# Journal of Environmental Management and Tourism



Quarterly

Volume IX Issue 7(31) Winter 2018 ISSN 2068 – 7729 Journal DOI http://dx.doi.org/10.14505/jemt

### Winter 2018 Volume IX Issue 7(31)

# Editor in Chief Ramona PÎRVU

University of Craiova, Romania

#### **Editorial Advisory Board**

#### **Omran Abdelnaser**

University Sains Malaysia, Malaysia

#### **Huong Ha**

University of Newcastle, Singapore, Australia

#### **Harjeet Kaur**

HELP University College, Malaysia

#### Janusz Grabara

Czestochowa University of Technology, Poland

#### Vicky Katsoni

Techonological Educational Institute of Athens, Greece

#### **Sebastian Kot**

Czestochowa University of Technology, The Institute of Logistics and International Management, Poland

#### Nodar Lekishvili

Tibilisi State University, Georgia

#### Andreea Marin-Pantelescu

Academy of Economic Studies Bucharest, Romania

#### **Piotr Misztal**

The Jan Kochanowski University in Kielce, Faculty of Management and Administration, Poland

#### Agnieszka Mrozik

Faculty of Biology and Environmental protection, University of Silesia, Katowice, Poland

#### **Chuen-Chee Pek**

Nottingham University Business School, Malaysia

#### **Roberta De Santis**

LUISS University, Italy

#### Fabio Gaetano Santeramo

University of Foggia, Italy

#### Dan Selişteanu

University of Craiova, Romania

#### Laura Ungureanu

Spiru Haret University, Romania

#### **ASERS Publishing**

http://www.asers.eu/asers-publishing ISSN 2068 – 7729 Journal DOI: http://dx.doi.org/10.14505/jemt

### **Table of Contents:**

4	Development of Integrated Technology of Collection and Recycling of Plastic in Small Towns	1007
1	Railya M. MUKHAMADEYEVA, Zulfiya E. BAYAZITOVA, Sagintai Z. ELYUBAEV, Ludmila A. MAKEYEVA, Zhanmyrza O. NURMAGANBETOV	1367
2	Environmental Management Systems and Environmental Performance: the Case of Russian Energy Sector Valery V. IOSIFOV, Svetlana V. RATNER	1377
3	Youth Food Waste Behavior: A Waste Stream Component Analysis Nripendra SINGH, Tanuj SINGH, Dipendra SINGH	1389
4	Feasibility of Ecosystem Services Concept Implementation for Russian Cities Liliia D. SULKARNAEVA	1398
	The Role of Corporate Governance and Environmental Committees on	
5	Greenhouse Gas Disclosure Daniel T. H MANURUNG, Andhika Ligar HARDIKA, Dini W. HAPSARI, Minda Maulina SEBAYANG	1403
	Methodological Aspects of Formation and Development of National Innovation	
6	Systems  Dametken TUREKULOVA, Lyazzat MUKHAMBETOVA, Nurzhamal KURMANKULOVA, Ainur KEMALOVA, Rimma SATKANOVA, Galiya BERMUKHAMEDOVA	1414
	Some Theoretical Issues on the Sources of Environmental Law in the Republic	
7	of Kazakhstan Aktoty RZABAY, Galym TELEUYEV, Zauresh ABDUKARIMOVA, Kairat NURMANBETOV, Indira NESSIPBAYEVA, Serikhan ADYLGAZY	1422
	Impact of Fiscal Policy on Agricultural Output in Nigeria	
8	Adedoyin Isola LAWAL, Ernest Onyebuchi FIDELIS, Abiola Ayoopo BABAJIDE, Barnabas O. OBASAJU, Oluwatoyese OYETADE, Bukola LAWAL-ADEDOYIN, John Dean OJEKA	1429
	Green Bonds like the Incentive Instrument for Cleaner Production at the	
9	Government and Corporate Levels: Experience from EU to Ukraine Olena CHYGRYN, Tetyana PIMONENKO, Oleksii LUYLYOV, Alina GONCHAROVA	1444
	The Role of the Republic of Kazakhstan in International Legal Support of	
10	Energy Security Dana S. SMAGULOVA, Yessil Sh. RAKHMETOV, Akmaral B. SMANOVA, Botakoz SHANSHARBAYEVA, Bahytkul KONYSBAI	1459
11	Improvement of Technological Modernization Using Behavioral Economics Ademi KUSSAINOVA, Madina RAKHIMBERDINOVA, Oxana DENISSOVA, Gauhar TASPENOVA, Medet KONYRBEKOV	1472
12	Model of Motor Vehicle Gas Distribution Based on Ecology- Health, Economic, Social-Cultural and Law Factors in the City of Pekanbaru DARIMI, Ikhwan Siregar YUSNI, Anita SOFIA, FIRDAUS, SYAHRIL	1482

## Winter 2018 Volume IX Issue 7(31)

Issue 7(31)		
Editor in Chief Ramona PÎRVU	13	Ec Dn Are
University of Craiova, Romania	14	Su De
Editorial Advisory Board	17	SA
Omran Abdelnaser University Sains Malaysia, Malaysia Huong Ha	15	Re Olg
University of Newcastle, Singapore, Australia		Le
Harjeet Kaur HELP University College, Malaysia	16	Co Ba P.
Janusz Grabara Czestochowa University of Technology, Poland	17	En En
Vicky Katsoni Techonological Educational Institute of		Be Ma to
Athens, Greece Sebastian Kot	18	Ye
Czestochowa University of Technology, The Institute of Logistics and International Management, Poland	19	Th Ch Ev
Nodar Lekishvili Tibilisi State University, Georgia	20	Po As
Andreea Marin-Pantelescu Academy of Economic Studies Bucharest, Romania	21	Aid Im
Piotr Misztal The Jan Kochanowski University in Kielce, Faculty of Management and Administration, Poland	22	Ev Ac Ta
Agnieszka Mrozik Faculty of Biology and Environmental protection, University of Silesia, Katowice, Poland	23	Cre Cu An
Chuen-Chee Pek Nottingham University Business School, Malaysia	24	Uti Gr Ev
Roberta De Santis LUISS University, Italy	25	De
Fabio Gaetano Santeramo University of Foggia, Italy	25	<b>Eff</b> Gu
<b>Dan Selişteanu</b> University of Craiova, Romania		
Laura Ungureanu Spiru Haret University, Romania		

ASERS Publishing http://www.asers.eu/asers-publishing ISSN 2068 – 7729 Journal DOI: http://dx.doi.org/10.14505/jemt

13	<b>Eco-Economic Incentives of Rational Land Use and Protection in Ukraine</b> Dmytro V. SANNIKOV	1492
14	Are Competitive Strategies and Strategic Alliances Role in Improving Sustainability Performance?  Desak Nyoman Sri WERASTUTI, Eko Ganis SUKOHARSONO, Erwin SARASWATI, Yeney W. PRIHATININGTIAS	1501
15	Resources Provision of Rural Territories Social Sphere: A Case Study Olga RUBAEVA, Ekaterina POGARTSEVA, Ekaterina KOT, Tatyana NIKITINA	1515
16	Legal Fundamentals of the Kazakhstan's Environmental International Cooperation: New Vectors of Legislative Reforms Bakhytbek KALAGANOV, Ainur S. MADIYAROVA, Kaliya R. SARTAYEVA, Elina P. KIM, Nurlan APAKHAYEV, Yermek A. BURIBAYEV	1528
17	Energy Consumption and Performance of Sectoral Outputs: Results from an Energy-Impoverished Economy Bernhard ISHIORO	1542
18	Management of Soil Fertility Based on Improvement Methodological Approach to Evaluation of Arable Land: Case of Ukraine Yevhenii ULKO, Anatolii KUCHER, Iryna SALKOVA, Nataliia PRIAMUKHINA	1560
19	The Impact of Socio-Environmental Parameters on the Development of Children and Adolescents in Altai Republic Evgeniy G. VORONKOV, Elena G. VORONKOVA	1571
20	Political and Legal Aspects of Transboundary Waters Regulation in Central Asia Faced by the Republic of Kazakhstan Aidos Kh. KHAMIT, Zhanna B. SHAYAKHMETOVA, Ademi T. MUKHANOVA	1579
21	Improving the Agricultural Land Use System in the Republic of Kazakhstan Aizhan Naskenovna ZHILDIKBAEVA, Alla Ivanovna SABIROVA, Toleubek PENTAEV, Ardak Dikhanbaevna OMARBEKOVA	1587
22	Evaluation of the Influence of External Environmental Factors on Logistics Activities: Case Study of Ukrainian Retail Trade Enterprises Tatyana V. SHTAL, Anastasiya UVAROVA, Iuliia I. OSTAPENKO	1595
23	Create Sustainable Competitive Advantage through Environmentally Friendly Culture of Village Credit Institutions Anak Agung Ngurah GEDE SADIARTHA	1608
24	Utilization of Smartphone in Building Cohesiveness Ecovillage Facilitator Group in Citarum Hulu River Area Evi NOVIANTI, Iriana BAKTI, Susie PERBAWASARI, Rully Khairul ANWAR	1615
25	Development of Methods for Calculating the Environmental and Economic Efficiency of Waste Treatment Technologies Gulmira B. KEZEMBAYEVA	1625

Call for Papers
Spring Issues 2019
Journal of Environmental Management and Tourism

**Journal of Environmental Management and Tourism** is an interdisciplinary research journal, aimed to publish articles and original research papers that should contribute to the development of both experimental and theoretical nature in the field of Environmental Management and Tourism Sciences.

Journal will publish original research and seeks to cover a wide range of topics regarding environmental management and engineering, environmental management and health, environmental chemistry, environmental protection technologies (water, air, soil), pollution reduction at source and waste minimization, energy and environment, modeling, simulation and optimization for environmental protection; environmental biotechnology, environmental education and sustainable development, environmental strategies and policies, etc. This topic may include the fields indicated above, but are not limited to these.

Authors are encouraged to submit high quality, original works that discuss the latest developments in environmental management research and application with the certain scope to share experiences and research findings and to stimulate more ideas and useful insights regarding current best-practices and future directions in environmental management.

Journal of Environmental Management and Tourism is indexed in SCOPUS, RePEC, CEEOL, ProQuest, EBSCO and Cabell Directory databases.

All the papers will be first considered by the Editors for general relevance, originality and significance. If accepted for review, papers will then be subject to double blind peer review.

**Deadline for submission**: 28th February 2019

Expected publication date: March 2019

Website: https://journals.aserspublishing.eu/jemt

**E-mail**: jemt@aserspublishing.eu

To prepare your paper for submission, please see full author guidelines in the following file:

<u>JEMT\_Full\_Paper\_Template.docx</u>, then send it via email at <u>jemt@aserspublishing.eu</u>.



DOI: http://dx.doi.org/10.14505/jemt.v9.7(31).24

# Utilization of Smartphone in Building Cohesiveness Ecovillage Facilitator Group in Citarum Hulu River Area

Evi NOVIANTI University of Padjadjaran, Indonesia evi.novianti@unpad.ac.id

Iriana BAKTI University of Padjadjaran, Indonesia Iriana.bakti@unpad.ac.id

Susie PERBAWASARI University of Padjadjaran, Indonesia susi.perbawasari@unpad.ac.id

Rully Khairul ANWAR University of Padjadjaran, Indonesia Rully.khairul@unpad.ac.id

#### **Suggested Citation:**

Novianti, E., Bakti, I., Perbawasari, S., Anwar, R.K. (2018). Utilization of Smartphone in Building Cohesiveness Ecovillage Facilitator Group in Citarum Hulu River Area. *Journal of Environmental Management and Tourism*, (Volume IX, Winter), 7(31): 1614 – 1623. DOI:10.14505/jemt.v9.7(31).24

#### Article's History:

Received October 2018; Revised November 2018; Accepted December 2018. 2018. ASERS Publishing©. All rights reserved.

#### Abstract:

Ecovillage is one of the environmentally friendly village development programs in the Citarum Hulu watershed area of Bandung Regency which involves various parties as stakeholders. In implementing the program, stakeholders, who are the leading sectors, form networks that originate from communities living around the ecovillage development area to become facilitators. The system utilizes smartphone media so that mutual understanding and trust are built which underlies the cohesiveness of groups among these facilitators in the development of ecovillage in their target areas. This study aims to identify the motives for using smartphones in the development of ecovillage, and the factors that shape the cohesiveness of the facilitator group. The method used in this study is a descriptive method with qualitative data properties. The informants who were sampled in this study were facilitators who carried out assistance in three purposively selected target areas. The results showed that the motives of the facilitator used a smartphone with WhatsApp application to facilitate socialization and assistance in the development of the ecovillage which is easier to send messages, inexpensive concerning cost, simple, and fast. While the motive of using the Facebook application is easy to upload and share photos and various activities, affordable costs, easy to find friends, discussion sites, and places to study, the factors that shape the cohesiveness of the facilitator group are the development of cooperation, positive emotions, and the similarity of views in the development of the ecovillage.

Keywords: smartphone; WhatsApp; Facebook; cohesiveness; ecovillage; networking; environment.

JEL Classification: O35; L14; Q01; Q56.

#### Introduction

The ecovillage network is a massive movement to fight waste that damages the environment. The development of the ecovillage of the Citarum watershed is intended to realize the condition of the Citarum River so that the water becomes clean, healthy, beautiful, and sustainable (Bestari). This Citarum Bestari can be realized if the

community's concern for environmental preservation can be raised. A form of concern for residents, especially residents on the riverbank, to no longer dispose of waste or household waste into the Citarum River.

The development of ecovillage in the Citarum watershed is a community-based activity, because it involves the participation of stakeholders (stakeholders), such as the community, business actors, religious leaders, non-governmental organizations, government officials, and so on to build an environmentally friendly culture and behavior, and create health environment.

The implementation of the development of the Ecovillage of the Citarum River Basin can be carried out by utilizing a network in the form of a forum for dialogue in face-to-face communication (face-to-face communication), and utilizing e-learning media in the form of smartphones so that cooperation and conducive cohesiveness among stakeholders are built. Based on, norms, understanding, agreement, and mutual trust.

This condition is not surprising, because the consumption level of smartphones in Indonesia shows a very astonishing number, information obtained from the Asia Techin Portal up to now has reached 15 million more Blackberry-branded smartphone users. This figure only shows 15% of Blackberry users worldwide. The survey results show that Indonesians are the main consumers of smartphones (Syafrida 2014).

Mobile phones have changed the way communication between people, especially young people. What's more, the presence of smartphones that integrate all media and communication activities in one gadget has made young people increasingly absorbed by the use of mobile technology, compared to the previous generation (Nielsen 2010).

The network established in the development of the ecovillage in the Citarum watershed involves the Regional Environmental Management Agency (BPLHD), related institutions, facilitators, cadres, and community members, where among them interact and exchange information in group situations to discuss various environmental issues live in the region.

Also, the network in developing the ecovillage in the Citarum watershed has implications for the formation of attitudes and participation of facilitators who assist Ecovillage cadres, who in the next stage develop high cohesiveness reflected in cooperation and togetherness in each development activity ecovillage in each region. Facilitators have an attraction (interpersonal attraction) in ecovillage activities because they have similarities in religion, attitude, and behavior to improve environmental conditions jointly, while the social attractiveness of facilitators is the growth of trust from cadres to guide and assist them in each activity, always support and motivate cadres in every situation. In addition, the facilitator always gives the cadres the opportunity to state various environmental issues and accommodate their proposals so that they become action plans.

#### 1. Research Background

Several previous studies regarding smartphone media use were carried out by Ramadan (2017) with the title Utilizing Instagram Social Media Account @ Mr.Creampuff as Promotion in Increasing Sales. The results of the study are Instagram media can play a role as a medium of communication, promotional media and business media in increasing sales (Ramadan 2017). In contrast to this research, social media acts as a secondary communication medium between facilitators and trained cadres.

Subsequent research was conducted by Solekhan & Winarso (2016) with the title of Utilization of Social Media as a Bird Cage Marketing Media in Kudus Regency revealing that with the use of social media in marketing there was an asset value increase and income of Bird Cage Craftsmen, increasing the quantity and quality of bird cages marketed, growing marketing for products and production processes is more effective and efficient (Solekhan and Winarso 2011). The research made social media as the marketing medium for Bird Cage products, while in this study the role of social media was as a communication medium that was routinely carried out by facilitators and trained cadres.

The last research conducted by Gunawan (2017) with the title Utilization of Social Media in the Library revealed that: 1) as a place to discuss and interact without having to meet each other physically, it can be done through discussion forums and social media; 2) a place to find books without using search is enough with social networks; 3) borrowing books is simply a barcode scan without having to come to librarians; 4) as a supporting media for delivering information to users through social networks, so users can download librarians have uploaded files through social networks; and 5) as a media campaign in the progress of the library. A prominent difference was seen through the research. The role of social media in this study is as a medium of communication and media promotion in the process of developing ecovillage in the Citarum River Basin.

This ecovillage development activity is an implementation of environmental communication because it is a communication process that is strategically planned to support policy formulation and project implementation of a

sustainable environment. In practice, environmental communication conducts studies on how individuals, institutions, communities, cultures distribute, receive, understand and utilize messages about the environment and human interaction with the environment. This view is consistent with the opinion of Cox (2010), that "environmental communication can provide an understanding of the environment to the community."

The role of facilitator in providing understanding to the community is significant because they are a group of people who are willing to become volunteers task with disseminating information about the environment and providing assistance in the development of ecovillage in the Upper Citarum watershed. The issue of ecovillage has attracted much attention from researchers (Jackson 2004, Wagner 2012, Ergas and Clement 2016, Suh 2018, Hall 2015, Litfin 2012, Ramadan 2017), in various perspectives.

#### 2. Methodology

The method used in this study is a descriptive method with the nature of qualitative data. The samples were informants in this study were facilitators carrying out assistance in three purposively selected target areas. Facilitators are recruited from people domiciled around the area that will be implemented by the ecovillage program, and are people who have a high level of concern for environmental issues, and can work together with fellow facilitators to achieve common goals. Therefore, they must have a high social cohesiveness to prepare collective action to facilitate the interests of related parties (Adriana *et al.* 2016).

Data collection techniques carried out were observations by observing the environmental communication activities carried out by environmental activists, wherein these observations the researcher recorded the meaning of the informants' viewpoints and processes observed so that they could be seen verbally unverified understanding, emerging feelings, and actions. What the informants did, all of which will be presented in this study, because according to Vidich and Lyman in Denzin and Lincoln (2009, 28), "research assignments require observation and communicate the analysis of the results of these observations to others." Furthermore, the techniques used in data collection were interviews from individual interactional episodes with stakeholders in ecovillage activities in the Citarum watershed, so interview guides are needed that can guide researchers to obtain the required information. Finally, conducting questionnaires containing some questions relating to the stakeholders' data, their role as communicators, the process of structuring messages, determining the media, and channels of communication, attitudes, participation, and cohesiveness of the group in developing ecovillage in the Citarum watershed.

The community around the Citarum watershed comes from 17 regions. Among them are Bantaran Citarum, Dayeuhkolot, Bojongsari, Bojongsoang, Citarum Cilampeni, Bojong Village Suren Kel. Pasawahan, Buahbatu Village, Cilampeni Village, Dayeuhkolot Village, Lengkong Village, Pangauban Village, Katapang Village, Kel. Pasawahan, Pamoyanan Katapang, Citarum River, Tegalluar and other regions. Eleven cadre groups, including ecovillage, ecovillage DC, ecovillage Kurawa Alam, ecovillage Sustainable, fresh ecovillage environment, independent ecovillage, Mapeling Pangauban, Mawar, Pamoyanan Katapang, Rima Mandiri, Sabanda sariksa, Salapan (Friend Alam Pasawahan) and other groups fostered and guided the ecovillage activities. Cadre groups in each region around the Citarum watershed are trying to make people aware of the condition of the area.

Furthermore, continued by inviting the public to participate in activity of each cadre groups, such as doing social services, making garbage banks and biopores, gardening family medicinal plants, doing mutual cooperation, coordinating ecovillage activities with local government, cleaning up garbage, composting plants, holding cash and socializing ecovillage activities, running tupoksi directed by local leaders or service, labor-intensive, empowerment and mutual cooperation of the community, sorting waste, socializing the community, planting trees and traditional medicinal plants, and implementing environmental governance'

These activities, of course, provide direct benefits to the community, namely improving and improving public health. Communities around the Citarum watershed are susceptible to disease as a result of several disasters that afflict their region and from the contamination of the Citarum River. For this reason, the group of ecovillage cadres continues to try to invite the community to care for and maintain their area around the Citarum River. In this case, the facilitator can act as a bridge of communication between the community and its assisted cadres.

When assisting cadres always coordinate and share information between them with the aim of synergizing the program, so that mentoring activities become more effective and efficient. The media used in coordination and information sharing is social media in smartphones that must be owned by each facilitator. The use of technology today in various aspects unavoidable and humans generally have new lifestyles that cannot be separated from all electronic devices (Setiawan 2017), including by ecovillage facilitators.

The 2017 Tetra Pak Index reported that there are around 132 million internet users in Indonesia. While almost half are social media users or approximately 40%, Tetra Pak Index also revealed that more than 106 million Indonesians were using social media every month where 85% of them access social media via mobile devices

(Yudhianto 2017). The research shows that internet and social media users in Indonesia are quite high. A large number of social media users in Indonesia certainly raises the opportunity to optimize the presence of social media as one of the effective communication media. Effective communication is related to the ability of a communicator to give a message to the communicant. According to Ruben and Stewart (2008) in Deddy Mulyana (2014), a communicator must have the ability, so that the message delivered can be well received by the communicant. These capabilities include:

a.Closeness with the audience. Physical distance has an enormous influence on the effectiveness of communication carried out by the communicator to the communicant.

b. Social and physical attraction. Attractive appearance is one of the factors that can influence communicants because communicants tend to trust someone's words more by their presence. For example, the message delivered by a teacher who is neat and clean will be more readily accepted compared to a teacher who looks dirty, dirty and messy.

c. Have in common. These similarities include gender, education, age, religion, social background, race, hobbies, and language skills.

Have credibility and authority. Communities tend to pay attention and remember messages from sources they believe to be people who have extensive experience and or knowledge about something. For example, the communicant tends to trust the message conveyed by the doctor regarding prescription drugs rather than the message sent by his friend (Deddy Mulyana 2014).

Facilitators in carrying out assistance to cadres have had these criteria so that the community can quickly develop the ecovillage according to the direction of the facilitator. In general, facilitators when assisting in developing ecovillage to cadres use WhatsApp and Facebook. Both of these applications are on smartphones and are considered by facilitators as media that can be used to interact and share information.

The development of social media in Indonesia is very rapid. Judging from its history, the first social media used since the internet was Friends Reunited. In just five years, 15 million people became members, and the popularity of this site prompted the British television company, ITV, to buy Friends Reunited for almost US \$ 250 million or around Rp3.4 trillion. One of its founders, Steve Pankhurst, said he could no longer finance the operations of Friends Reunited and also because of competition from social media service providers such as Facebook.

Data shows Facebook active users have broken the 1.5 billion mark making it the most prominent social media ("Layanan 'media sosial pertama' di dunia tutup," *bbc.com*, Jakarta, 19-Jan-2016). At present, in Indonesia, there are several types of social media used by the community, including:

Facebook. Facebook is one of the most widely used social media. Facebook has just announced a company report in the fourth quarter of 2017, that they have Monthly Active Users (MAUs) or monthly active users reaching 2.1 billion. Which means it has increased to 14% compared to the same period the previous year. While when viewed from Daily Active Users (DAUs) or daily active users, it is claimed that an average of 1.4 billion people uses Facebook every day. The data is said to increase by 14% compared to the same period the previous year (Haryanto 2018).

Instagram. Instagram has just announced that they have one billion users and are likely to continue to grow. This number is huge with a significant increase, considering that in September 2017 they still have 800 million users. Thus, in just a few months, Facebook's social media sharing photos and videos were able to reap the growth of 200 million new users (Kurnia 2018).

1.Twitter. In the last quarter, Twitter reported 336 million active monthly users. Previously, Twitter had already begun to apply strict user age restrictions last month. Now, users of microblogging services are required to be at least 13 years old. Many think that Twitter turned out to be too strict in implementing this rule. So, users who are known to register before 13 years, even though they currently meet the minimum limit, keep their accounts locked by Twitter. So, the rules are directly complained by many users (Melani 2018).

2. Youtube. Unlike other social media, youtube prioritizes videos rather than writing. YouTube's video and music streaming service reach fantastic user numbers. This was revealed by YouTube CEO Susan Wojcicki when representing YouTube Brandcats. Wojcicki said that YouTube now has 1.8 billion registered users or who log in every month. This number is not included for users who watch videos without registering an account (Josina 2018).

LINE. Since its presence in 2011, users of the Message Line application service have continued to increase. As of March 2017, there are 171 million per month registered active users. Not only does the messaging application increase, but Line News services also experience a fairly high user surge. Currently, active users reach 150 million per month. The value of the increase reached 280% from last year. Something similar happened in Line Pay

services. Currently, active users reach 38 million with growth reaching 570% year on year (year on year) (Rahman 2017).

Whatsapp. Facebook CEO, Mark Zuckerberg, reported the business performance of his companies for the fourth quarter of 2017. WhatsApp's chat service showed significant growth by gathering 1.5 billion monthly active users aka monthly active users (MAU). That number increased 14 percent compared to MAU WhatsApp in July 2017 which amounted to 1.3 billion. Daily active users aka daily active users (DAU) are in the range of one billion. Every day, WhatsApp handles more than 60 billion message exchanges between users throughout the world. This growth is predicted to continue to increase, as internet penetration increasingly expands (Bohang 2018).

The facilitator uses the WhatsApp application to create a group chat with fellow facilitators and related institutions and cadres so that the themes or topics of discussion related to the development of ecovillage can be discussed together. The use of WhatsApp according to the facilitators is easier to send messages, inexpensive regarding cost, simple, and fast. Thus, many people are happy to be in the WhatsApp group because they can bind to one another, share, and meet each other's information needs (Rachmaniar and Anisa 2017). Therefore, this application is beneficial for users, namely facilitators in the development of ecovillage. The topics discussed are usually related to ecovillage activities in the community, marketing activities carried out by cadre groups, work programs to be carried out by cadres and community groups, and others.

Meanwhile, the reason for using Facebook according to the facilitator is that it is easier to upload and share photos and various activities, affordable costs, easy to find friends, discussion sites, and places to study. Therefore, Facebook users have the convenience to participate, create and disseminate messages to build similarities in meaning. Thus, this application becomes a constructive medium in the development of the ecovillage. The use of Facebook does not only act as a communication medium but on the other hand, it can also act as a media campaign. Promotion carried out by trained facilitators and cadres is to upload photos of activities that have been carried out regarding the development of ecovillage, such as voluntary work to collect garbage, sort waste, and recycle waste, make bio pore activities for water absorption, and plant trees/plants around the residents' houses. Next, make an advertisement about the activities that will be carried out in the future, such as holding training on recycling waste into compost, socializing waste banks, training on making hydroponic plants, and others. Finally, solicitation or campaign that is loving or caring for the environment, such as an invitation to dispose of garbage in its place by uploading photos of clean and waste-free village locations, an invitation to plant hydroponics or medicinal plants, to be useful in the future. So far the citizens' response to Facebook is quite good, it can be seen from the number of positive comments and the number of "likes" in each of these posts.

Smartphones commonly used by facilitators are communication media that help them in carrying out their actions in the field. With this media, facilitators can easily and quickly carry out the process of sending and receiving messages related to the development of ecovillage without the need for huge costs.

#### **Whatsapp Social Media**

Fostered facilitators and cadres must have a Whatsapp application on each smartphone they have. Next, the facilitator creates a special group which is deliberately made as one of the media to communicate in developing ecovillage together. The group consists of 10 cadres and four facilitators. The trained cadres consisted of BKM, BPD, LPM, Karang Taruna, PKK Group and other care groups volunteering to prepare the ecovillage program initiated by BPLHD West Java.

The discussion in the group is about activities carried out by other villages regarding the development of ecovillage. Such events have been carried out by the community of Bojongsari Village, Bojongsoang District, Bandung Regency in 2015. Activities carried out in campaigning for "Ecovillage (village culture) programs" include (1) Open Together as an activity that is routinely carried out in the community of Bojongsari Village in Ramadan. (2) Regular recitation of mothers in mosques as da'wah fields in delivering invitations to care for the environment. (3) Weighing babies and examining pregnant women (POSYANDU), implementing the PNPM-MP program and (4) village meetings are the right places to campaign for the ecovillage program. Although the campaign "Environmentally Friendly Village Program" is still using direct face-to-face media through meetings that are routinely carried out by the Bojongsari community in the month of Ramadan. But the spirit of the cadres to invite the public to care for the environment is an early step in realizing a cultured village (http://dlh.jabarprov.go.id/index.php/layanan/k2-categories-2/item/65-kampanye-desa-berbudaya-lingkungan).

So far the interactions that occur in the WhatsApp group are quite effective. Even though, there are participants who send messages that do not match the topic or the purpose of the group. For example, some participants send hoax information that the truth has not yet completed. There are also those who send humorous messages (anecdotes) to create an atmosphere that is not rigid between participants in the group. Communication

that occurs in the group scientifically called group communication. Groups are groups of people who have a common goal that interacts with each other to achieve common goals, get to know each other, and view them as part of that group (Deddy Mulyana 2014). Each group member must be able to see and hear other members and must be able to measure feedback verbally and non-verbally from each of its members. The number of participants involved in the interaction of 3-20 people (> 20 people is less possible for an interaction to take place) (Tutiasri 2016). Each participant in the WhatsApp group has different characteristics, but they get the same benefits.

The benefits of forming groups in WhatsApp groups include:

- 1. Can easily exchange information between members to achieve a common goal.
- 2. Can increase knowledge in solving problems
- 3. Make all participants ready to face all problems
- 4. Can grow strong mentality for each participant in the group
- 5. Can solve problems well because the communication that occurs is done easily and responsively.
- 6. Can minimize problems become widespread.

Effective group communication can be created by getting to know each other's members first. Each member has a different background in education and experience, so it will seem difficult to make the same view. But with the communication media, that is easy to use and guickly delivered, all problems can be adequately solved.

Finally, the reason for using the Whatsapp application as one of the group communication media for ecovillage village development is that the features are complete and easy to use, low-cost because they rely on internet quota that does not consume many bytes, messages are delivered quickly, and the application's appearance is simple so easy to learn and use. Fostered cadres have different ages, but they are very open to being able to accept this Whatsapp technology to facilitate intertwined communication to be more effective.

#### **Facebook Social Media**

Facebook, which is managed by facilitators and trained cadres, is about activities that have been carried out or campaigns that care about the environment. Such as training activities for waste bank-based waste management cadres with resource persons from the Institute of Gunung Wayang, voluntary work to make biopores for water uptake, voluntary work to dispose of garbage and sorting out garbage carried out by children to parents, garbage control training, hydroponic training socialization of PPO (select garbage processing), and others. So far the Facebook group has 600 followers consisting of the community, cadres, and facilitators.

Facilitators who are accustomed to using this media will find it easier to hold discussions to discuss the material that will be provided in mentoring to their assisted cadres. They have the flexibility of time and place to discuss because smartphones can be operated anytime and anywhere. As revealed in the results of research conducted by Jocom (2013) that smartphones can support the performance of Prismadana Bank employees. The use of smartphones in the world of work is increasingly felt by the presence of tablets that combine the portable form of a smartphone with a laptop function. Employees who create content through mobile devices, write long emails with links, and use a variety of business applications can get the maximum benefit from these devices. In addition, smartphone functions can also speed up work, for example when it comes to interacting with customers, colleagues or superiors. All jobs that require interaction and communication will be more effective (Jocom 2013).

Smartphones as new media, capable of sending, receiving, and controlling information so that users can interact through these media easily (Susanto and Harry 2017). This accessibility or convenience makes smartphones considered effective for use in ecovillage development activities.

The effectiveness of a smartphone with all its ease of operation, speed in its work process, and multifunction cause the facilitator to use it at all times when carrying out ecovillage development activities. This can happen because users feel close, and always want to get the latest information, so that in the end they have a dependency on the media (Rosidah and Herawati 2013). Dependence and closeness are what causes smartphones to become the main media used by facilitators in every ecovillage development activity.

However, according to the facilitator, the use of WhatsApp and Facebook as applications from smartphones is just a tool, what is important is face-to-face meetings, because discussion or information sharing is much more interesting when conducted in a meeting forum, where each facilitator can freely state his arguments. Therefore, the combination of smartphone use with meeting forums is unavoidable.

Ecovillage development activities require media communication channels and direct communication channels in groups. So even though the facilitator uses smartphones as a medium for exchanging information, both WhatsApp and Facebook, there is also a face-to-face meeting through a facilitator group meeting forum. These two channels of communication are complementary. Smartphones as a medium for sharing information

relating to ecovillage development issues are discussed comprehensively in group meeting forums. Thus, the use of this media becomes a positive reinforcer in building user achievements (Syafrida 2014). Especially in order to solve problems in the development of ecovillage.

The process of solving problems in the development of ecovillage is not directly obtained from smartphone use but is obtained when the facilitator group interacts in the meeting forum. However, the material used as a material to solve problems can be taken from the media, then discussed in a group meeting forum. Therefore, smartphones that are used intensively affect social skills (Syafrida 2014). This social skill will influence group cohesiveness because it relates to the ability of the facilitator to interact with various parties in solving problems and finding solutions in the development of ecovillage.

The facilitator when carrying out ecovillage development activities in the Upper Citarum watershed cooperates, to create group cohesiveness that can unite the facilitators in achieving group goals. The cohesiveness of the group that was built in the development of the ecovillage shows the performance of its members because when they interact in the group, there is a process of information exchange that leads to an increase in their knowledge. Therefore, group cohesiveness is an attraction for its members always to want to remain part of their group (Dwiyanto 2014). The knowledge gained by the facilitator as a member of the group will eventually become a provision for him to assist the cadres in the development of the ecovillage.

The cohesiveness that is built between groups of facilitators is cooperation when preparing action plans, positive emotions, and similarities of views in the development of the ecovillage.

Collaboration is a social nature, a part of people's lives that cannot be avoided by humans in everyday life (Wulandari, Arifin, Irmawati 2015). There are 5 components in the characteristics of cooperation according to Johnson & Johnson (1991), including:

- 1. Positive interdependence among participants in the group. Fostered facilitators and cadres have an attitude of mutual dependence in collaboration. This can be seen when one of the cadres who does not have responsibility for an important program is not present in the meeting agenda, and the meeting will be postponed and rescheduled.
- 2. Face-to-face interactions that can increase success with each other among group members. As happened between facilitators and trained cadres, they always schedule routine face-to-face meetings on the agenda of routine meetings, implementing ecovillage activities, and others.
- 3. Accountability and individual personal responsibility. Each participant in the group has responsibilities in their respective job descriptions. If there is one participant who does not do his job properly, it will affect the group.
- 4. Interpersonal and small group communication skills. With the collaboration in the group, each participant will naturally enhance the interpersonal communication skills and communication of the group.
- 5. Skills to work in groups. Working in groups is far different from working individually. As experienced by trained facilitators and cadres, when they work in groups some problems can only be overcome by the team. Problems are more complex. For example, problems that occur due to miscommunication, one cadre is not responsible for his work which results in the shared goal being hampered (Wulandari, Arifin, Irmawati 2015).

The cooperation built between facilitators is based on the desire to carry out their duties to assist cadres. So the facilitators are teamwork that works cooperatively in the development of ecovillage, and they act as group members, not group leaders. They are a group of individuals who must complete their tasks. Cooperation built-in groups shows that in these groups a dynamic process occurs that is based on the existence of mutual interconnection in completing work and jointly responsible for the results of the work.

Interdependence and responsibility that occur between facilitators in carrying out their duties in the form of assistance to cadres can build positive emotions between them. These positive emotions further facilitate them to learn from each other and exchange information about the material to be delivered (Purwaningtyastuti, Wismanto, Suharsono 2012). Daniel Goleman (2002) says that emotion is a reaction to stimuli from outside and within an individual, for example, happy emotions encourage changes in a person's mood, so that physiologically seen laughing, sad emotions encourage someone to behave crying (Goleman 2000). Individual basic emotions include positive emotions and negative emotions. Negative emotions are feelings that are not desired and make psychological conditions uncomfortable. Whereas positive emotions are the opposite. Barbara L. Fredrickson (2009) explains that there are various kinds of emotions, including:

1. Joy. Literally happy means the same happily. But if described, this feeling of joy only occurs in a fairly short time or only at certain moments. Feelings of joy indicate that individuals are feeling comfortable in an experience.

- 2. Thankful. Gratitude is a feeling that motivates someone to reply to something in various ways. Not just a thank you, this feeling has a deeper and more memorable meaning.
  - 3. Proud. Feelings when successfully achieving something desired by working hard independently.
- 4. Calm down. This feeling indicates that you are feeling the peace that usually arises when you pamper yourself with a vacation or a hobby.
- 5. Humor. Seeing something funny, like comedy shows on television can keep you entertained and dissolve in laughter.
- 6. Hope. Hope is a positive emotion that is felt when imagining a better future. For example, when seeing what is desired, achieved by others. Then hope will emerge.
- 7. Amazed. A feeling of something that shows interest in something deeper. It usually occurs when seeing something/someone extraordinary.
- 8. Love. Love is a complete emotion. Because, love includes a variety of emotions, such as joy, gratitude, calmness, pride, admiration and many more (Fredrickson 2009).

Thus, the more positive the emotions of the facilitators, the higher the cohesiveness in developing the ecovillage, because the building of positive emotions each who becomes a facilitator will strengthen his commitment, thereby facilitating the achievement of the objectives of the facilitator group. Besides that Fredrickson (2009) mentions several roles of positive emotions, including:

- 1. Cognitive, positive emotions can help individuals to achieve and be more flexible in dealing with various problems because, with positive emotions, cognitive abilities will become wider so that it can increase one's creativity.
- 2. Socially, positive emotions can help individuals in developing friendships or other social relationships. This happens because positive emotions can make an individual's mental state more flexible, tolerant and creative so that it will be open to new things.
- 3. Physically, positive emotions can affect a person's health and longevity. As the results of a study conducted by Seligman (2005) which revealed that individuals who feel positive emotions are less likely to die or experience paralysis. Furthermore, positive emotions also inhibit individuals from the aging process (Fredrickson 2009, Seligmen 2005).

Positive emotions possessed by facilitators and trained cadres will strengthen the group so that the same goals will be achieved easily. In addition, some things can be done by facilitators and cadres in improving positive emotions among them, by recognizing perceived emotions, so that they can predict what actions will be taken in the face of certain situations. Next, ask for the opinions of others, so that they can help identify patterns of behavior themselves while at the same time be able to understand the feelings of people in the environment. Then, think before you act, so you will get used to control yourself. Introspection when criticized also needs to be done for self-development. Finally, practice honing empathy to understand the conditions of others.

Another thing related to cohesiveness is the similarity of views between facilitators. They shared the view that assisting cadres to need to be carried out intensively so that they can directly experience environmental problems so that they can formulate and plan various efforts to improve the environment. The similarity of views among the cadres is based on experience as long as he interacts with the cadres who are fostered in their respective regions. The experience became the provision of knowledge of the facilitator to be used as a material for joint discussion before carrying out assistance to ecovillage cadres. To make the views of different participants similar, it is not easy. Required ability to influence individuals in positive terms

#### Conclusion

Facilitators in developing ecovillage in the Citarum Hulu watershed cannot be separated from new media (smartphones) as information and interactive media that are flexible, effective, and easy to carry wherever they go in carrying out their duties. Through this smartphone, facilitators can interact, exchange information, and pour actual ideas into their knowledge to provide assistance to cadres.

The use of smartphones by facilitators can build their social skills in the form of positive emotions and synergistic cooperation and shared views to achieve common goals in accordance with their respective capacities and capabilities that lead to the building of group cohesiveness in which the facilitator joins. However, in the implementation of assistance to ecovillage cadres, it turns out smartphone usage is not enough, but it must be continued with face-to-face meetings in their work network area because smartphones cannot meet overall communication satisfaction. The most fulfilled needs with internet media are information needs, even though overall communication satisfaction may not be fulfilled by internet media.

#### References

- [1] Syafrida, R. 2014. Bidang Unggulan: Kebijakan, Regulasi Diri Dan Intensitas Penggunaan Smartphone Terhadap Keterampilan Sosial, *J. Pendidik. Usia Dini*, pp. 353–363,
- [2] Nielsen, AC 2010. Mobile Youth Around the World. AC Nielsen, New York, 2010.
- [3] Kasper, D. V. S. 2008. Redefining community in the ecovillage, Human Ecology Review, 15(1): 12-24.
- [4] Jackson, R. 2004. The Ecovillage Movement, Permac. Mag., 40: 1-11
- [5] Wagner, F. "Ecovillage Research Review," RCC Perspect., 2012.
- [6] Ergas. C. and Clement, M. T. 2016. Ecovillages, Restitution, and the Political-Economic Opportunity Structure: An Urban Case Study in Mitigating the Metabolic Rift, *Crit. Sociol.*,
- [7] Suh, J. 2018. Agriculture and sustainable communities: Reflections from a comparative case study, *Community Dev.*49(1): 34-49.
- [8] Hall, R. 2015. The ecovillage experience as an evidence base for national wellbeing strategies, *Intellect. Econ.*, 9(1): 30-42.
- [9] Litfin, K. 2012. Reinventing the future: The global ecovillage movement as a holistic knowledge community, in *Environmental Governance: Power and Knowledge in a Local-Global World*.
- [10] Ramadan, F. H. 2017. Pemanfaatan Media Sosial Instagram Akun @Mr.Creampuff Sebagai Promosi Dalam Meningkatkan Penjualan," *JOM J. Online Mhs. FISIP Univ. Riau*, 4(2): 1–15.
- [11] Solekhan and Winarso, R. 2016. Pemanfaatan Media Sosial Sebagai Media Pemasaran Sangkar Burung Di Kabupaten Kudus, in *Prosiding Snatif*, pp. 445–448.
- [12] Adriana, G. *et al.*, 2016. Kohesivitas Komunitas Nelayan dalam menghadapi Perubahan Ikllim di Pesisir Jawa Barat (Studi Kasus: di Pedesaan Jawa Barat), no. Adger 2006.
- [13] Setiawan, W. 2017. Era Digital dan Tantangannya, in Seminar Nasional Pendidikan 2017.
- [14] Yudhianto, 2017. 132 Juta Pengguna Internet Indonesia, 40% Penggila Medsos, detik.com, Jakarta, 27-Sep-2017.
- [15] Deddy Mulyana 2014. Ilmu Komunikasi: Suatu Pengantar, 18th ed. Bandung: Remaja Rosdakarya.
- [16] "Layanan 'media sosial pertama' di dunia tutup," bbc.com, Jakarta, 19-Jan-2016.
- [17] Haryanto, A. T. 2018. Berapa Jumlah Pengguna Facebook Sekarang?, detik.com, Jakarta, 01-Feb-2018.
- [18] Kurnia, T. 2018. Kian Meroket, Jumlah Pengguna Instagram Ditaksir Capai 2 Miliar, *Liputan6.com*, Jakarta, 26-Jun-2018.
- [19] Melani, A. 2018. Pengguna Aktif Menyusut, Saham Twitter Merosot 20 Persen, *Liputan6.com*, Jakarta, 28-Jul-2018.
- [20] Josina, 2018. YouTube Tembus 1,8 Miliar Pengguna, Itu Baru yang Terdaftar Saja, *detik.com*, Jakarta, 04-May-2018.
- [21] Rahman, A. F. 2017. Pengguna Aktif Line Tembus 171 Juta, detik.com, Jakarta, 16-Jun-2017.
- [22] Bohang, F. K. 2018. Pengguna Aktif Bulanan WhatsApp Tembus 1,5 Miliar, *Kompas.com*, Jakarta, 01-Feb-2018.
- [23] Rachmaniar and Anisa, R. 2017. Studi Deskriptif Tentang Loyalitas Peserta Grup WhatsApp, *J. Pemikir. dan Penelit. Sosiol.*, 2(1): 32–39.
- [24] Kampanye Desa Berbudaya Lingkungan, *jabarprov.go.id*, 2015. [Online]. Available at: http://dlh.jabarprov.go.id/index.php/layanan/k2-categories-2/item/65-kampanye-desa-berbudaya-lingkungan
- [25] Tutiasri, R. P. 2016. Komunikasi Dalam Komunikasi Kelompok, Channel, 4(1): 81–90.

- [26] Jocom, N. 2013. Peran SmartphoneDalam Menunjang Kinerja Karyawan Bank Prismadana, *Acta Diurna*, 2(1): 1–24.
- [27] Susanto and Harry, E. 2017. Media Sosial Sebagai Pendukung jaringan komunikasi politik, *J. Aspikom*, 3(3): 379–398.
- [28] Rosidah and Herawati, E. 2013. Pola Komunikasi Mahasiswan Dalam Penggunaan Smarthphone, *J. Hum.*, 4(2): 883–893.
- [29] Wulandari, B., Arifin, F. and Irmawati, D. 2015. Peningkatan Kemampuan Kerjasama dalam Tim Melalui Pembelajaran Berbasis Lesson Study, *Elinvo J. Electron. Informatics, Vocat. Educ.*
- [30] Purwaningtyastuti, Wismanto, B. and Suharsono, M. 2012. Kohesivitas Kelompok Ditinjau Dari Komitmen Terhadap Organisasi dan Kelompok Pekerjaan, *J. Prediksi Kaji. Ilm. Psikol.*, 2(1): 179–182.
- [31] Goleman, D. 2000. Emotional Intelligence. Jakarta: Gramedia Pustaka Utama.
- [32] Fredrickson, B. L. 2009. Positivity: Groundbreaking Research Reveals How to Embrace the Hidden Strength of Positive Emotions, Overcome Negativity, and Thrive. New York: Crown.
- [33] Seligmen, M. E. P. 2005. Authentic Happiness: Menciptakan Kebahagiaan dengan Psikologi Positif. Bandung: Mizan Pustaka.

