina Darwita

Fakultas Kedokteran Gigi, Universitas Indonesia, Indonesia
(risqarina2004@yahoo.com)

Abstract

Introduction: Decay (caries) among children in the underserved communities often goes untreated due to lack of workforce and resources. The minimal intervention method is mainly to be applied to children with decayed teeth who otherwise will never receive treatment. On the other hand, dental nurses have potential in the ability to perform a minimal intervention method if trained. **Objective:** To conduct the minimal intervention of the Atraumatic Restorative Treatment (ART) in an elementary school by trained dental nurses. **Methods:** Dental nurses are trained on the ART followed by implementation of the ART in students of Nurul Yakin School, Jakarta, Indonesia, under close supervision and assessment by dentists. Selected teeth for the ART were prepared by removing decay using non-electrical instruments and restored by glass ionomer material to teeth. The ability of the dental nurses was assessed on the ART technical procedure. Follow-up evaluations were carried out after 72 hours to determine whether the restored glass ionomer restorations into teeth were still existed or had fall-off. **Results:** A total of 62 restorations were performed. The mean of dental treatment time ranged from 10 to 20 minutes. After 72 hours, the retention rate of glass ionomer restorations was 85%, and the mean of the fall-off restorations was only 1.6% of the total fillings. Regarding the ability in conducting the ART method, it showed that only 1 out of nine dental nurses initially did not show well performance. **Conclusion:** The trained dental nurses demonstrated good ART performance in Nurul Yakin School, Jakarta, Indonesia with low fall-off restoration mean. Also, ART needs to be considered as a preventive modality for decay in communities.

Keywords: caries_1, ART_2, dental nurse_3, glass ionomer_4

JEL Classification: D10

FERMENTATION TECHNOLOGY IN LIGNOCELLULOSIC WASTE BASED CATTLE FEED MAKING PROCESS WITHIN GROUPS OF STOCKMEN IN SODONG FOREST GUNUNGKIDUL REGENCY

***Denny Irawati Subeno**

Faculty of Forestry, Gadjah Mada University

*dirawati@ugm.ac.id

ABSTRACT

Based on the data of Central Bureau of Statistics (BPS) (*Badan Pusat Statistik*) in 2014, Gunungkidul regency was known to be a house to the population of no less than 147.000 beef cattle, while for the population of smaller livestock which consists of goats and sheep each holds the number of 175.012 and 11.890. Beef cattle are known to be a part of large livestock that are normally being taken care of by the farmers in villages as the small scale and weak capital livestock of the people. In Gunungkidul, the small scale and weak capital livestock of the people has made the cattle feeding system be given forage, especially the elephant grass that be planted around the field. During rainy season, it is relatively easy for the stockmen to find the forage for their own livestock. However, it would become a problem when the dry season approaches since the forage would be difficult to be found in the area. A beef cattle weighs averagely 300 kg needs 40kg of fresh forage each day, with the price point of 50.000 rupiah per cattle per day. In the other hand, a large amount of lignocellulosic waste that has not been proceed well, such as banana trunk and dry leaves coming from the field in the area.

The banana trunk waste added by organic supplement, bran, tofu waste, kitchen salt as well as sugar, are mixed and fermented inside of a barrel for 1x24 hours. After 24 hours, forage will have been ready to be given to the livestock. The cattle feed making process using banana trunk that weighs 50kg would cost around 28.000 rupiah. The waste processing using the fermentation technology is expected to be the solution to the difficulties of finding forage resource especially during the dry season, as well as reducing the cost of feed making.

Keyword: feed, livestock, waste, lignocellulose, fermentation.

COMMUNITY EMPOWERMENT FOR NATURAL ORCHID CULTIVATION IN BANYUNGANTI HAMLET, JATIMULYO VILLAGE, GIRIMULYO SUB- DISTRICT, KULON PROGO PREFECTURE, SPECIAL REGION OF YOGYAKARTA

Endang Semiarti^{1*}, Aziz Purwantoro², Ari Indrianto¹, Aries Bagus Sasongko¹, Oktaviana Herawati¹, Asri Fajar Milasari¹, Fauzana Putri¹, Aditya Nur Subchan¹, Maya Purqi Sulistianingrum¹

Faculty of Biology Universitas Gadjah Mada¹, Faculty of Agriculture Universitas Gadjah Mada²

*endsemi@ugm.ac.id

Abstract

Indonesia as a tropical country has an agroclimate that is ideal for a variety of potential plants, including orchids. Banyunganti Hamlet is one of the tourism villages in Kulon Progo with suitable agroclimates for orchids with its high diversity. However, the people in Banyunganti Hamlet do not understand the potential of orchids in their area, therefore assistance is needed to develop their orchid potential as one of the leading for tourist attractions. This activity was addressed to Banyunganti Hamlet as many as 20 people of women farmers group (WFG). This assistance began with the introduction of species and characteristics of orchids, followed by conventional orchid propagation training, pollination, transfer the orchid seedlings from bottles to pots, hydroponic and aeroponic orchid planting, and modern orchid propagation using household scale tissue culture techniques (sowing seeds and planting). After residents understood about orchids and how to reproduce both conventional and modern methods, followed by training to make souvenirs in the form of orchid hijab paintings and orchid brooches as a characteristic of Banyunganti Hamlet. This assistance has formed an Orchids WFG of Banyunganti Hamlet that are able to reproduce orchids conventionally and understand the basic concepts and techniques of household tissue culture. This activity is carried out continuously and monitors and evaluates the activities that have been carried out. This is very prospective in line with the opening of the New Yogyakarta International Air port in the near future.

Keywords: Orchid, Banyunganti Hamlet, Tour village, Kulon Progo Prefecture, Orchid WFG

MULTIFUNCTION WASTEWATER TREATMENT PLANTS AS EDUCATIONAL AND RECREATIONAL PARKS FOR THE COMMUNITY

OC Dewi^{1,2}, AD Ismoyo³, CS Saskia⁴, IF Ridzqo⁴ and R Felly⁴

¹Lecturer, Universitas Indonesia, Depok, Indonesia

²Expert, Bina Ekonomi Sosial Terpadu NGO, South Tangerang, Indonesia

³Lecturer, University Mercu Buana, Jakarta, Indonesia

⁴Postgraduate Student, Universitas Indonesia, Depok, Indonesia

ova.candra@gmail.com

Abstract

The scarcity of land and the lack of communal sanitation in slum areas are common issues in densely populated country like Indonesia. One of them happens in Kampung Nambo, located in South Tangerang City, Banten Province. Those issues encourage some household to build their houses without an adequate sewage disposal system. Wastewater flows directly to the river without any treatment process and it will have negative impact to the environment and humans. Moreover this kampung also does not have educational and recreational parks facilities which can fulfil human's need to socialize and health. The method used in this study is an action based research. Addressing the problem of scarcity of land and the need for WWTP facilities, the complementary facilities offered are hydroponic farming, playgrounds, reading park, sports facilities that are integrated with the proposed WWTP area. In general the WWTP area is placed in the back and not utilized optimally, meanwhile this study accommodate the WWTP towards integrated and multifunction facility.

EMPOWERING ECONOMIC OF SME WITH HANDICRAFT PRODUCTS IN JEDONG SEKARPUTHI BALONGPANGGANG GRESIK BY CREATING ECO-PRODUCT

Radius Setiyawan¹, Sri Lestari²

1FKIP UMSurabaya

email: radius.setiyawan@gmail.com

²FKIP UMSurabaya

email: spiritsrilestari@gmail.com

Abstract

The SME partners in this engagement program are SMEs with handicraft products in Jedong, Sekarputih, Balongpanggang, Gresik. In this village, making furniture is one of community effort and main livelihood. Nevertheless, the furniture business has not made significant progress, even tends to decline. This is due to the absence of good management, no association of furniture workers, lack of promotion, no special human resources in marketing, sporadic furniture growth, and less supply of raw materials in East Java. This program involved two SMEs i.e. UD. Future Furniture and UD.Kharisma Meubel. This devotion program prioritized to solve marketing, to develop product, and to solve human resources issues. The methods used were 4P (Product, Price, Promotion, and Place). Product quality issues was solved by creating eco-product that used to utilize wood waste into high value commodity and aim to fight environmental pollution. This Eco-product was lamp products under the trademark Pulampu: From Village to World. IT (internet), social media, mass media, catalog, exhibition, and on-line store are used to expand the product. Modernization of production equipment was also given to improve its quality. The implementation of this method showed effective achievement in promotion and sale. In addition, this program could increase the turnover of SMEs Partners and diverse product variants.

Keywords: SME with handicraft product, eco-product, economic empowerment

IMPLEMENTATION OF EDUCATION FOR SUSTAINABLE DEVELOPMENT IN LOCAL ECONOMIC RESOURCES DEVELOPMENT COURSE: TOWARD SMART VILLAGE AGRICULTURE IN SLEMAN REGENCY

¹Rini Rachmawati, ¹Luthfi Muta'ali, ²Abdur Rofi

¹Departemen of Development Geography, Faculty of Geography, Universitas Gadjah
Mada

²Departemen of Environmental Geography, Faculty of Geography, Universitas Gadjah
Mada

Abstract

The implementation of Education for Sustainable Development (ESD) in the course of Local Economic Resource Development in Wonokerto Village Sleman Regency aims at understanding the concept of ESD and training in preparing participatory action plans. The action plan was focused on Smart Village Agriculture through website development, Instagram, landmark establishment, YouTube registration, and training on website and Instagram management. The selection of the action plan was started by preparing the regional profile by means of observations, interviews, and focus group discussion. The participant of FGD was the community, village officials, youth groups, village enterprise (Bumdes), students, ESD Team and resource persons. By synergizing, the implementation of lectures through the application of ESD can provide experience to students in understanding the real conditions and problems in the field and solving them together with the community. Besides, benefits can also be learned by the local peoples through the development of smart village agriculture.

Keywords: Education for Sustainable Development, Local Economy, Smart Village

**DEVELOPING A HEALTHY CACAO FARM BY EMPOWERING FARMER
GROUP IN GIRIPURWO VILLAGE, KULON PROGO REGENCY,
YOGYAKARTA, INDONESIA**

**Ani Widiastuti, Fatkhiyah Rohmah*, Desi Utami, Ratih Ineke Wati, Alia Bihrajihant
Raya**

Faculty of Agriculture

**Universitas Gadjah Mada
*fatkhiyahrohmah16@ugm.ac.id**

Abstract

As a village choosing cacao to be its main commodity cultivated, the farm condition in Giripurwo, Kulon Progo Regency should need more improvement. Many cacao fruits were infected by *Phytophthora* sp. which decrease the production. One of our community service programs in this area was developing the healthy cacao farm mainly to manage the disease in order to improve productivity. The target was cacao farmers incorporated in farming group of Nglengkong hamlet. This program included: (1) extension program of pest and disease management, as well as the farming management; (2) training on branch pruning, making *rorak* (dead-end trench), *sarungisasi* (holster), and branch extension technology; and (3) providing farm management equipment.

Keywords: healthy cacao farm, cacao, pest and disease management, farming management

DIGGING THE WOMEN POWER FOR SUPPORTING CACAO FARMING ACTIVITIES IN GIRIPURWO VILLAGE, KULON PROGO REGENCY, INDONESIA

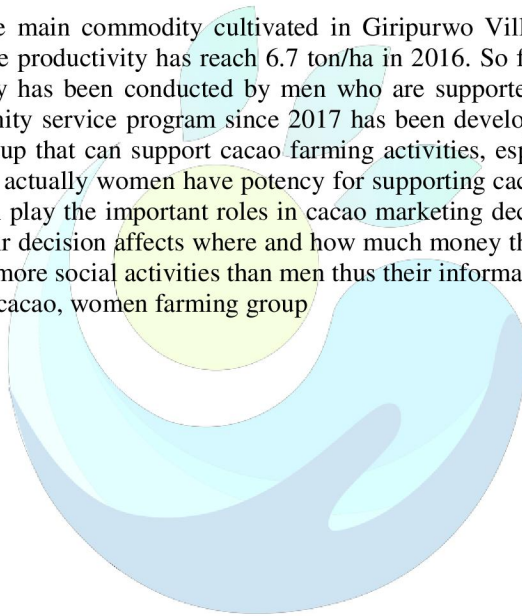
**Ratih Ineke Wati*, Ani Widiastuti, Fatkhiyah Rohmah, Desi Utami, Alia Bihrajihant
Raya**

**Faculty of Agriculture Universitas Gadjah Mada
*ratihinekewati@ugm.ac.id**

Abstract

Cacao is one of the main commodity cultivated in Giripurwo Village of Kulon Progo Regency. Its average productivity has reach 6.7 ton/ha in 2016. So far, farming activities of cacao commodity has been conducted by men who are supported by farming group. One of our community service program since 2017 has been developing an incorporated women farming group that can support cacao farming activities, especially in marketing area. We found that actually women have potency for supporting cacao farming activities because: (1) women play the important roles in cacao marketing decision in one farming household since their decision affects where and how much money the cacao will be sold; and (2) women has more social activities than men thus their information access is huger.

Keywords: women, cacao, women farming group



DEVELOPING A HEALTHY CACAO FARM IN GIRIPURWO VILLAGE, KULON PROGO REGENCY, YOGYAKARTA, INDONESIA


Ani Widiastuti, Fatkhiyah Rohmah*, Desi Utami, Ratih Ineke Wati, Alia Bihrajihant
Raya

Faculty of Agriculture
Universitas Gadjah Mada
*fatkhiyahrohmah16@ugm.ac.id

Abstract

As a village choosing cacao to be its main commodity cultivated, the farm condition in Giripurwo, Kulon Progo Regency should need more improvement. Many cacao fruits were infected by *Phytophthora* sp. which decrease the production. One of our community service programs in this area was developing the healthy cacao farm mainly to manage the disease in order to improve productivity. The target was cacao farmers incorporated in farming group of Nglengkong hamlet. This program included: (1) extension program of pest and disease management, as well as the farming management; (2) training on branch pruning, making *rorak* (dead-end trench), *sarungisasi* (holster), and branch extension technology; and (3) providing farm management equipment.

Keywords: healthy cacao farm, cacao, pest and disease management, farming management



SIMBOLIC MOTIVATION AS EDUCATION TOURISM CAPITAL OF PURA MANGKUNEGARAN SOLO

Suryo Ediyono¹, Setyo Budi², Sahid Teguh Widodo³

¹Institut Javanologi, Universitas Sebelas Maret, Surakarta, Indonesia,
ediyonosuryo@yahoo.com

²Institut Javanologi, Universitas Sebelas Maret, Surakarta, Indonesia,
setyobudi67@gmail.com

³Institut Javanologi, Universitas Sebelas Maret, Surakarta, Indonesia,
sahidteguh Widodo@yahoo.com

Abstract

Tourism development initiated by the Government of Solo City has put Mangkunegaran not only regarded as cultural tourism but also worth educational tour. This study is a qualitative since the objects concern data in the form of words. Primary qualitative data obtained through the process of direct observation in Pura Mangkunegaran Solo, interview to the abdi dalem or guide. The transcendental phenomenology approach is used to describe the experience of participants involved in the study. This study uses the symbolic interaction theory of George Herbert Mead and Herbert Blumer. In this theory symbols are used to interpret something else. This symbol will produce meaning that occurs through the process of interaction and will result in action based on how individuals, communities, groups defined the symbols. In relation to this study, the theory of symbolic interactionism is used to analyze the physical symbol of historical objects and buildings and non-physical symbols are cultural activities interpreted differently by tourism manager and palace tourists.

Keywords: symbolic interactionism; symbolic motifs; tourism, Pura Mangkunegaran

EMPOWERMENT OF GREEN CHEMISTRY COMMUNITY FOR TRANSFER TECHNOLOGY OF PATCHOULI OIL PROCESSING TO MSMEs IN SLEMAN AND KULONPROGO

Karna Wijaya¹, Nasih Widya Yuwono², Mokhammad Fajar Pradipta¹, Widi Kurniawati^{1*}, Farida¹

¹Faculty of Mathematics and Natural Science, Universitas Gadjah Mada, Indonesia

²Faculty of Agriculture, Universitas Gadjah Mada, Indonesia

*widi.kurniawati@mail.ugm.ac.id

Abstract

Sustainable education on green chemistry among activists will be more effective and valuable if implemented by following the Education for Sustainable Development principles, namely through developing academic and leadership capacities of green chemistry activists, through education about how to respect the rights of others and nature and training on how to make decisions responsibly. Green Chemistry activists will be deployed directly to be able to transfer knowledge and technology to the community. The development of the sustainable education system is based on the 4 main pillars of ESD, namely: Social, Cultural, Economic and Environmental. The four pillars must be explicitly stated in the module of the green chemistry education system. This activity involved 9 institutions that involving academic, business and government institution. The Micro, Small and Medium Enterprises are involved to receive training from Green Chemistry activists in the processing of patchouli oil with green chemistry principles and SNI standardized products. Empowerment activities carried out include: Making Learning Modules, Making Learning Videos, Socialization, Making Leaflets, and Scientific Publications on Patchouli Oil Processing and Empowering MSMEs. In order for the activities to be right on target and to succeed well, the activities will be carried out sustainably after the project. Empowerment sustainability can be carried out by activists of the Green Chemistry Community by providing training to SMEs on a regular basis. Market their products and update the web / blog empowerment.

Keywords: community empowerment, green chemistry, patchouli oil processing

JEL Classification: D10, D11, J3

COLLABORATIVE ALUMNI – STUDENT COMMUNITY SERVICES IN LOMBOK EARTHQUAKE AFTERMATH: A NEW DISASTER RESPONSE AND RECOSTRUCTION PERSPECTIVE

Ahmad Agus Setiawan¹, Stefani DR Pudiyanti², Angelina SD Putri², Adam Chaesar², Muhammad R Aziz³, Rezky P Harisanti³, M. Hanafi³, Ervina Kurniasari³, Madina D Panuntun³, Angga Prayogo⁴, Muhamad AFN⁵, Muhammad A Arifianto⁶, Dita MS⁷

¹Faculty of Engineering, ²Faculty of Social and Political Science, ³Faculty of Forestry,

⁴Faculty of Agricultural Technology, ⁵Faculty of Veterinary, ⁶Faculty of Cultural Sciences, ⁷Faculty of Psychology

Universitas Gadjah Mada

email: a.setiawan@ugm.ac.id

mobile: +6281327006577

Abstract

In 2018, Lombok has been hit by three big earthquakes on Juli 29th, August 5th, and August 19th. A 7 SR earthquake on August 5th caused major damage for Lombok Island including Gumantar Village in North Lombok. All permanent and important buildings collapsed such as houses, schools, and Mosques that caused people lost their home and paused all their activities. Beside physical damages, electricity and waterways also collapsed, in addition there were trauma among the people because of the earthquake. This kind of situation triggered response from many people including student and Alumni of UGM or KAGAMA who came right away after the earthquake to Gumantar as volunteer then known as Kagama Care. After that, UGM also send the students from various disciplines as Student Community Services Disaster Response UGM to involve and help in the reconstruction and recovery after the earthquake. Recovery process is performed through program in three sectors: social, infrastructure, and health. The recovery process itself is a collaboration between Kagama Care, Student Community Services UGM, DERU UGM, volunteers and also Gumantar villagers. The aim of this program is not only about helping the victims but also preparing them to continue their daily activities like before the disaster occurred. There are some results that successfully accomplished, such as initiate temporary school, rebuild Mosque, repair waterways system, build sanitary facilities (MCK – Mandi Cuci Kakus) and provide health service and health facilities for the villagers.

Keyword: service community, collaboration, sanitary, education, health

DISASTER RESPONSE RECONSTRUCTION PROGRAM IN TINATAR, PACITAN

*Ahmad Agus Setiawan¹, Aida Mardiana², Hadafi Farisa R³, RR Salma Fitri
Kusumastuti⁴*

¹Faculty of Engineering, ²Faculty of Geography, ³Faculty of Psychology, ⁴Faculty of
Cultural Sciences, Universitas Gadjah Mada.

email: a.setiawan@ugm.ac.id

mobile: +6281327006577

Abstract

Tinatar Village, Pacitan Regency, East Java Province became one of the villages affected by landslides in 2017. This landslides was caused by the presence of Cempaka cyclone that hit Indonesia at the end of the year. It causes material and non-material losses. Community capacity development in dealing with this disaster is very minimum and it results in a poor condition. Tinatar had a lack of disaster alert infrastructure, community understanding of disaster education, and community empowerment. This condition requires the handling of post-disaster programs in Tinatar Village. This activity starts from observation, field surveys, and community empowerment. Empowerment activities including: socialization of disaster preparedness and emergency, mapping and making disaster signs, security based on community, and development of tourism potential for economic activities post disaster.

Keyword: landslide, community empowerment, disaster preparedness

EMPOWERING THE GREEN CHEMISTRY COMMUNITY TO TRANSFER PATCHOULI OIL PROCESSING TECHNOLOGY TO SMALL INDUSTRIES IN SLEMAN AND KULONPROGO

Karna Wijaya^a, Mokhammad Fajar Pradipta^b, Nasih Widya Yuwono^c, Farida^c, Widi Kurniawati^d

^{a,b}Fakultas Matematika dan Ilmu Pengetahuan Alam, Universitas Gadjah Mada, Indonesia

^cFakultas Pertanian, Universitas Gadjah Mada, Indonesia

^cCV. Fruitanol Energy, Yogyakarta, Indonesia

^dFakultas Matematika dan Ilmu Pengetahuan Alam, Universitas Gadjah Mada, Indonesia
(widi.kurniawati@mail.ugm.ac.id)

Abstract

Education for Sustainable Development (ESD) is defined as education that gives awareness and ability to future generations to contribute better to sustainable development, which is a development model that can utilize natural resources to meet current needs without having to reduce the ability of future generations to fulfill own needs. ESD aims to facilitate networking, exchange and interaction among stakeholders in ESD. Continuing education on green energy among activists will be more effective and efficient if implemented by following ESD rules, namely through developing academic capacity and leadership of green energy activists, through education on how to respect the rights of others and nature and training on how take decisions responsibly. This activity involved 2 institutions namely the Physics Chemistry Laboratory of FMIPA UGM, and CV. Fruitanol Energy. The small industries was involved to train green energy activists in the manufacture of patchouli oil in accordance with the principles of green chemistry by using energy-saving distillers. During the implementation of ESD activities at Universitas Gadjah Mada and CV. Fritanol Energy, several activities were carried out as follows: Training activities on making patchouli oil with the principle of green chemistry using energy-saving distillers at CV. Ftuitanol Energy to the activists, writing the patchouli oil processing training module and its purification, writing a complementary module for training module, making training videos, conducting patchouli oil production training activities for MSMEs at Gerbosari Kulonprogo, conducting classroom training for undergraduate students of the Chemistry Department, UGM Yogyakarta.

Keyword : education, sustainable, development, green chemistry, patchouli oil

EDUCATION FOR SUSTAINABLE DEVELOPMENT THROUGH STUDENT COMMUNITY SERVICE PROGRAM ON ENVIRONMENTAL AND TECHNOLOGY IMPROVEMENT IN JEPARA WETAN, CILACAP

**Ahmad Agus Setiawan, Nevy Ardianto, Jannatiyana Suwinda, Adetia Alfadenata,
Irfan Fahmuddin Ma'ruf**

Faculty of Engineering, Universitas Gadjah Mada

e-mail: a.setiawan@ugm.ac.id

Abstract

Community empowerment applied the principles of Education for Sustainable Development (ESD). The process of solving real problems faced by target communities or development in the midst of community is combined with ESD-based learning. This will strengthen the function of local wisdom also role and potential of human and natural resources contained in the community in every activities of problem solving and development. The real problems that occur in the village of Jepara Wetan include lack of street lights, the use of unhealthy sanitation, untreated yards, also non-optimal processing of organic waste. The purpose of this activity is to improve sanitation facilities, educate the importance of sanitation for health, utilize organic waste into compost, optimize yard maintenance, improve road infrastructure as a support for community activities, and technology literacy for the community to encourage changes both in individuals and all citizens. This student community service activity was held from June to August 2017. Problem solving was done through community service activities including building healthy sanitation for residents; procurement of trash bins, training in composting, optimization of yard functions, installation of street lights, and basic computer training to village officials.

Keyword: *community service, ESD, sanitation, optimalization, technology.*

DESIGN AN ENERGY-SAVING DISTILLER FOR PROCESSING PATCHOULI LEAVES INTO INDONESIAN NATIONAL STANDARD PATCHOULI OIL FOR SMALL INDUSTRIES IN KULONPROGO

Karna Wijaya^a, Nasih Widya Yuwono^b, Farida^c, Widi Kurniawati^d

^aFakultas Matematika dan Ilmu Pengetahuan Alam, Universitas Gadjah Mada, Indonesia

^bFakultas Pertanian, Universitas Gadjah Mada, Indonesia

^cCV. Fruitanol Energy, Yogyakarta, Indonesia

^dFakultas Matematika dan Ilmu Pengetahuan Alam, Universitas Gadjah Mada, Indonesia
(widi.kurniawati@mail.ugm.ac.id)

Abstract

Patchouli oil is an export commodity with high economic value that attracted businessmen to business in the field of patchouli oil. In order to be marketed both for domestic and export consumption, patchouli oil needs to be processed again so it meets the requirements of the Indonesian National Standard (SNI). Various patchouli oil processing techniques have been developed by researchers but only a few actually meet the requirements of SNI. In this activity patchouli leaves processed into patchouli oil using an energy-saving distillers equipped with heat insulators. Patchouli oil is treated using bentonite-CaO composite adsorbent through a hydrothermal process followed by calcination. This study divided into two steps, namely preparation of distiller and adsorbent from bentonite and application of technology. The adsorbent material is prepared and analyzed at the Physics Chemistry Laboratory and the distiller tested in CV. Fruitanol Energy, Yogyakarta. Adsorbent and distiller applied in the production process in UMKM Surya Wulan. The results of this study were distiller has been made with a capacity of 15 kg, saving costs 35.5% and a time of 33.3% compared to conventional technology in UMKM Surya Wulan. Patchouli oil produced has met SNI quality requirements and certified by LPPT UGM. The adsorbent of patchouli oil processing has been successfully made and meets the standards of adsorbent and is also able to reduce 80% of the acid value of crude patchouli oil. In addition, networking and transfer of technology has been established between Universitas Gadjah Mada and UMKM Surya Wulan in Gerbosari, Kulonprogo.

Keyword: adsorbent, distiller, patchouli oil, transfer of technology

DESIGN OF PACKAGING PROTOYPE FOR CHOCOLATE DRINK AS VISUAL IDENTITY OF “DESA KAKAO” BANJAROYA, KULONPROGO

Satria Bhirawa Anoraga, Sri Wijanarti, Iman Sabarisman, Anjar Ruspita Sari

Agrindustrial Program, Departement of Bioresource Technology dan Veterinary,
Vocatinal College, Universitas Gadjah Mada
Universitas Gadjah Mada, Jl. Yacaranda, Sekip, Yogyakarta

Email: satriabhirawa@ugm.ac.id

Abstract

Small scale farmers in Banjaroya, Kalibawang, Kulonprogo have been cultivating a cocoa in their ground more than three decade ago. Nowadays, they realize that it can be utilized for tourism, UMKM, and education. The farmers have a dream to make “Desa Kakao”, and they have been striving to actualize it. While they tried to make some home made cocoa product as iconic gift for the visitors, this engagement program have made some training class to improve their product quality. One of the themes is prototype packaging as added value and visual identity of “Desa Kakao” Banjaroya. The farmers were invited to discuss about their daily activities, value of life, cultue, and philosophy of cocoa cultivating. Afterwards, the resume of discussion can be extracted as visual identity material like color, shape and design of prototype packaging. The result showed that they satisfied with the design because it can represent the farmers soul. Furthermore, it affected their motivation to treat the cocoa well and produce the chocolate drink zestfully.

Keywords: cocoa, chocolate, drink, packaging, design

ICCEESD 2018 STEERING COMMITTEE

Prof. Ir. Irfan Dwidya Prijambada, M.Eng., Ph.D. (*SC Chairperson*)

Prof. Ir. Panut Mulyono, M.Eng., D.Eng

drg. Ika Dewi Ana, M.Kes., Ph.D.

Dr. Rachmawan Budiarto, S.T., M.T.

ICCEESD 2018 SCIENTIFIC COMMITTEE

Nanung Agus Fitriyanto, S.Pt., M.Sc., Ph.D. (*Sci.C Chairperson*)

Prof. Ir. Irfan Dwidya Prijambada, M.Eng., Ph.D.

Dr. Rachmawan Budiarto, S.T., M.T.

Dr.Ir. Ambar Kusumandari, M.E.S.

Rika Fatimah P.L., S.T., M.Sc., Ph.D.

Muhammad Sulaiman, S.T., M.T., D.Eng.

Zaki Utama, S.T.P., M.P.

Dr.Djarot Heru Santosa, M.Hum.

Dr. dr. Rustamaji, M.Kes.

Rini Pujiarti, S.Hut., M.Agr., Ph.D.

ICCEESD 2018 ORGANIZING COMMITTEE

OC Chairperson	: Rika Fatimah P.L., S.T., M.Sc., Ph. D.
Treasury	: Marinda Frida Anjasari, S.E.
Field Trip	: Azri Faisal Nabhan, S.S., M.M. (<i>Coordinator</i>) Amin Susiatmojo, S.Pt., M.Sc. Destina Kawanti, S.Si., M.IP. Suparna, S.Sos.
Scientific Admin	: Sri Andayani, S.Si. (<i>Coordinator</i>) Sari Handayani, S.E.
Supporting Admin	: Baiq Lathifah BP., S.S. (<i>Coordinator</i>) Girra Martinda, A.Md. Amalia Savitri
Managing Director	: Filigon Adiguna Puspoyudo
Deputy Managing Director	: Ilham Jamaluddin



Program	: Yeremia Dwi Hendryanto (<i>Coordinator</i>) Azka Tsania Affandi Beby Putri Adriansa Mirza Fathiarizki Taher Muhammad Thareq Arraisy Nanang Puguh Ellyansah Sry Handini Puteri Muhamad Ali Irham Denis Dwi Anggraeni
Hospitality	: William Krista Mahendra (<i>Coordinator</i>) Galuh Hayun Mustika Asri
Property & Equipment	: Danung Shodikh Mahrizkhal (<i>Coordinator</i>) Faiz Al Farikhi Muhammad Irsyad Arif I Made Arya Widhyastana
Document & Database	: Yolla Yulianda (<i>Coordinator</i>) Naufal Fattah Tastian Aldila Puriyanti Hamida Serena Pynta Phenomenon
Liaison Officer	: Mandara Lamigi, S. Farm (<i>Coordinator</i>) Puteri Kinta Pratiwi
Delegate Relations	: Yuana Dysa Permatasari (<i>Coordinator</i>) Amalia Savitri
External Affairs	: Galuh Friska Cahyani (<i>Coordinator</i>) Fathin Difa Robbani Faizah Az Zahra Muhammad Luthfi Farhan Wening Sukma Rasyida



ICCEEDS



UNIVERSITAS
GADJAH MADA





UNIVERSITAS
GADJAH MADA



The background of the page is a light-colored, marbled paper with soft, flowing veins of grey and blue. The text is centered in the upper half of the page.

ICCEESD