

Second Edition

# INNOVATION to Establish Prominent and Sustainable Village

**RESEARCH TEAM**  
Pius Sugeng Prasetyo  
Tutik Rachmawati  
Theresia Gunawan  
Yosefa  
Trisno Sakti Herwanto  
Kristian W. Wicaksono



**NOI**NOVATION to Establish Prominent and Sustainable Village

**INOVASI** untuk Mewujudkan Desa Unggul dan Berkelanjutan



Edisi Kedua

# INOVASI

untuk Mewujudkan  
Desa Unggul  
dan Berkelanjutan

**TIM PENYUSUN**  
Pius Sugeng Prasetyo  
Tutik Rachmawati  
Theresia Gunawan  
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**FRIEDRICH  
EBERT  
STIFTUNG**



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## FOREWORD

This book titled “Innovation to Establish Prominent and Sustainable Village” is basically the second book that is a part of the previous book with the same title. This second book is published due to the desire to get more profound insight and information about the stories of success that have been performed in many villages in Indonesia. This book includes stories of the success from 6 villages in Indonesia, namely Lalang Sembawa Village (West Sumatra), Kanonang Dua Village (North Sulawesi), Majasari Village (West Java), Mengwi Village (Bali), Kerta Village (Bali), dan Leu Village (West Nusa Tenggara). In the first book which has previously been published, There are results of research on 5 villages that represent several regions in Indonesia, namely Buluh Duri Village (North Sumatera), Sebayang Village (West Kalimantan), Malari Village (South Sulawesi), Sukalaksana Village (West Java), and Nita Village (East Nusa Tenggara)

Survey to the villages has shown more facts that the villages in Indonesia cannot be seen entirely from the disadvantaged perspective. Data found from the six villages in this book increasingly confirm that many villages in Indonesia have undertaken development practices with various innovations or resources owned and at the same time taking into account the upheld local wisdom. Innovation is done in various aspects such as food sustainability, renewable energy, local economy, education, health – sanitation, democracy engagement, and utilization of information technology. Development even innovation on those aspects are believed to be able to strengthen and ensure the sustainability of the village itself. For example, when a village has begun to utilize information technology in performing governance and service in the village, his technology is used both to perform budget transparency and to promote the improvements achieved by the village itself.

The development undertaken in villages in many aspects cannot be separated from local cultures which become the strength of the village’s local wisdom. As cases found in some village, such as Bali – Nusa Tenggara Timur, as well as other regions where cultures and traditions are eventually become the village’s strength to support its economic life, food availability and environment. Another aspect that becomes the key success of development through various innovations is the role of leadership, in this case is the village heads who have courage to introduce innovation in order to develop the village’s potentials and are able to mobilize the community participation to take part in the village development.

This research which was conducted in 2017 is a continuation of the research in 2016 and eventually can be initiated as a dynamic model to manifest The Superior and Sustainable Village. This model will be replicated in other villages in Indonesia. As a pilot project, will be established the replication in two villages which later will be evaluated relating to the effectiveness of the steps and results.

On this occasion, I would like to thank to the research team, Dr. Theresia Gunawan, Tutik Rachmawati Ph,D, Kristian Widya Wicaksono, M.Si, Trisno Sakti Herwanto, MPA., and Yosefa, M.M. who have been together and unified in conducting survey in villages which were chosen as research location. I would also like to thank the research assistants, namely Vicky Avidia Nugroho, S.IP., and Eka Chandra SIP., who have helped in collecting data in the field. Moreover, I would like to thank the Coordinating Ministry for Human Development and Culture Affairs (KEMENKO-PMK), as well as Friedrich-Ebert-Stiftung (FES) Indonesia Office for providing support both ideas and financial. This book which more about success stories from several villages is expected to be inspiration and motivation for other villages. May God always bless our good steps and good intentions together to develop Indonesia through the village.

Bandung, October 2017

**Dr. Pius Sugeng Prasetyo**  
Research Team Coordinator

## FOREWORD

The Indonesian president Joko Widodo (Jokowi) has put village development from the very beginning very high on his political agenda. This has been demonstrated by advancing the village fund and recently again by launching the economic concept of *ekonomi berkeadilan* – the Justice economy.

In a country with 75.000 villages, the development in rural areas is an important aspect of national political, economic and social progress. Providing improved financial and communication opportunities to the village administration – as it is promoted by the Indonesian government – enables people in the villages to make more efficient use of their resources and their capabilities. Based on the improvement of governance, budgeting, communication, food security, sanitation, education, infrastructure, local business, access to information, energy supply and democratic engagement people's welfare increases while the three dimensions of sustainability are nurtured.

Significant efforts are currently made to build and upgrade the nationwide infrastructure to close the development *gap between the urban and rural areas* and the west and east of the country. And to slow down the urbanization pressure as well as to increase employment opportunities in all areas of Indonesia.

In the past, inequality between urban and rural areas has been consistently widening. Hence it is not too surprising that villages are often viewed as being underdeveloped and with less income opportunities. However, cities and urban areas in all countries across the globe also heavily depend on the hinterland and the resources and products provided by the countryside. And among the 75.000 villages in Indonesia there are villages that have outstandingly demonstrated its capability to provide a better livelihood for its own residents.

Against this background, the Friedrich-Ebert-Stiftung in collaboration with the Coordinating Ministry of Human Development and Culture (Kemenko PMK) and the Faculty of Social and Political Science of the Catholic University Parahyangan Bandung (UNPAR) conducted a study in a number of villages to map what the key factors of an excellent and sustainable village in Indonesia are.

The targeted villages have been analyzed in terms of food security, renewable energy, local economic development, democratic people's participation, good sanitation and health services, the use of information technology as well as education.

This research cooperation project intends to draw empirical lessons from successful governance, policies and local wisdom on village level which could be later socialized also in villages in other parts of Indonesia. So that hopefully the best practice of these model sustainable villages could be preserved and might be used as a learning and leading example as well as a sustainable source of excellence.

The book in your hand which illustrates the result of the study which has been conducted in the following 11 villages across Indonesia; Lalang Sembawa Village in South Sumatera, Buluh Duri Village in North Sumatera, Kanonang Dua Village in North Sulawesi, Majasari Village and Sukalaksana Village in West Java, Mengwi Village and Kerta Village in Bali, Leu village in West Nusa Tenggara, Nita Village in East Nusa Tenggara, Mallari Village in South Sulawesi, and Sebayon village in West Kalimantan. The result of the study is divided into two edition. In this 2nd edition, it will consists 6 from the total of 11 villages.

We hope this study can be a reference of best practice and a model for other villages to develop and to innovate their villages according to its resources, character and potential. Based on innovation and empirical evidence in village development we hope to make a contribution to the advancement of sustainable villages across Indonesia. And we also hope to make a contribution to a change of narrative in a way that it is becoming consensus that rural and urban areas mutually depend on each other.

Finally, we hope that this triangular collaboration will continue in the future as a pilot project and as a source of excellence towards a superior and sustainable village governance in Indonesia.

Jakarta, October, 2017

**Sergio Grassi**

Resident Director

Friedrich-Ebert-Stiftung (FES)

Indonesia Office

## FOREWORD

The village development in Indonesia has continuously given particular attention both from central and regional government. In fact, the issue of village development has drawn attention from either domestic or foreign non-governmental organization. The government has shown its concern by issuing various policies each year on governance up to content related to resources and number of village development funding. It is realized that various policies that have been issued up to present time have not been able to guarantee the significant changes and improvement that can be felt by the government and the village community. On the other hand, the paradigm always found is that village is basically an “object” that should get intervention from various circles to reach the progress expected by external parties

Observing the experience on village development with various policies and its consequences, it is realized that village should be seen as a subject that has independence and ability to determine its own direction of development to be achieved. Village with its own potentials both human and typical nature can be sources to manifest the dreamt village. In this case, it is assumed that the government and village community can make creativity or even innovations by still taking into account its own character and local wisdom.

Departing from the thought, the Coordinating Ministry for Human and Culture Development together with non-governmental organization, in this case is Friedrich-Ebert-Stiftung (FES) Indonesia Office and Faculty of Social and Political Science Parahyangan Catholic University (UNPAR) Bandung therefore conducted a research by doing survey to several villages in Indonesia focusing on best practices or success stories that have been performed in the villages. In fact, there are many villages that have experienced progress in various aspects which in many cases were actually encouraged by internal power of the villages themselves in performing various development innovations. It does not rule out the possibility that in particular level there are involvements and roles of external parties that contribute to the village development.

The superior potentials have eventually managed to give positive implication in several aspects such as the improvement of the village economic capacity, food security, health/sanitation, education, democratization through participation, as well as utilization of information technology. Indeed not all aspects can be developed simultaneously. This will depend on background of conditions including cultural background which are very influential in manifesting the various development innovations. Some villages

researched can eventually show that the villages can develop, create, innovate by the support and engagement of various parties, but it should be noted that the main factor determining the changes to feature potentials owned is the commitment and the courage of the government and the village community itself in making changes for the village enhancement. The progress achieved by the villages written in this book is expected to inspire other villages in Indonesia. This is in line with the government's determination to develop Indonesia from its villages supported by various collaborations with various parties therefore can manifest smart and sustainable villages.

Ministry of Human and Culture Development would like to thank for the cooperation that have been and will be undertaken by FES Indonesia Office and FISIP UNPAR that have conducted a joint research to publish this book which has beneficial information for replication the village development in Indonesia. We also would like to thank the villages' head and apparatus, communities, as well as other parties that have contributes in performing innovation in order to manifest the smart and sustainable village.

Jakarta, October 2017

**Dr. Ir. Herbert Siagian, M.Sc**

Assistant Deputy of Village Empowerment  
Coordinating Ministry for Human and Culture Development

INNOVATION to Establish  
Prominent and Sustainable Village



# OUTSTANDING TRADITION AND LOCAL WISDOM OF MENGWI VILLAGE ACKNOWLEDGED BY THE WORLD

**Theresia Gunawan**

## **1.1 General Description of Mengwi Village**

### **1.1.1 Profile of Mengwi Village**

Mengwi village is a village in Mengwi Sub-District that is located about 18 kilometers north of Denpasar. Referring to the village development index, Mengwi has been included in the category of Independent Village. In 2016, Mengwi Village was appointed as a village representing Badung Regency to take part in village competition and won the 4th place at regional 2 national level competition. Mengwi Village was also chosen as one of 7 superior villages according to Tempo version 2016 as a village which is superior in economic empowerment (Tempo, 2016).

Referring to the village organizational structure, Mengwi Village consists of Desa Dinas (Administrative Village) and Desa Adat (Customary Village). Head of Mengwi Village is called Perbekel Mengwi and Customary Village has Head of Customary called Kelian Desa Adat. While Kelian Banjar Dinas (Administration) is the head of each Banjar (Balinese community group). There are 11 Kelian Banjar Dinas in Mengwi Village as following:

Banjar Batu	: Agus Putra P.
Banjar Gambang	: I Ketut Arka
Banjar Pande	: I Made Sudana
Banjar Munggu	: I Made Suartha
Banjar Pandean	: Drs. Ketut Pande S.
Banjar Serangan	: I Putu S.
Banjar Peregae	: I Putu Suardana
Banjar Lebah Pangkung	: I Ketut Wisaya

Banjar Pengiasan : I Putu Yasa  
Banjar Alangkajeng : I Gede Duana Putra  
Banjar Delod Bale Agung : I Nyoman Darmawan

### 1.1.2 Vision and Mision of Mengwi Village

The vision of Mengwi Village is Mengwi MESARI, which is an abbreviation of:

#### 1) **Mandiri (Independent):**

Raise mutual cooperation in developing any sectors of Mengwi Village in accordance with the potential available.

Cooperate with Customary Village in developing and maintaining infrastructure and facilities of worship places in Mengwi Village.

#### 2) **Eling (Aware):**

Maximize public service.

Develop human resources in order to perform professional and modern village governmental system.

#### 3) **Sejahtera (Prosperous):**

Optimize the function of POSKEDES (Village Health Post) which aims to community health service.

Surpress the Target Households (Rumah Tangga Sasaran or RTS) in Mengwi Village.

#### 4) **Aman (Safety):**

Build a community based on legal order, both formal and non-formal laws aplicable in Desa Adat and enhancing community awareness about the importance of Awig-Awig as well as Pararem.

Coordinate with BABINKAMTIBMAS (police officer dealing with community guidance and public order in village) , BABINSA (NCO in village), LINMAS (civilian neighbourhood guard), and PECALANG (Balinese security) to dicipline and improve neighbourhood security.

#### 5) **Ramah (Hospitable):**

Be hospitable in serving community and prioritize the public interest and always perform excellence.

#### 6) **Indah (Aesthetic):**

Develop Mengwi Village into a hygine, beautiful environment, by keeping the elements of TRI HITA KARANA (Relationship between Human and God, Human and Human, and Human with the Nature/Environment).

### 1.1.3 Mengwi Village According to Administrative Subdivisions of Bali:

**Table 1.1** Government Area of Mengwi Village (2016)

Level of Administrative Subdivision	Area
Province	Bali
Regency / City	Badung
Sub-District	Mengwi
Administrative Village / Village	Mengwi

**Table 1.2** Village Demography Aspects Year 2017 based on Banjar Dinas (Administrative Hamlet)

Banjar (Hamlet)	Number of Residents
Banjar Batu	595 people
Banjar Gambang	628 people
Banjar Munggu	761 people
Banjar Pandean	213 people
Banjar Serangan	576 people
Banjar Peregae	639 people
Banjar Lebah Pangkung	802 people
Banjar Pengiasan	644 people
Banjar Alangkajeng	512 people
Banjar Delod Bale Agung	1.250 people
Number of Male Residents	3.835 people
Number of Female Residents	3.874 people
Total Number of Residents in Mengwi Village	people

Each Banjar has a village meeting hall, thus there are 11 village meeting hall utilized for deliberation. Every resident of Mengwi Village highly participates in mutual cooperation concerning the environmental hygiene. In every deliberation, public figures always be involved, from schools, LPM (Community Empowerment Institution), BPD (Village Deliberation Agency), and Community representatives. The development was initiated from MusDes (Village Deliberation) as well as Musrenbangdes (Deliberation on Village Planning and Development). The deliberation result will be implemented as village planning. If the village has adequate fund, then the planning will be immediately executed. But if fund is not adequate, then the village will propose formally the development planning to the Regency. Mengwi Village also has members of LPM consists representative of each Banjar or Dusun (Hamlet). The programs of LPM are more focus on the community.

### 1.1.4 Desa Dinas (Administrative Village) and Desa Adat (Customary Village) of Mengwi

Head of Village in Mengwi is also called as Perbekel Mengwi. Perbekel who is in office is Mr. Ketut Umbara who has obtained his master degree from Mahendradatta University. He has been the Perbekel Mengwi since 2016 and his current period, which is his first period as Perbekel Mengwi, will end in 2019.

Mengwi Village has both Desa Dinas and Desa Adat. Desa Adat deals with any activity related to the traditions in Mengwi Village. Desa Adat is a form of community bound by local customary law and which has authority in managing village-owned treasure as well as dealing with arts, tradition, and local culture inherent in it. Desa Adat which has been established since the ancient kingdom is necessary to take care of anything related to customary matters which is still strongly held by the community until recent days. While Desa Dinas is an official government organization which deals with any administrative affairs of Mengwi Village, such as Identity Card (KTP), Family Card (KK), arranging and proposing village regulation design and Village Revenue and Expenses Budget (APB Desa) to be discussed and approved together with BPD as well as conducted other administrative affairs.

Although there are 2 forms of leadership system namely Desa Dinas (administrative village) which is led by Perbekel and Desa Adat (customary village) which is led by Kelian Adat, but there are no conflict of competition between the two because Desa Adat and Desa Dinas always coordinate each other and perform their duty according to each task and responsibility. For example, Desa Adat manages all land in Mengwi Village, because all land in Mengwi Village belongs to customary. For matters which are intersect with Desa Dinas and Desa Adat, such as proposing worship places, in addition to Perbekel, Kelian Desa Adat also necessary to be involved. Proposal of either physical development or worship places can be included in APBdes of Desa Dinas, because



**Figure 1.1**  
Perbekel Mengwi Village

according to Law No. 6 Year 2014, Desa Dinas is the one which is officially registered in the governmental system in order to avoid overlapping in the organization.

## 1.2 Culture and Local Wisdom of Mengwi Village

### 1.2.1 Architecture and Local Wisdom

Mengwi Village is a village which is still carefully maintain its tradition, culture and costumes. From the houses and building compositions, the houses arrangement in Mengwi village is still obviously referred to direction concepts as is believed by the Balinese. The sacred things are usually placed on the direction of mountain (Kaja); and ordinary things are usually placed on the direction of the sea (Kelod). Every house in Bali has to be built in accordance with special calculation and the building should be placed following particular arrangement pattern. Family temples as sacred places are placed in the position of Kaja, while bedrooms are positioned on the direction of Kelod. Each building has its own name according to either the function in Balinese customs or daily needs.

During the opportunity to visit houses of Mengwi Village residents, after entering the main gate, we could still see some buildings inside. There were a building for accepting guests shaped as gazebo (bale – pavilion), kitchen, barn, bedroom, worship building, and bathroom placed separately. The aims to separate those buildings is in case a fire was occurred then not all the property would be burnt out, some of them would be able to be rescued (for example, the kitchen was fired, then there would be bedroom building, bathroom building, and worship building remain). It is different to common houses where all rooms are placed within one building. In addition, the reception room is built in shaped of gazebo where the upstairs storey is utilized for storage and this



**Figure 1.2**  
One Part of the House  
Which is Separated From  
Other Rooms



**Figure 1.3**  
Taman Ayun Mengwi

reception room is placed nearest the main gate. The house arrangement reminded us to a proverb 'Don't Put All Your Eggs In One Basket' which is one of the local wisdoms that has been implemented for ages by Balinese ancient in Mengwi Village.

### 1.2.2 Tourism Village Visited by Foreign Tourist

It is undeniable that customs and culture held by Mengwi Village has become a particular attraction which draws tourists' interest to visit Mengwi Village. There are two tourism destination which draw attention from domestic as well as foreign tourist, the first is Taman Ayun Mengwi. This place used to be a worship and resting place for Puri Mengwi Kingdom. At present time, Taman Mengwi is not managed by Desa Dinas Mengwi, instead it is managed by the decendants of Mengwi Kingdom themselves, whether in recruiting, managing entrance ticket, sanitation, etc. But Puri Mengwi Kingdom takes part in giving donation for activities conducted in Desa Adat Mengwi.

Besides Taman Ayun Mengwi, there is Ogoh-ogoh Museum in Mengwi Village which is located nearby Taman Ayun. This museum is a place of huge figurines depicting the power of universe and human inner-power. The existance of these Ogoh-ogoh cannot be separated from the role of a Balinese artist named I Ketut Nuada. He is one of the painters in Puri Taman Ayun. This museum displays the best artworks in Bali. The background why I Ketut Nuada built The Ogoh-ogoh Bali is that he expected Ogoh-ogoh can be widely known by the world. Ogoh-ogoh is one artwork which embraces various art aspects, such as sculpture, carving, painting, decorating, music and other arts. Ogoh-ogoh commonly can only be seen during the celebration of Nyepi holiday, but in Ogoh-ogoh Museum, the artwork of Ogoh-ogoh can be enjoyed everyday. The figurines in Museum Ogoh-ogoh are made of either cork or bamboo. For some figurines made of cork are less durable, therefore if the condition is no longer proper to be displayed then the figurine will be replaced with another one. In addition to seing the figurines, in Ogoh-ogoh Museum tourists are also guided around and being told the meaning or stories of figurines in The Ogoh-ogoh Museum, such as Dewa Krisna, Rama



**Figure 1.4**  
Ogoh-ogoh Museum

and Shinta, Pangpang Menari Joged, and many more. Ogoh-ogoh are usually made prior to the celebration of Nyepi Holiday and will be circumambulated in the village by a lot of people in the afternoon or also called as Pengrupukan which is one day before the celebration of Nyepi Holiday.

### 1.2.3 Subak as Local Wisdom Heritage which is Acknowledged by the World

In managing its agriculture, the farmers of Mengwi Village follow the concepts and suggestions from Subak administrators. Subak is a community organization which specifically manages the irrigation system of cultivation in Bali. In 2012, UNESCO established Subak world cultural heritage. Subak itself is a manifestation of philosophy *Tri Hita Karana*, which derives from the word "Tri" which means three, "Hita" means happiness/prosperity and "Karana" which means cause. Thus it can be concluded that "Three causes of happiness and prosperity. The implementation on Subak system is:

- 1) *Parahyangan, which is a harmonious relationship between humanbeing and God.*
- 2) *Pawongan, which is a harmonious relationship among humanbeings.*
- 3) *Palemahan, which is harmonious relationship between humanbeing and nature and environment (Baliglory, 2016).*

There are several agricultural aspects which is managed by Subak organization: *Sekaa Jelinjangan* (which organizes water treatment); *Sekaa Sambang* (which deals with theft, banish or catch animals which are harmful the crops such as bird and rats); *Sekaa Mejukut* (which manages the paddy harvesting); *Sekaa Manyi* (which organizing the activities of reaping/cutting/threshing rice); *Sekaa Bleseng* (which arranges the transportation of harvested rice from the paddy field to the barn).

However, the main responsibility of Subak is streaming the water from springs to the paddy fields. From the springs, the members of Subak will work together to arrange water canals to all paddy fields in Mengwi Village. The works in Subak is conducted



**Figure 1.5**  
Irrigation Managed by  
Subak

using principle of mutual cooperation dan fairness as an attempt to improve the farmer's welfare.

There are some beneficial significantly felt by the farmers from the Subak activities:

- 1) The principle of mutual cooperation established in various activities in Subak will build good ties of hospitality and kinship.
- 2) With a system of water sharing based on fairness and deliberation, the water crisis can be overcome well, and avoid conflict of interest on irrigation canal.
- 3) The farmers elicit guidance from the experts of agricultural Subak to determine planting and harvesting periods, type of rice seedling and fertilizer that fit to the condition of land and weather.

### **1.3 Village-Owned Enterprises and Education for Community Welfare**

#### **1.3.1 BUMDes (Village-Owned Enterprise) of Mengwi Village**

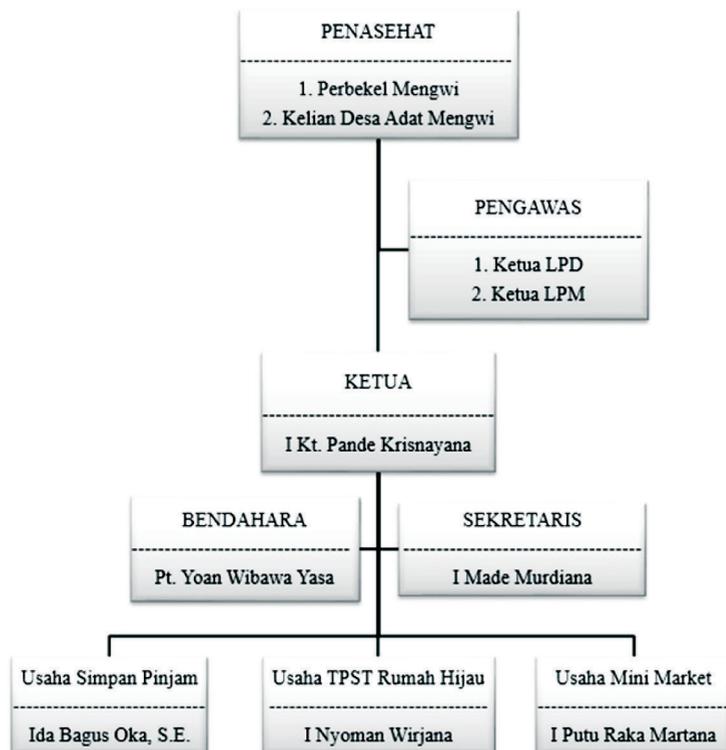
BUMDes of Mengwi Village was established in 2015 named Yoga Mesari. There are 3 units of BUMDes in Mengwi Village which are cooperative (saving and loan), Garbage Processing (from garbage into organic fertilizer) named Tempat Pembuangan Sampah Terpadu (Integrated landfills) Rumah Hijau, and currently on progress of designing is Toserba (Department Store)/ Mini Market which will be developed in Mengwi Village in order to prevent the increasing number of modern minimarkets such as Alfamart or Indomaret in Mengwi Village, thus Desa Dinas will develop Traditional Village into Department Store. TPST Rumah Hijau which has been established only for two years currently has 10 officers responsible to sort out the garbage, 3 officers as chopper officer and concurrently as drivers. The background of TPST Rumah Hijau establishment was from the vision of Perbekel to clean up Mengwi Village environment from garbage.



**Figure 1.6**  
BUMDes of Mengwi  
Village: Processing  
Garbage Into Organic  
Fertilizer

The first step of garbage process is by transporting the sorted out garbage from houses to TPST. After that the garbage will be grouped into organic and anorganic garbage, then sieved and fermented. TPST Rumah Hijau also cooperates with students of Udayana University who are testing organic fertilizer by mixing sugar with fruit waste. Organic fertilizer produced by TPST Rumah Hijau is sold at Rp 10,000.00/sack, monthly revenue is about Rp 1,000,000.00 up to Rp 2,000,000.00.

Below is organizational structure of BUMDes Yoga Mesari, mengwi Village:



**Figure 1.7**  
Organizational Structure  
of BUMDes Mengwi  
Village

In addition, Mengwi Village also has *Lembaga Perkreditan Desa* (LPD). LPD is a financial institution similar to *Bank Perkreditan* (Credit Bank). In 2007, Mengwi Village already had cooperative which had developed but eventually went bankrupt. After experiencing its ups and downs, the cooperative managed to rise up and develop once again but then was taken over by the province and then changed into LPD. The Governor of Bali stipulated that all villages in Bali must have LPD. LPD in Mengwi Village has contributed in providing mourning compensation. If a resident of Mengwi Village dies, the family of the deceased will receive Rp 5,000,00.00 as a compensation. Besides receiving from LPD, the family of the decendant will obtain mourning compensation from the regency of Rp 10,000,000.00 and from APBDes of Rp 3,000,000.00. Family of the decendant receives the compensation free of charge without obligation to pay any premium.

### 1.3.2 Scholarship and Free School for Residents of Mengwi Village

LPD also has high concern in education sector, therefore LPD also provide scholarship to students of Mengwi Village who cannot afford the education cost. The assistance which takes form as scholarship from level of elementary, junior high school, senior high school up to college, will be delivered through Kelian Banjar Dinas who is considered being well-informed about the condition of residents in his area.

Mengwi Village also has Yayasan Pendidikan Swasta (Prive Education Foundation) consists of PAUD, Kindegarten, Elementary, Junior High School and Senior High School named Widhya Brata. Every school-aged residents in Mengwi Village can study at Widhya Brata without the obligation to pay enrollment and facility fees. They are even given laptop in 6th grade. The policy issued by Mengwi Village prohibits to collect even a dime of tuition fees. However, the interest of residents in Mengwi Village to study in Widya Brata is very low. Most of the residents prefer the public school than private school. The educational foundation of Widya Brata is owned and managed by Desa Adat, has a legitimate status by the government and obtains an 'A' accreditation.



**Figure 1.8**  
Free School for Residents of Mengwi Village from Pre School, Kindegarten, Elementary, Junior High, and Senior High School



**Figure 1.9**  
Hairdo and Makeup  
Training for Women in  
Attending Customary  
Ceremonies

In order to enhance the women capacity, members of PKK (Family Welfare Fostering) in Mengwi Village also holds beauty class for women in Mengwi Village. the customary ceremonies in Mengwi Village are quite a lot, and according to Balinese customs, the women usually attend the ceremonies with their hair is neatly tied up into bun. Since this occasions are quite a lot, thus there will be a big expense allocated for the women to have a hairdo in salons. After joining the make up and hairdo trainings, the women of Mengwi Village are able to style their hair and do makeup by themselves. Free salon equipments are also provided for free for women who are interested in starting salon business.

### 1.3.3 Health and Welfare of Mengwi Village

In order to support the community's health, the residents of Mengwi Village can enjoy health service delivered by Badung Regency hospital named Mangusada Hospital which is located in Jalan Raya Kapal. The hospital location is approximately 3 Kilometers from Desa Mengwi office. This hospital, whose vision is to deliver professional, innovative and cultured service approaching national standard by maintaining the service principle namely 4S (Senyum (smile), Sapa (greeting), Servis (service) and Simpati (Symphaty)) administratively responsible directly to the Regency Head of Badung through Regional Secretary (Sekda).

Cooperating with the government of Badung Regency, the government of Mengwi Village also provides ambulance service and 24-hour puskesmas (Community Health Center) aiming to reduce the hoard of health service needs in the hospital. In order to support the health service, the government of Badung Regency empowers institutions in the village, strengthen the village's infrastructure and improving the management of village government by sizable financial support to the village.

The Regency government also provide cards similar to BPJS (Social Insurance administration Organisation) named Kartu Badung Sehat (Badung Health Card) which

is accepted in Mangusada Hospital. Kartu Badung Sehat is provided for all residents in Badung Regency. By showing the card, the entire medical expenses will be financed by the government according to the applicable rules. System implemented by Kartu Badung Sehat is similar to BPJS where the patient should first submit a referral to the First Health Facility (Faskes). Residents who use Kartu Badung Sehat will get third class facility.

### **1.3.4 Renovation and Infrastructure**

Mengwi Village also delivers house renovation program called ALADIN which stands for Atap (Roof), LAntai (Floor) and DINding (Wall). This program is an assistance to improve the quality of healthy houses for poor households identified using the data of Rumah Tangga Miskin (Poor Households). Mengwi Village has delivered renovation program to 27 houses in Mengwi Village to make the houses livable. The government of Mengwi Village also gives attention to infrastructure in Mengwi Village. Currently, there is no longer muddy streets, lanes, or alleys because all the pathways has been built using paving block. Generally speaking, the pathways in Mengwi Village have already been in good condition.

## **1.4 The Economic and Income Sources of Residents in Mengwi Village**

### **1.4.1 The Village Funding Aids**

The geographical position of government of Mengwi Village which is located in Badung regency is quite beneficial for Mengwi Village. In Badung Regency lies Sub-Districts of South Kuta, North Kuta and Kuta as sub-districts which contribute the biggest amount of tax and retribution of Hotel and Restaurants. In 2016, the tax and retribution of Hotel and Restaurant in Badung Regency reached 2 trillion (Bapenda Badung, 2017). Kuta area is famous as world-class tourism destination which draws local, national and domestic tourists. From the regional tax and retribution, each village in Badung Regency obtain financial aids more than Rp 4.6 billions up to Rp 9.5 billions. The funding aids was allocated according to the width of an area, number of residents, number of poverty, level of geographical difficulties, number of village apparatus as well as number of customary institutions in the village such as desa adat, Subak, dan banjar adat. The fund also covers aids for desa adat, Subak, banjar adat, salary for perbekel and village apparatus, salary for bendesa, kelian banjar adat, santunan (compensation) pekaseh and pangliman as well as salary for the village cleaning personnel (Dispenda Badung, 2015).

Mengwi Village always received yearly allocation or Village Funding Contribution at Rp 9 billions from the tax of hotel and restaurant. From the Rp 9 billions, 70% is aimed for infrastructure, education, cultural arts and the rest 30% is aimed for office

operational (eg. Salary) and if there is any remaining fund, it will be put into the village treasury. In addition, Mengwi Village also receives Rp 600 millions from Village Funds. This fund is quite big for a village in Indonesia. By managing and delivering these funds accurately, transparently and accountability, the residents of Mengwi Village can enjoy a lot of beneficial from these funds.

#### 1.4.2 Agricultural Tradition and The Challenges

The main income source of livelihood for residents of Mengwi Village is from being farmers who plant rice and palawija (crops planted between the paddy crops such as corn, soybean, peanut, etc). Most of the farmer production are sold and partly for being consumed. We got an opportunity to visit the agricultural area of Mengwi Village. At that place we interviewed a farmer named Mr. I Made Raka. According to Mr. Made Raka, the grain price is plummeted. During good weather planting season, the rice can be harvested twice a year, but if the rainfall is high, the harvest can fail.

The total width of agricultural land in Mengwi Village is reached 268 hectares and there are 12 farmers groups who plant the land in turn, twice it was planted by paddy, then following by watermelon and melon after harvesting the paddy. Agricultural technology used in Mengwi Village is modern enough because the farmers has utilized tractors to process the wide farming land. With regular planting and irrigation pattern, the farmer product (rice) from Mengwi Village is more superior compared to grain from other villages, although from the quantity, other villages produce more than Mengwi Village, for example, Mengwi Village produces 7 tons in one harvest season, other village's harvest can reach 10 tons. Otherwise, when the quality is tested, rice from Mengwi Village has better grain quality. It is showed by the comparison of 1 quintal grain from Mengwi Village can produce up to 60 kg hulled rice, while grain from other villages at the same amount can only produce 40-45 kg hulled rice and lots of broken hulled rice.

Commonly, to plant paddy and palawija, the farmers conduct a set of ceremonies. There is a ceremony to call water or usually called as Mapak Doyok which aims to make the water flows smoothly so that their crops can get adequate water. After the activity of planting has been finished, then another ceremony will be held, after the paddy has been planted for 21 days, another ceremony will be held and when the paddy is ready to be harvested, there will be another ceremony. We can know whether a ceremony has been held or not in a paddy field from the little penjor (yellow penjor shows that the crops are ready to be harvested) and the ceremony is usually not held by all the farmers but only those who will plant.

With so many set of customary ceremonies, how the farmers remember them? One function of Subak administrator is informing important dates of ceremonies. Besides, there is a calendar of ceremonies for the farmers, thus they can remember what

ceremony and when it will be held. From long time ago until now, the farmers have hardly ever had conflict, because of the existence of pangliman group, pekaseh and Subak who always do a good job. Aproximately once a month, there will be a meeting between the farmers and the Subak administrators. After the planting season, they hold another meeting to clean and repair irrigation cannal together. And every 3 month, there will be a meeting in SUBAK hall. When the harvest season comes, the land is usually rent by duck breeder. According to Mr. I Made Raka and Perbekel Mengwi, there have been several businessmen both domestic and foreign intended to buy the land, but the farmers and Subak really do not want their land to be bought and converted into buildings (Hotel, Supermarket, Mall, etc) because they still attempt to strive for their farming area conservation.

Unfortunately, in this era, among the number of youth in the village, there are only a few interested in continuing profession as farmer. The youth are prefer to seek opportunity as employees in offices. Currently, if the farmers suffer a harvest failure, they will not obtain any insurance, but the Subak team is working on proposing so that the farmers who suffer a harvest failure can obtain insurance, and to receive the insurance, they have to pay premiums that have been agreed by the members of farmer group.

### **1.4.3 Undergo The Lineage-Based Profession**

The researchers also had an opportunity to visit one pande besi (blacksmith) artisan in Mengwi Village. He is called I Made Darsana. Pande means descendant (clan), someone whose ancestor was “memande”. Memande is making equipments from bronze (such as gongs, religious instruments, etc), iron (such as hoes, knives, spears, keris, etc), silver and gold (such as jewelry, religious instruments, etc). According to Balinese belief, the descendants of pande besi should work to produce equipment from iron, or at least has an iron smelting workshop at home even there is no activity of blacksmith in the house. He said that in lineage, those who are descendants of pande besi, should have a profession of pande besi since the profession should be maintained for generations. The background of this thought is, someone can be a skillful blacksmith if he has been used to see and help his parents processing the iron. Therefore when he grows up, he can be a skillful blacksmith because of the experience obtaining since he was a child. Nevertheless, Mr. I Made Darsana added, if one day there is none of the decendants willing to continue this profession, the symbol of pande besi worship has to be maintained in the family.

In his daily life, Mr. I Made Darsana makes hoes, knives for men, and kitchen knives which is sold about Rp 125,000.00 – Rp 380,000.00. His products are sold in a store in front of his house as well as to the market. According to Mr. I Made Darsana, it is very difficult to find someone who want to work as assistance of pande besi because being a pande besi needs a lot of energy and power to forge iron, besides a blacksmith



**Figure 1.10**  
A Blacksmith is Burning  
Iron In a Furnace

should also has specific expertise in the field. As an illustration that this job is not easy, in making a knife, first a blacksmith must light a fire in a fireplace using charcoal, after a hot flame burns, the iron is heated on the charcoal to soften. The iron must be completely hot until it looks like a red flame, after that the iron is lifted and forged by a 15-kilogram hammer, the iron then put onto the charcoal and then hammered again. This process should be done repeatedly until it has a shape of a knife.

#### **1.4.4 Handicraft which is Enter the Export Market**

Mengwi Village is also well-known for its Tedung Bali. Tedung Bali is a kind of umbrella used for religious ceremonies whose shape, size, colour, function is different according to the traditions and ceremonies performed. For example, a black and white umbrella symbolizes the natural balance (*Rwa Bhineda*). Red umbrella symbolizes *Brahma*, the God's holy light in creating the universe. Black umbrella symbolizes *Wishnu*, the God's holy light in maintaining the universe. White umbrella symbolizes *Ciwa*, the God's holy light in the universe coalesce. Nevertheless, at present times these umbrellas begin to be used at hotels, parks or other tourism destinations or even houses to strengthen the Balinese elements as theme of those places.

We conducted an interview with one of the Tedung Bali entrepreneurs, Mr. I Bagus Artana who started this business with an initial capital of Rp 500.000,00. He produces Tedung Bali and sells for Rp 300.000,00. From each unit of product, he can obtain profit at Rp 50,000.00. This business is run together with other families by dividing the task into specific jobs. Within a month the demand of Tedung Bali is up to 300 units and all of them are still sold locally to various regions in Bali.

One of the businessmen who is succeeded in selling his products to international market is Dewi Ratih. Dewi Ratih is a home industry of tedung. Most of the tedung sold have big sizes and commonly used shelter from the sun heat at beaches or as cafe



**Figure 1.11**  
A Craftman of Tedung  
Bali and His Product

decoration. The information we were interviewed is Mr. Ngurah Putra. This business is an inherited business from his father, which is now managed by Mr. Ngurah Putra and his sibling. The first child focuses on designing the tedung's motive, while the second child, Mr. Ngurah Putra focuses on taking order and promotion. Initially the tedungs are only sold in domestic market, but one day when Mr. Ngurah participated in an art exhibition in Jakarta, the products of Dewi Ratih started to be known and marketed to international market such as England, Israel, Spain, Turkey, Dubai, The United States, Germany, Italy and Greece.

For the prospective buyer who is seriously ordering the tedung from Dewi Ratih, the company will give one free sample, but if it has to be shipped to other city or abroad, the shipping fee will be paid by the prospective buyer because to send one tedung abroad costs Rp 3,000,000.00,-.

Dewi Ratih usually produces 100 up to 150 tedung, which price is about Rp 750,000.00. employees at Dewi Ratih are paid according to UMK (minimum wages at city or regency), in addition, the employees are also given facility of dwelling place and 3-time meals a day. The employees are required to have drawing skill or at least sense of art which can be trained by Mr. Ngurah. The challenge faced by Dewi Ratih is the broken umbrellas during the shipment. From 500 umbrellas usually there are about 5 umbrellas broken and this matter is reasonable for Ngurah, the challenge is also due to many



**Figure 1.12**  
A Craftman of Tedung  
Bali for Export Market

holidays in Bali (because the Balinese still firmly hold their customs and culture, hence during holidays or customary ceremonies there will be no employees want to work even they are offered high wages). Consequently, it is difficult for Dewi Ratih to meet the target of accomplishment. In order to meet the consumer demand well, Ngurah will not accept an order if he thinks he cannot finish it on time. He also does not want to buy tedung from another supplier because the quality may be less than tedung produced by Dewi Ratih. Ngurah prefers to negotiate the deadline than must meet the deadline by buying tedung from another supplier. Therefore Ngurah does not prioritize the quantity of orders but the quality of products delivered to the customers even in small quantity to build consumer trust so that they will continuously order from Dewi Ratih. Commonly if the damage is the outer part/box it will be under the cargo responsibility (due to the insurance facility used by Ngurah everytime he send the tedung). One of the important activities is conducting quality control upon the tedung before being sent, because Ngurah does not want to send Dewi Ratih products in defective or damaged condition. Among all Dewi Ratih buyers, the orders are mostly derived from The United States although the rules are very strict by conducting control in about every 6 months (the controls to the production site or factory Dewi Ratih are frequently without prior information). The survey matters are about the availability of fire extinguish equipment, CCTV, The Sanitation of production place Dewi Ratih (smoking is prohibited in area of production), whether the employees are treated well and work without pressure. The American buyers are carefully giving attention to details.

The process to make tedungs which are sold abroad is, first the wood (the wood used is from durian trunk) and bamboo must be soaked in insecticide substance of anti-termites so that the tedung will not easily porous. After being soaked for one week, there will be foam like soap or shampoo foam which is smell like dirt. Afterward, the wood will be dried then put into the oven. After that it can be decorated according to previously planned design. Dewi Ratih frequently receive a lot of order in March and July. The design of tedung's motive is not published, but if there is a serious buyer, the design sample will be sent by email. Tedung at Dewi Ratih is not fully waterproof, but

semi waterproof due to some design should be painted by hand, if fully waterproof material is used, it will be difficult to be painted by hand, whereas if semi waterproof material is used, the tedung can be painted directly by hand. The unique thing from Dewi Ratih is that the motive a tedung is painted spontaneously and very neat just like using stamp. The makers obviously has strong sense of art and are talented in painting because although it is painted by hand, but the motive is very neat and beautiful. To see the product samples of Dewi Ratih, people can visit the website of Dewi Ratih.

## 1.5 Conclusion

- 1) Progressive and innovative leadership is one of the key success in Mengwi Village to improve the innovation in the village. From our observation in Mengwi Village, The Head of Village is eager to try new things which can increase the welfare of the village residents. For example, building landfills and processing organic garbage into fertilizer. He is also known as friendly and cooperative to his residents.
- 2) Communication is also a key success of village development. From what we have learnt, the routine meetings in the village open the space of discussion for the residents to each other share information, ideas and to be well-coordinated. A lot of problems in the village can be solved by deliberation.
- 3) From the research, we notice that one factor that supporting the superiority of Mengwi Village is a solid cooperation from the government of Badung Regency. Mengwi village is benefitted by being located at the same regency with Kuta, therefore village fund distributed to Mengwi Village is relatively big. In addition, Mengwi Village also has tourism destination namely Taman Ayun and Museum Ogoh-ogoh which can draw attention from visitors both domestic and foreign.
- 4) The preservation of local culture can improve the local economic through tourism sector. Customs which are firmly maintain in Bali is a strong attraction for domestic as well as foreign tourists to visit Mengwi Village. It teaches us that local wisdom is an ancient heritage that should be carefully protected. Local languages, traditional costumes, religious rituals, traditional buildings, community regulation on daily activities is keys for the village to survive and compete in tourism industry. Just as the business philosophy the more unique the more being sought.
- 5) Local wisdom which is upheld in daily activities create space for local entrepreneurs to develop their business. The demand for Tedung Bali will always be exist as long as the sustainability of traditional ceremonies is protected. In fact, recently Tedung Bali umbrellas begin to be used as decoration in hotels, parks or other tourism areas.

**(Sources: Interview result of village officials by research team, documentation of research team, village archive)**



# INNOVASION OF KERTA VILLAGE IN MANIFESTING INDEPENDENT SUSTAINABLE ENERGY VILLAGE

**Tutik Rachmawati**

## **2.1 General Description of Kerta Village**

Kerta Village is one of 9 (nine) villages in Payangan Sub-District which is directly bordered with Bangli Regency. Kerta Village is located on the northern end of Gianyar Regency. Geographically, Kerta Village lies between coordinate 8°18'40" - 8°22'15" South Latitude, and 115°15'22" - 115°17'40" East Longitude at the altitude of 600-750 Meters above the sea level. The total area of Kerta Village is approximately 1,442.2 hectares of which 33,54 hectares is utilized for houses and yards, 177.24 hectares for ricefields, 811.54 hectares for moor land, 1.72 hectares for fish ponds, 80.84 hectares for public places (government offices, roads, temples (Pura), schools, court, Hamlet Halls, cemetery and markets), 40 hectares for public forest and 297.32 hectares for other purposes (Ravine and river conservative). Geographically, Kerta Village boundaries are as follows: :

North side is bordered with Katung Village, Kintamani Sub-District, Bangli Regency.  
South side is bordered with Puhu Village, Payangan Sub-District, Gianyar Regency.  
East side is bordered with Tegallalang Sub-District, Gianyar Regency.  
West side is bordered with Buahon Kaja Village, Payangan Sub-District, Payangan Regency, Gianyar Regency.

Generally, The location of Karta Village is non-beach, village status is rural, and is classified as self-help village. The village is 10 – 15 km to the sub-district. As typical village in Bali, Kerta Village also consists of 8 customary villages, 8 hamlets, 15 village officials. While for the Kerta Village's apparatus consists of 1 Head of village, 8 Head of Hamlets (Banjar), 1 Village Secretary, 1 Government Affairs Head, 1 Development Affairs Head and 3 other administrative officials. While for the security apparatus and posts in Karta village there are 31 posts civil defence/public protection and 31 personnels of civil defence/public protection a well as 2 posts of mass counselor/village's noncommissioned counselor officer with 2 personnels of village's noncommissioned counselor officers.



people consisting of 35 males and 31 females. The number of migration in 2015 is 12 immigration (0 male and 12 females) and 39 emigration (20 males and 19 females). The marital status of Kerta village residents is 3.484 married, 1.126 single, 21 divorced, and 312 widowed. The number of disable residents consists of 1 blind, 2 mute, 5 with physical disability, 14 with mental disability, and 1 with other disability.

Educational facilities available in Kerta village are 2 kindegarten, 5 elementary with the educator number is 5 at kindegarten level and 40 at elementary level. Number of students in each level is 38 at kindegarten level (15 males and 23 females) and 435 at elementary level is 435 students (224 males and 211 females). Below is the distribution of education in Kerta Village:

**Table 2.2** Educational Level of Kerta Village Residents

No	Educational Level	Number
1	Pre-school	1.242
2	Not graduated from Village School	913
3	Elementary School	1.067
4	Junior High School	866
5	Senior High School	768
6	Academy / College	84

The health facility available in Kerta village consists of 9 Integrated Health Service Posts, 2 Community Health Center, 1 practitioner, Labor Clinic, and 2 Family Control Posts. For the medical personnel in Kerta Village there are 2 general practitioners and 2 midwives. The distribution of population according to religions is 4.936 Hindu, 3 Moslem with 43 Pura (temple in Bali) available in Kerta Village.

Major income sources of Kerta villagers are as follows:

**Table 2.3** Major Income Sources of Kerta Villagers

No	Major Income Sources	Number
1	Agriculture	1.044
2	Farms	996
3	Fishery	20
4	Plantation	1.746
5	Trading	58
6	Industry	122
7	Electricity / Drinking Water	1
8	Transportation	42
9	Banking / Financial Institution	37
10	Government / Service	54

Residents of Kerta Village rely on agriculture as income resource. The agriculture broadly covers food crops, plantation crops, hulticulture crops, farms, and fishery. Sectors of food crops and plantation contribute significantly, because these sectors are managed by traditional institution called Subak. In addition to rice plant, in food crops also grow vegetables such as: chili, tomato, cabbage, beans, eggplant, cucumber, chicory. Another crop which can affect to the increasing income the farmers in Kerta Village is orange, which is currently the favorite crop among Kerta villagers. In Kerta Village they also grows bamboo type *tabah* which has value for export and California papaya which is very popular among the tourist.

The superior agricultural business commodity in Kerta Village which has fresh air and highland covers: orange, papaya, tropical cutting flowers types Heliconica (shaped like banana), as well as bamboo type *tabah*. The area distribution for each agricultural business is: for orange plants with the land area of 226 hectares, papaya plants with the land area of 12,50 hectares, for tropical cutting flowers type Heliconia (shaped like banana) with the land area of 22 hectares and for bamboo with the land area of 35 hectares.

**Table 2.4** The Village Revenue and Expenditure Budget of Kerta Village  
Year 2014 - 2016

Year of Budget	Budget	Realization
2014	Rp. 37.000.000,00	Rp. 37.020.000,00
2015	Rp. 25.000.000,00	Rp. 26.775.250,00
2016	Rp. 48.212.100,00	Rp. 52.668.700,00

Compared to other typical villages in Indonesia, the revenue and expenditure budget of Kerta Village is relatively within good category. This is definitely affected by the financial condition at Regency Level. Based on the interview, Gianyar Regency is the third highest of Locally-Generated Revenue (PAD) where 75% of the revenue is actually derived from tourism activity following Denpasar City (second place) dan Badung Regency (first place) with total locally generated revenue of 130 billion.

Acknowledgement that have been given to Kerta Village are as follows:

- 1) Acknowledgement of Energi Prakarsa (Innitiative Energy) in 2011 from Ministry of Energy and Mineral Resource category community group at Organic Farming Group "Pada Liang" Panyabangan Hamlet, Kerta Village, Payangan Sub-District, Gianyar Regency, Province of Bali.
- 2) Recognition of Program Kampung Iklim/Proklim (climate village program) 2012 from Ministry of Environment. This is rewarded to Kerta Village due to the success of Kerta Village in conducting mitigation upon the issue of climate change. The mitigation

is delivered through several programs, namely (a) socialization on environmental change; (b) reforestation of sloping lands in Kerta Village; (c) The provision of nurseries of forest plant species (eg. Bamboo that is appropriate to plant on sloping lands). (d) conservating or protecting springs, which certainly related to the existance of 5 irrigation systems (Subak) for paddy field in Kerta Village. Relating to this springs conservation, Kerta Village has even possess Village Regulation concerning water conservation. Previously, in 1992, Local Water Supply Utility (LWSU) took water supply from springs in Kerta Village but there had not been sharing system of the water exploration. By the implementation of village regulation concerning water conservation, it can be ascertained that spring exploration will prioritize the basic philosophy of water-taking based on the beliefs of Kerta villagers (dividing the spring water into three, namely: place of worship (by pelinggih/penyengker), klebutan or pancoran which can be used as a fount).

- 3) Acknowledgement of Desa Peduli Kehutanan (Forest Care Village). This achievement is possible to reach since in Kerta Village, as other villages in Province of Bali, has a very strong tradition to take care of forest (not cutting down trees arbitrarily). Forest is considered as a sacred place. Besides that, forest is usually located inside Pura areas (worship place for majority of Balinese). Cutting down trees in forest will be allowed only for reason of village development. Later on, there is no one dared to disturb forrest.
- 4) Recognition of Desa Mandiri Energy (Energy Independence Village) from the Ministry of Energy and Mineral Resource due to the success in developing animal manure processing into renewable energy resource (biodigester).

Although Kerta Village has been chosen as one of innovative villages in aspect of energy independence, every activity conducted in Kerta Village (not only the processing of animal manure into renewable energy resource/biodigester) also contributes significantly to every innovation in the village aims to manifesting the whole village development from various aspects.

As most villages in Bali, Kerta Village also consists of administrative village and customary village. According to Law of Republic Indonesia No. 6 Year 2014 concerning Village article 6 verse 1 stated "Village consists of Governmental Village (Administrative) and Customary Village (Special Pakraman Village in Bali). The difference between administrative village and customary village lies on the function, which are:

Administrative Village manages the governmental function (Law No. 6 Year 2014 on Village article 7 – 95 and article 11 – 122).

Pakraman Villages manages the customary function (Law No. 6 Year 2014 on Village Chapter XIII Special Provisions of Customary Village article 96 – 111 (Cultural Village)).

Administrative Village is the government in village which perform administrative function, such as handling identity card, family card, birth certificate, and other official matters (governmental). Administrative village is established by merging several small pakraman village into one, while the relatively big pakraman villages will be directly changed into administrative village. Implicitly, it can be said that administrative village is the common village in Indonesia.

Regional Regulation of Bali Province No. 3 Year 2001 on Pakraman Village determine that Pakraman Village as “the unity of customary law community in Province of Bali which has one unity of hereditary tradition and manners of social interaction according to Hinduism attached with Kahyangan Tiga or Kahyangan Desa (Village) which has certain territory and self wealth and is entitled to manage its own household” (article 1 No. 4) Banjar Pakraman is a community group which is part of Pakraman Village. In the other word, Pakraman Village is group of Balinese Hindu based on the unity of collective living territory and basic religious spirit for relationship pattern and social interaction pattern of Bali society. A Pakraman village will consist of three elements, namely:

- 1) Element of Parahyangan as Hindu sacred place and other activities related to Hindu religion.
- 2) Element of Pawongan or villagers whose religion is Hindu.
- 3) Element of Palemahan or village area in the form of karang ayahan desa or karang gunakarya which is arranged in accordance with Hindu religion.

Article 5 Regional Regulation of Bali Province No. 3 Year 2001 stated that Pakraman village has been assigned as follows:

Making awig-awig.

Regulating krama desa.

Arranging the management of village’s wealth.

Together with the government performing development in various sectors especially religion, culture and society.

Nurturing and developing cultural values of Bali in order to enrich, preserve, and develop national culture in general and regional culture in particular based on “paras paros”, sagilik-saguluk, salunglung-sabayantaka (deliberation-concensus)

Nurturing krama desa (village residents in pakraman village).

Article 6 Regional Regulation of Province of Bali No. 3 Year 2001 stated that pakraman village has authority as follows:

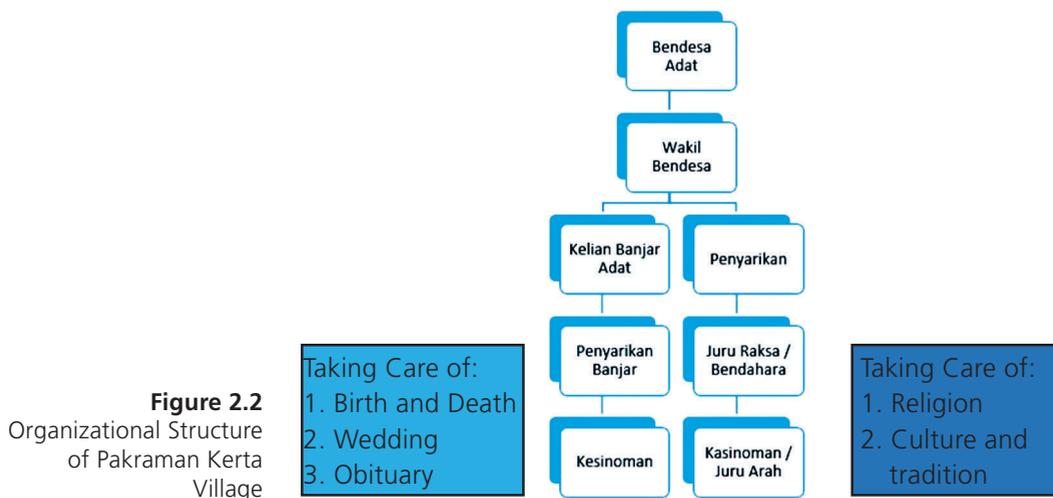
Resolving customs and religion disputes within its territory by fostering harmony and tolerance between village manner in accordance with awig-awig and local customs. Involve in determining every decision in development implementation within its territory, especially related to tri hita karana.

Conduct legal acts inside and outside Pakraman Village.

The administration in Pakraman Village is conducted by Pakraman apparatus which commonly called prajuru or hulu (paduluan). The administration system in Pakraman Village vary and is influenced by the village type itself. Types of prakaman villages in Bali can be grouped into 3 :

- 1) Baliaga Village, is old village in Bali which still have genuine strong social system which during the ancient kingdom was not influenced by the society system of Majapahit.
- 2) Apanage Village, are villages which during the ancient kingdom were intensively influenced by social system of Majapahit.
- 3) Anyar Village, is village established by the effect of community migration encouraged by the desire to seek living field.

As customary law society, customary village or pakraman has its own laws pivoting on local customs (dresta). Law arrangement which is commonly prevail in customary village or pakraman is known as awig-awig. Besides in level of customary village or pakraman, in banjar level is also known the term of awig-awig of banjar pakraman. Below are the Organizational Structure of Customary Village/Pakraman:



Administrative structure of Kerta Village (which can also be found in all Bali Province area) make it easier for the head of village and government apparatus to move the community in order to achieve goals.

According to Law of Republic Indonesia No. 6 Year 2014, the village administrative in Indonesia is divided into 6 institutions, namely:

- 1) Village Government
- 2) Badan Pertimbangan Desa (Village Consideration Board)
- 3) Community Institution
- 4) Customary Institution
- 5) Village-Owned Enterprise
- 6) Village Cooperative Agency (Village Head and Head of Village Consideration Board)

In addition, Desa Kerta also has Community Institution Forum consisting of Community Empowerment Institution, Karang Taruna (Youth Community), Family Welfare Fostering (PKK) and Security Institution (pecalang).

While for Customary Institution Forum in Desa Kerta includes:

- 1) Bendesa, consists of 8 customary villages/pakraman.
- 2) Pakaseh, consists of 5 Subak Sawah (Rice field) and Subak Air (water).
- 3) Kalian, consists of 5 Subak Abian.

This village governmental structure has been arranged into a village regulation.

Desa Kerta, as well as other villages in Bali province, has several institution at the village level, for example, Lembaga Perkreditan Desa (Village Credit Institution) under supervision of Bank Perkreditan Daerah (BPD) Bali. Another example is Koperasi Dharma Saba (Cooperative of Dharma Saba). By utilizing this village institutions the government of Bali Province provides financial aid in form of credit to village named Gerbang Sadu Program, which is social credit with low interest (0.8% per 3 years). Credit from Gerbang Sadu Program aimed to farmers, craftsmen, and traders In Kerta Village, 20% fund from Gerbang Sadu Program aimed to the development of BUMDes (Village-Owned Enterprise), and 80% is distributed to poor families who need entrepreneurial capital. Besides Gerbang Sadu Program, there is also Bali Mendara program aimed to build healthy housing for poor residents.

As commonly known, Bali is a province in Indonesia which has distinctive governance. The uniqueness has been elaborated previously. Kerta Village consists of 8 Krama Banjar or customary village, 5 Krama Subak Air (irrigation system of paddy field or wet field) and 5 Krama Subak Abian (Irrigation system of dry field). Among the 8 Banjar, there is only 1 which has cooperative that is Banjar Marga Tengah. The 5 Subak Air in Kerta Village are:

Amarta Nadhi (Penyabangan)  
Talaga Genten (Kerta)  
Pengalu (Kerta)  
Tirta Pethak (Slaren)  
Puseh (Bunteh)

Among the 5 Subak Air, only Banjar Panyabangan has cooperative of Subak air. 5 Subak Abian in Desa Kerta are:

Wanasari (Penyabangan)  
Gunungsari (Marga Tengah)  
Artha wiguna (Bunteh)  
Giri Amarta (Pilan)  
Karta sari (Kerta)

Among the 5 Subak Abian, only Subak Abian Gunung Sari in Banjar Marga Tengah has cooperative which is saving and loan cooperative. As a saving and loan cooperative, Koperasi Subak Abian Gunung Sari manages aids from the government of Gianyar Regency in 2010 of Rp 25.000.000 for each Banjar. The fund aids was distributed to community who need loan with low interest that is 1% a year.

With the previous explanation, it can be understood that there are not only one village cooperative in Kerta Village but also cooperative owned by Institution of Mandiri Mengakar di Masyarakat (LM3), a customary group in a community or Subak.

## **2.2 Determinant Factors of Biogas Innovation in Kerta Village**

Biogas Innovation implemented in Kerta Village has been able successfull therefore Kerta Village was awarded the Acknowldege of Energy Independence Village dan other acknowledgements which has previously mentioned. This obviously determine the success. Referring to field research using interview and observation, in this section will be discussed the findings in Kerta Village on the determinant factors of the success.

- 1) Organic Farmer Group "Pada Liang" with Gerakan Mandiri Pangan dan Energy (Independent Food and Energy Movement) "GEMAR PANEN".
- 2) Leadership of Kerta Head of village. Local wisdom and continous innovation.
- 3) Community organization such as Karang Taruna, Family Welfare And Empowerment (PKK) and Village owned enterprises (BUMDes).
- 4) Other parties such as Agency for Assesment Institution of Agrultural Technology (AIAT) and HIVOS.

Next part of this article will discuss each determinant factor of Innovation Success in Kerta Village.

### **2.2.1 Organic Farmer Group “Pada Liang” with Food and Energy Independence Movement “GEMAR PANEN”**

In Desa Kerta there is an Organic farmer Group named Kelompok Tani Pada Liang, which is located in Banjar (hamlet) Penyabangan, Kerta Village, Sub-District Payangan, Gianyar Regency, Bali Province. Geographic condition of Banjar Panyabangan includes small to medium hills and very fertile lands for agriculture because of an old volcano product. Banjar (hamlet) Penyabangan is approximately 55 Km from Denpasar city and takes about 1.5 hours as it passes several tourism locations such as Payangan and Ubud. The main problem initially faced by this farmer group is how to provide organic fertilizer (from cow manure) in shorter time, since if following natural process, it needs minimum 3 months to process manure into organic fertilizer.

Name of “Pada Liang” stands for “Patuh Pada Legitimasi Anggota” (Obey to Members Legitimacy”) while “Pada Liang” in Balinese means “Equally Happy”. Pioneer of Farmer Group Pada Liang was started in 2007, but was officially instituted in 28 November 2009, and has developed rapidly since then. This farmer group has slogans as follows:

- 1) Always prioritize environmental balance in every action.
- 2) Always emphasize that the community can and should be able to be independent in all aspects.
- 3) Always be open to various latest information and new parties to obtain knowledge and skill in order to approach independent community.
- 4) Being creative in utilization of all potential around us.
- 5) Awareness that access to latest technology, information, and knowledge is the rights of every community member.
- 6) Confidence that all things can be learnt and we can share experience and knowledge.

Since September 2009, organic farmers group Pada Liang has been continuously disseminate information about the use of biogas reactor as independent energy source especially to Penyabangan community and generally to society of Sub-District Payangan, Gianyar Regency, Bali Province. Pada Liang obtains support and guidance from Assessment Institute of Agricultural Technology to install biogas reactor types concrete and processing biogas left over material into kascing compost (worm). Furthermore, kascing has been made regularly by Foundation of Bali Organic Association (Foundation of BOA). In August 2009, organic farmer group Pada Liang received training on building biogas reactor type fixed dome from BIRU (home biogas) as part of HIVOS program. The result of this training is organic farmer group Pada Liang is capable of producing more optimal gas quality than other types of biogas reactor. Members of that farmer group who have received the intensive training and were then stated as understand and capable of making biogas reactor will be given a certificate and entitled to become a biogas reactor maker.

There have been totally 53 units of biogas reactor installed since 2007 – 2011 which consists of 3 types; first is 7 units of concrete type AIAT, second is 7 units of fiber type, third is 39 units of fixed dome BIRU type with the location distribution is 33 units in Penyabangan and 6 units in several other hamlets.

**Table 2.5** The Increasing of Biogas Reactor Number from 2007 - 2011

No	Number of Reactor being Builts	Location	Year
1.	1 Unit	Marge Tengah (BPTP)	2007
2.	3 Unit	Marge Tengah, Kerta, Bunteh (DISNAK, BPTP)	2008
3.	6 Unit	Penyabangan (Swadaya, BPTP)	2009
4.	38 Unit	Penyabangan (BIRU, KLH)	2010
5.	5 Unit	Penyabangan, Kerta, Merge Tengah (BIRU)	2011

Cooperating with Government of Kerta Village, Organic Farmers Group Pada Liang initiated “Gemar Panen” program, which stands for Gerakan Mandiri Pangan dan Energi (Movement of Energy and Food Independence), which has been announced since 2012. If the program is successful, the economy of village community is expected to be improved. However, until this interview was conducted in 2016, gemar panen program has not reached all hamlets in Kerta Village.

### 2.2.2 The Leadership of Kerta Head of Village, Local Wisdom, and Continuous Innovation

Villages in Bali have a unique governmental characteristic which is characterize of Bali Province and cannot be found in other provinces in Indonesia. Every village in Bali has two head of villages whose each role and function are different. As explained in Law No. 6 year 2014 on Village article 6 verse 1 states that Village consists of Governmental Village (Official) and Customary Village (particularly named Pakraman Village in area of Bali Province). Customary villages as part of village administrative are also totally involved in every development program in village especially in Musrenbang events (Deliberation of Developmet Planning). This activity has been lasted since 1991.

In 1994, Kerta Village was still categorized as disadvantage village compared to other villages in area of Gianyar Regency. One of the reasons is the absence of road access, electricity and adequate clean water in Kerta Village. In 2007, Mr. I Made Gunawan was inaugurated as head of village and led Kerta Village. As the head of village, Mr. I Made Gunawan (who was also called Mr. Dewan) was considered to bring many good changes to the villagers. Various innovations were found and applied in running the village government and development. Prior to making the innovation, Mr. Dewan analyzed the problems in Kerta Village, beacuse the natural potential in this village is quite abundant. Based on his analysis, Mr. Dewan can understand that issue in Kerta

Village is its human resources who were not capable of utilizing the potential in Kerta Village. Mr. Dewan as head of village showed the character of public entrepreneurship by implementing decentralized government – from hierarchy to participation team work. It means that a leader can have a close relationship with the community and possess a relatively flat command chain. It is showed from how he tried to involve the villagers in innovation applied in Kerta Village. For example is the cooperation with Karang taruna in Kerta Village with Educational care Forum which was conducted by communicating with elementary teachers, former teachers, as well as public figures which then hold a discussion related to enhancing human resources in Kerta Village through education. The improvement of human resources through education has been conducted by Mr. Dewan by seeking opportunities for school-age children/ college-age to elicit education by scholarship support (BIDIK MISI). Based on interview, it is known that some of the school-age children and youth in Kerta village succeeded to get scholarship BIDIK MISI to finance their education.

In addition, Mr. Dewan as a leader has been able to develop broad and good network. By having this network, Mr. Dewan was able to provide trainings for the villagers. One of the training was making Biodigester with Assesment Institute of Agricultural Technology (AIAT). By the training on making and managing biodigester, the self-income of Kerta Village was expected to be increased. Based on the interview, as a village leader, Mr. Dewan believed that a good village development is a development that focuses on improving personality, culture, and political sovereignty (ie deliberation becomes a common will).

Based on the interview, current head of village, Mr. I Made Gunawan as well as the villagers believed that the development progress that is now experienced by Kerta Village is the result of effort by previous Kerta heads of village as that is often referred to Incremental Innovation, which is

[...] a series of small improvements or upgrades made to an existing services, processes or methods (Rouse, M in <http://searchcio.techtarget.com/definition/incremental-innovation>)

Leader replacement over time lead to incremental innovation, which gradually evolves and eventually becomes a thorough innovation of development in Kerta Village. Mr. I Made Gunawan, who has been the Kerta village head for two period is also considered having an advance thinking by the villagers. Overall the two matters can be analogized as a ladder consisting of several steps, where one will support another to build one ladder to the top as the goal.

In 1994, Kerta Village was the only disadvantage village (the indicator includes the availability of road, electricity, and clean water) in Gianyar Regency. In 2007 head of village began to be chosen from general election and inaugurated. Neither did any of the head of village in every period phase eliminate nor deny the success achieved by

previous village leaders. Anything implemented by every head of village within a certain period is the foundation for success of next development program conducted by the following head of village. Currently, under the leadership of Mr. I Made Gunawan, there is no more unproductive land, every spand of land is utilized for plantation whether oranges or various types of vegetables therefore the land becomes productive and can be beneficial to increase the villagers income. Nevertheless, Kerta village still have problem of the low quality of its Human Resources, whereas the village has abundant potentials.

As a head of village, Mr. I Made Gunawan is considered to have good leadership skill and visioner views. He is also considered as agile and responsive in finding solution of problem faced by the villagers. In addition, the leadership of Kerta Head of village is also a democratic leadership which means that Kerta Head of village approached the community, always listen to inputs and suggestions from the village apparatus as well as the villagers. The head of village is also able to encourage the residents to contribute in every village development program for the enhancement of Kerta Village. It is reflected in enthusiasm of all the villagers in participating to manifest the goal of village development as tourism and energy independent village. During his leadership period, the head of village, Mr. Dewan has not only done his work inside the office, but also interacted directly with the society therefore can easily understand about what is happening among the society. Which then leads Kerta Village to its development and is awarded as Energy Independent Village.

Aspect of local wisdom found in Kerta Village which is influenced by the head of village's leadership has become more effective by the eistance of slogan Tri Sakti.

Based on the interview with Kerta Head of village, Three Sakti refers to:

Every political decision needs to be taken by Kerta Village cannot be done by the village alone but should be decided together with Administrative Village and Customary Village.

Always strived to build culture of confluence to produce ethical decisions or consencus which is ethical, weighted and qualified.

Always strived to build economical independence.

The slogan of Tri Sakti aims as an effort to :

Build personality

Build culture

Political sovereign which always prioritize deliberation and from the deliberation produce common desires

Those matters are reflected in village vision which is "humble dinamic" Tri Hitakarana which are happiness and balance achieved by protecting the relationship between

humans and The Lord, human with human and human with the nature. The philosophy of balance in order to achieve happiness is also reflected in daily life of Kerta villagers therefore it is easier for the village to set up Village Regulation on natural conservation (eg. Village Regulation on spring conservation).

In order to implement Tri Sakti, customary villages are thoroughly involved in the process of village development planning (Musrenbang). According to the head of village, this involvement has been conducted since 1991. For example, in the arrangement of village regulation, there will be several stages which involve community in arranging village, including:

Socialization concerning issue or problems which will be resolved through the setting up of the village regulation.

Exploring ideas of community by head of village or apparatus concerning the village regulation.

Discussion in detail of the village regulation.

Inviting suggestion from external parties (usually from the expert team) concerning on the proposed regional regulation.

Besides customary village, the Kerta Head of village also prioritize supervision of community towards his performance as head of village. In order to create conducive situation, the supervision is conducted by TPK (Program Implementation Team) and PK by Section Head or Kaur (Head of Affairs). In addition, to prioritize the supervision every decision taken in a deliberation is supplemented by BAP (minutes of events) signed by perjuru.

Another factor related to leadership influencing the success of Kerta Village is continuous innovation implemented in Kerta Village. Although Kerta Village has awarded various acknowledgement as mentioned previously, currently Kerta Village becomes Lab-Site model (a program initiated by Village Ministry together with Ministry of Information and Communication/Kominfo). As a modeling village, Kerta Village is also called Lab-Site Village, so there are good facilities and infrastructures in term of internet access. By becoming Lab-Site Village, BP2DK (Initiative Village Development Agent) has continuously provide assistance to Kerta Village. This agency is an independent agency aims to develop village communication. Based on interview with the head of village and Village Apparatus, every afternoon, a lot of children and teenagers will be playing and doing activities using internet to support their school activities.

### 2.2.3 Community Organization

The success of Kerta Village evolving as independent village is also the result of participation and contribution of community organizations in Kerta Village who are actively involved in manifesting the energy independent village. Those community

organizations are (1) Karang Taruna (youth organization); (2) Family Welfare Fostering (PKK) and (3) Village-Owned Enterprise (BUMDes). Below are the explanation of each community organization and the active role of the organization in village development.

#### **a. Karang Taruna (Youth Organization)**

Karang Taruna in Kerta Village named Sekataruna. Initially the members were limited only youth in Banjar level, but then it was discerned that conflict might be occurred between karang taruna if the members were only around Banjar areas. By limiting members in into Banjar levels, the seed of disintegration will actually emerge in Kerta Village because the disoute between youth from 1 or 2 Banjar will be commonly contagious to other Banjar. Considering the possibility of conflict occurrence, therefore Karang Taruna was established in village level. Every Banjar within Kerta Village area will send its representatives, who are the youth aged 15 – 40 years old to represent their Banjar in Karang Taruna organization. Every Banjar will be represented by 30 youth.

With the establishment of Karang Taruna in Village Level which is the assemble from all Banjar in Kerta Village, the conflict potential between youth in that village will be avoided. Besides, by the establishment of Karang Taruna, the other problem faced by Kerta Village which is social issue experienced by the youth such as brawl between Banjar or alcohol abuse or addiction can be overcome. Karang Taruna in Kerta Village organizes various events such as PORDES (Village Sport Week) in every two years, and also held a volleyball competition once a year. Due to these sport activities, the youth focus on preparation of PORDES and volleyball competition so that no more time is wasted for alcohol and brawl.

In addition, Karang Taruna is expected to involve actively in Village Deliberation of Development Planning and also possess ability to support the implementation of all programs in Kerta Village. Currently, every member of Karang Taruna Kerta Village is involved actively in order to support the establishment of Kerta Village. Every youth in Karang Taruna is given assignment to identify every location in Kerta Village area which can be utilized as Village Tourism potential. This activity is conducted cooperating with Village Tourism Management Agency.

The role of Karang Taruna is also visible and prominent in other program delivered in Kerta Village. One of them is the program of Economic Social Prone Women (Wanita Rawan Sosial Ekonomi – WRSE) collaborating with Social Department of Bangli Regency. In this WRSE program, karang taruna has role in introducing piglets produced by self-help karang taruna and by starting workshop and providing sewing training for those who are identified in WRSE. Another role conducted by Karang Taruna Kerta Village is the fundraising from external parties aims to help the poor in Kerta Village. By using social media (Facebook) Karang Taruna Kerta Village collaborating with Komunitas Taman Hati in Bali Province to conduct survey to poor widows but still have dependents. Utilizing

the social media will help to disseminate the information more quickly dan widely to the society so that voluntary funds can be collected to be distributed as holidays allowance (for the poor), house renovation for unfit houses, providing scholarship aids for children from poor family, and delivering free health service program (eg. Cataract surgery in collaboration with Indonesia Cataract Foundation) for poor villagers who cannot afford the health service cost. The effort of fundraising has become an achievement for Kerta Village since it is no more rely on government aids whether from provincial, regency or sub-district.

The fundraising program has also proved that Karang Taruna Kerta Village is able to cooperate with external parties to support the Head of Village working programs. The role of Karang Taruna also means in supporting efforts to make Kerta Village manages to independently proper its community. From the interview, it is understood why Kerta Head of village prefers seeking aids from external parties (the third parties), because (1) to reduce jealousy arising between communités if the aids were derived from provincial or regency government which are often delivered without coordination with the head of village; (2) utilizing network owned by head of village who indeed has wide network; (3) Kerta villagers are critical society when receiving aids therefore if there is unfairness occurs it will arise jealousy.

Karang Taruna serves to help head of village handle the community issues without relying on Provincial or Regency Government. Besides that, Karang Taruna Kerta Village has role as mediator between community to the head of village. This role enable the head of village to understand the community issues, especially problems experienced by community aged 15 to 40 years old. The identified problems then proposed to be discussed in Musrenbang and the solution will be included in the village development agenda during the period. The Kerta Head of village explained that the active administrators in Karang Taruna can be recommended to be recruited as village apparatus. In addition, Karang Taruna is also involved actively as part of Forum Peduli Pendidikan (Education Care Forrum) by assisting the tutorial programs (academic or non-academic) to every community in Pasaraman.

By involving Karang taruna in village development, Kerta Head of village has actually begun to prepare successors of the village leaders. Karang Taruna must have consisted of youth who understand the community problems, familiar with methods and ways of developing villages. Karang Taruna also receives various trainings to improve their capacity and ability in managing the village.

## **b. PKK (Family Welfare Fostering)**

Family Welfare Fostering mostly known as PKK also has important roles towards the development and improvement of Kerta Village. PKK is an organization whose members are housewives who care on the development of Kerta Village. According to Ex-Officio,

PKK is chaired by the wife of head of village. Administrators of PKK consists of women chosen in accordance with the ability and sent by each hamlets. Each hamlets send 8 cadres to join in administrators of PKK.

Programs delivered by PKK members, are inseparable from the housewife chores but contributed in village development. Programs carried out by PKK includes trainings delivered to housewives to develop creative economy such as producing cakes utilizing agricultural products in Kerta Village area. The cakes are then sold to the hamlets which then become the income for each household. in addition, another PKK program is their involvement in every social work conducted by the Village. When the village conducted a social work, the members of PKK will voluntarily provide refreshment for the workers, therefore can save the regional budget (provincial/regency) on refreshment cost. In village development matters, members of PKK also actively give advice to Village Government through Musrenbang by proposing programs which can support the skills of housewives in Kerta Village, such as sewing trainings, cooking classes, tutorials o the importance of health and cleanness, as well as other educational programs which can improve the quality of the community themselves.

In village development matters, members of PKK also actively give advice to Village Government through Musrenbang by proposing programs which can support the skills of housewives in Kerta Village, such as sewing trainings, cooking classes, tutorials o the importance of health and cleanness, as well as other educational programs which can improve the quality of the community themselves.

PKK also has Women Cooperative (KopWan) which also help in improving Kerta Village. KopWan is a saving and loan cooperative whose members are women and housewives in Kerta village. Through this cooperative every villagers who needs capital for their husbandry or agricultural business can apply for capital loan.

In delivering program to actualize Energy Independent Village, PKK and its administrators provide assistance which is helping the implementation of socializing the biodigester use to Kerta Village women and housewives. During the socialization program, PKK explains to its members and all the community concerning the biodigester use, the advantage of using biodigester and the amount of money saved if they use biodigester. This explanation draws interest of the women and community in using biodigester, however they still have limitation regarding the use of biodigester (the distance between cattles and houses is so far that is impossible to use it, or the insufficient number of livestock produce adequate manure to be processed into biogas), nevertheless, the role of PKK in socializing the utilization of biodigester has delivered understanding among the ommunity on biodigester and its beneficial as source of energy for households.

By delivering its programs and the establishment of Women Cooperative, as well as conducting other programs, PKK has contributed to the predicate of Kerta Village as Energy Independent Village.

### **c. Village-Owned Enterprises, Cooperative and Lembaga Perkreditan Desa**

Kerta Village owns several institutions contributing in the village innovation to become innovative in energy sector. In the following part will be discussed these institutions in Kerta Village.

#### **c.1 Village-Owned Enterprise (BUMDes)**

Village-Owned Enterprise (BUMDes) in Kerta Village named Astiti Praja, established in 1999 and now has been legally entitled. This BUMDes has several business focus/programs which then also become the priority programs of Kerta Village. It eventually helps Kerta Village become Energy Independent Village.

BUMDes Kerta Village also contributes to the development and improvement of Kerta Village in (1) increasing the village income; (2) contributing innovative ideas in deliberations of village development planning which are held routinely by Kerta Village. One of the innovative ideas is the development of village farmers market by the assistance of Assessment Institute of Agricultural Technology (AIAT) or "Balai Pengkajian Teknologi Pertanian" (BPTP).

Based on the interview, focus of BUMDes programs in Village Kerta are as follows:

- a) Establish village tourism unit aims to actualize the desire of the villagers to make Kerta Village as one of tourism destination by creating climate forest.
- b) Building the village market. In this market, the villagers are expected to be able to sell their agricultural products. Therefore increasing the economy welfare among the villagers by earning income from this activity.
- c) Management of building material sales through cooperation with villagers who owns trucks which can be used to deliver the building material, but instead damage the village road. By considering the the activity will damage the road, the solution is to make BUMDes business diversification that is taking profit from the activity. Besides, the head of village also understand the higher need of society upon the building material therefore BUMDes is expected to be able to meet the demand of the building material. The BUMDes business diversification is by making the building material sales profit as separate income for village treasury especially for infrastructure development funding which needs at least 2 billion Rupiah.

In contributing to the development and progress of Kerta Village Development, BUMDes Kerta Village also cooperates with Karang Taruna in improving the creativity of Kerta Village community. BUMDes provides loan service to the community with moderate interest. The form of community creativity is by paying the interest using agriculture products. Although the interest payment is conducted this way, by March 2017 BUMDes asset has been developed into 1 billion 28 millions Rupiah.

In distributing loan, BUMDes Astiti Praja also manages circulating loan from Program Gerbang Sadhu (Bali province) which was started in 2014. The loan from Gerbang Sadhu generates integrated village movement and business funding with low interest for poor households (eg. Used for craftsmanship businesss, farmers, husbandry, etc). The loan application have to be supplemented with proposal. Every proposal will be assessed based on the consideration concerning the characteristic of the debtor, the purpose and recommendation from hamlets or banjar head. Up to the interview, there were 14 application received and only 10 groups (7 groups from the poor households, 3 groups from poor non-households) will receive aids. Not all applicants will receive the funding because not all of them meet the assessment. Choosing not many groups also aims to better accountability. In three banjar in Kerta Village there are 15 groups receiving loan from Gerbang Sadhu. Among the 15 groups, there are either successful or unsuccessful ones. However, by receiving loan in group, the risk of failure will be endured by all member of the group equally. For example, if there is one group received the loan in purpose for buying cows, then the cows are dead, then the risk will be endured equally by all members within the group.

Therefore, it can be understood that the provision of loan by BUMDes basically improving the community creativity and ripen the creative ideas in order to get loan from BUMDes. BUMDes Kerta Village applies the principle of distributing loans with interest that is not burdensome. BUMDes does not want to be BUMDes which is instantly big by applying high interest but eventually the community do not get the beneficial from the loan, or even feel the disadvantage in the future. The Head of village admitted that loan delivered by BUMDES Kerta Village is the lowest loan among Bali Province.

The essential note for this BUMDes is the importance of giving attention in the future or being focus on program of biodigester development to ensure the continuous efforts of Kerta Village in becoming Energy Independent Village. It needs about 10 millions Rupiah to build biodigester. Due to the high cost, not all community members of Kerta Village can independently build biodigester. Thus BUMDes needs to either directly involved in the provision of biodigester or increasing the village income therefore communally the village manages to provide biodigester which can be used collectively by Kerta villagers.

## c.2 Cooperative in Kerta Village

Besides the women cooperative, in Kerta village also established Koperasi Tani Amerta which focuses on provision modal access, provision of community saving facility, as well as provision of farmers need which is fertilizer (distributing directly from agriculture official to Subak groups in Kerta Village).

Cooperative Tani Amerta established in 2009. It was established as the only cooperative in Bali Province and it received recognition from Cooperative Ministry at that time. In 2011, Cooperative Tani Amerta has achieved cooperative status with legal entity. Cooperative Tani Amerta has also obtain ISO on cooperative institution management which means that the cooperative quality in filing and delivering service has met the ISO standard. It was not easy at the beginning. Recruitment of members and administrators based on anyone interested in members or administrators. After gaining commitment from members as well as administrators, then the recruitment have to go through the selection process.

As an agricultural cooperative, Tani Amerta has various business program. One of them is the village's spring conservation program. As has been explained previously, the village's spring conservation has been stated in villages regulation (Perdes). In that Perdes has been regulated the sharing profit from Local Water Supply Utility and Kerta Village. Therefore the task of Cooperative Tani Amerta is managing the income from the profit sharing of the spring conservation.

Cooperative Tani Amerta also supervising Krama (grup), Subak air (there are totally 5 Subak air in Kerta Village). Group of Subak Air Amerta has even been the best Subak among Bali Province and awarded as the first winner. The task of Subak Air Amerta (as part of Cooperative Tani Amerta) is protecting the river. Group of this Subak Air supervising the cleanness of river and applying action (fine) to anyone who throw garbage into the river. There are sharing system of fine paid to Cooperative Tani Amerta 50% of the payment will be paid to the cooperative and another 50% will be given to the complainant. This system is indeed effective to protect the cleanness of water and directly contributes to achievement of Kerta Village as the winner of "kampung iklim".

Furthermore, Cooperative Tani Amerta also facilitates the introduction to animal manure processing technology. However, in this stage the animal manure processing cannot be dependable as the main program to support the economy development. The animal manure processing technology aims to (1) decreasing the enviroment damage/polution and (2) decreasing fertilizer expenditure for the farmers.

As an agriculture cooperative, Tani Amerta also becomes the information center of agriculture technology. This cooperative introduce to the farmers in Kerta Village about the system or agricultural pattern jajar legowo. This system was developed by AIAT Bali

Province. By utilizing this planting pattern, the crop can be increased from 5 tons into 7 tons each harvest. Besides, this pattern also saves seedlings expenses and more effective in controlling rats pest control.

From the various programs, cooperatives Tani Amerta earns net profit which is beneficial for its members. The profit is also utilized for the Customary Village to fund ceremonies should be held by customary village, such as reforestation (sekala – real) and also mendah tirta (niskala – ritual, which is held every six months in a year). Besides, it is utilized to buy bamboo seedlings to be used for the reforestation. The net profit is also utilized for maintaining and cleaning the waterway.

#### **2.3.4 External Parties (Assessment Institute of Agricultural Technology (AIAT) Bali Province & HIVOS)**

In previous section of this paper has been discussed about the factors influencing the emerge of innovation in Kerta Village. Next, in this section will be discussed further about the last factor influencing the innovation in Kerta Village, namely the role of external parties named Assesment Institute of Agricultural Technology and HIVOS which is one of the Lembaga Swadaya (Non-Governmental Organization) which focuses on technology and environment.

The success of biogas innovation that makes Kerta Village as Energy Independent Village cannot be separated from participation and contribution of external parties which has been actively and intensively involved in biodigester procurement and delivering trainings on biogas processing. The two institutions are AIAT and HIVOS.

AIAT Bali Province is inisiator the animal manure processing as source of Biogas. This matter was conducted by AIAT Bali Province in 2000, by processing animal manure from 9 Kerta villagers who have cows and pigs. The 9 villagers were then assisted in building biodigester. It was also done as pilot project to other Kerta villagers.

Innitially the biogas was processed by traditonal method which is making concrete system. Previously, the animal manure processing into source of biogas had not been entirely understood by residents of Kerta Village. Due to lack of knowlegde towards the new technology, the residents was not patientin using biogas. Later on in 2009, HIVOST came into Kerta Village and assist in improving the biogas quality and its management. HIVOS introduced the making and installment of biogas fixed dome type reactor from BIRU (home biogas). This fixed dome type reactor is considered able to produce more optimal gas compared to other biogas reactor models. Furthermore, HIVOS also assists in establishing Organic Farmers Groups “Pada Liang” consisted of 9 residents who innitiated the utilizing of the biogas. By the asistance of HIVOS, in 2001 eventually 60 heads of families (60 units) out of 121 Head of Families in Kerta Village manages to process animal manure into biogas. In 2017, there are 70 heads of families using various

reactors, whether from fiber, assisted with BIRU, or independently installing their own biogas.

In addition to introducing the management of biogas and building and installing the biogas or the biodigester, AIAT and HIVOS also assists in improving the biogas quality owned by residents of Kerta Village.

### 2.3 Energy Independent Village with Biogas: Utilizing Animal Manure into Biogas

Biogas is produced from anaerobic process (fermentation) of organic material such as human waste, household waste and also animal manure. The main ingredient is methane and carbon dioxide which are contained in organic material. Biogas is also one of the renewable energy sources which is expected to fulfill the need of alternative energy and organic fertilizer. One material which is commonly available in villages is cow manure. Therefore the biogas is suitable to be applied in village areas where the houses are nearby plantation or paddy field since besides as an alternative energy source, the process can also produce organic fertilizer that can be used for agriculture.

Biogas reactor or biodigester is an equipment to produce biogas. This equipment is an airtight installation so that the process of decomposition of organic material, in this case is cow manure can be optimum. The biogas reactor can decompose the emission of methane gas ( $\text{CH}_4$ ).

Methane is flammable gas, produced by methanogenic bacteria. These bacteria are found in material which can be naturally decomposed (organic) in anaerobic or oxygen free condition. Methane includes in category of greenhouse gases (GRK). Besides carbon dioxide ( $\text{CO}_2$ ) and nitrogen oxide ( $\text{N}_2\text{O}$ ) which were stated as the cause of global warming.

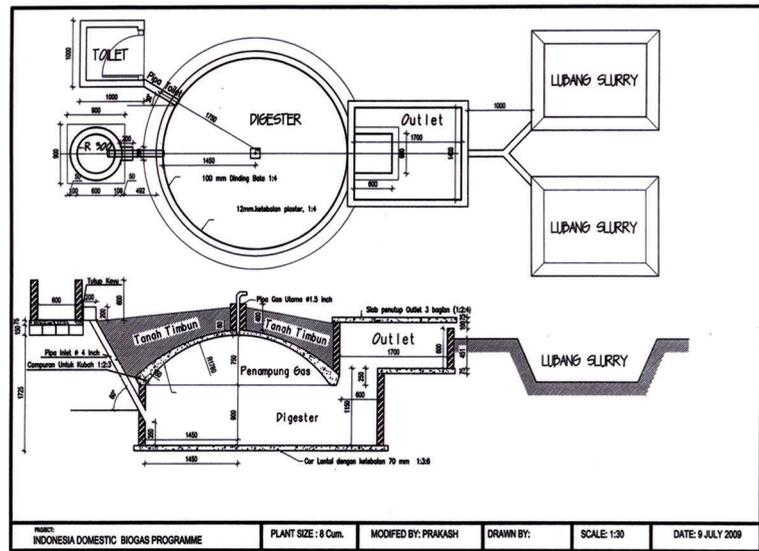
Methane gas is almost odorless and colourless, 20% lighter than air. This gas produces blue fire and smokeless. Methane produces more heat compared to kerosene, firewood, and charcoal. The heat during burning is between  $650^\circ\text{C}$  up to  $750^\circ\text{C}$ .

One (1) cubic meter of biogas equals to:

- 0,46 kg elpiji
- 0,62 liter of kerosine
- 0,52 liter diesel
- 0,80 liter gasoline
- 3,50 kg firewoods

**Figure 2.3**  
Comparison of Biogas  
to Other Heat Sources

**Figure 2.4**  
Construction of Digestes  
(Biogas Reactor) "Fixed  
Dome" Type Which Is  
Commonly Used By Desa  
Kerta



Process of making biogas is as follows:  
 Install biogas reactor (biodigester) near the cattleshed or pigpen.  
 Prepare new menure, mix one part of animal menure with 2 parts of water.  
 Well-blend the manure and water, dispose the unuseable material in the animal menure.  
 Pour the mixture into biogas reactor (biodigester) through the inlet, until  $\pm 60\%$  of the volume capacity of the biodigester. The leftover material (urine) will flows to the waste container (which then becomes organic fertilizer).  
 Let it for 15 to 20 days.

The output from fermentation process will appear in day 16 or 21. The methane which has become biogas will fill the dome-shaped space at the top of the biodigester. The gas is ready to flow through gas pipes to the cookstove. The leftover material in the container consist of biopesticide (liquid) and solid (planting media). The biogas reactor also needs to refill everyday with the mixture of cow menure and water, to stabilize the number of biogas production.

The advantages gained by producing and utilizing biogas are as follow:

Decreasing environmental pollution and create clean farms by processing the animal menure,  
 Improving crops quality and cut the fertilizer expenses by utilizing leftover compost from the fermentation process,  
 Availability of the energy source for cookstove, therefore can save expenses for buying firewoods, kerosene or LPG.

Help in reducing the emission of Greenhouse Gas, especially methane to slowdown the speed of global warming.

Creating opportunity to increase local business income, as well as new job opportunities.

Biogas furthermore can be utilized as alternative fuel which can replace diesel to produce electricity. The biogas fuel can generate approximately 6000 watt per hour by using about 1 cubic meter of biogas.

Biogas is also beneficial to reduce smoke and carbon dioxide content in the air.

The installation of biogas reactor needs a big amount of investment. But this matter can be solved by building the installation collectively, or choose ingredients which is appropriate to the environment.

Biogas reactor can be built using materials, including:

Concrete dome, with bricks as the main material,

Fiberglass, commonly used as waterproof coating

Blue plastic, made of tarpaulin material.

Currently fiberglass is the best choice to environment condition and resources in Kerta Village. Besides, the blue plastic material has been used but it was not durable and easily leaked. The bricks as main material for concrete dome will be very expensive, then the fiberglass will be the best choice.

Farmers Cooperative Amerta has allocate credit provision to assist the farmers and family-owned husbandry to obtain their biodigester. The credit is purposed to supplement the fund of unit installation in resident's houses who are interested as well as to installation repairment. Credit provided is Rp 2.500.000 for each family.

However based on the interview, although currently some families has obtained training on processing animal manure and received assistance in installing the biodigester, in the future Kerta Village will need more assistance from various parties related to their effort in achieving status of energy independent village. The first issue faced by residents of Kerta Village is being actively involved in processing animal manure and the difficulty in obtain biodigester equipment due to the fulfillment of SNI standard and permit requirements to obtain the equipment. The interview reveals that in perception of Kerta Village, the biodigester which has permittance and fulfill the SNI standard can only be obtained from HIVOS.

Residents of Kerta Village has actually understood from the local knowledge that pig manure produces gas faster with less amount of manure. This is surely a promising findings as in Bali Province itself there is no barrier to pig farming (from religious aspect) and pig farming is less costly and faster breeding.

Therefore in order ensure the sustainability and the improvement of animal manure processing into wider scale, it needs assistance in two aspects namely (1) the assistance in providing equipment/biodigester and (2) provision of pig breeding.

## **2.4 Animal Manure as Alternative Energy Source – The Impact of Innovation in Kerta Village**

Being able to producing biogas means that the community has independent energy source which is sustainable, cheap, healthy, and environmentally friendly. Biogas utilizes animal manure which always available in their neighbourhood so that the gas can be produced continuously. Utilizing animal manure to be gas also means that the households no longer need to spend money on daily fuel. Besides, since the animal manure has been processed, thus the smell pollution and methane content in air can be controlled. Energy source from biogas is also healthier because there is no residual burning as happens when using firewood which can endanger the respiration of the users.

### **2.4.1 Economic Impact**

The economic impact from the installation of 70 biodigester in Kerta Village and the establishment of Organic Farmers Group “Pada Liang” has been considered significant for the life of residents in Kerta Village, especially Banjar Penyabangan. Prior to biogas, most of households in agrarian villages use firewood for cooking since this material is available around the village. the housewives spend most of their time in seeking firewood in the nearby forrest or those who can afford will buy the firewood which costs Rp 3,000.00 – Rp 4,000.00 per bunch to be used for daily need. However after the biogas available, the housewives can save about Rp 90,000.00 – Rp 120,000.00/month for firewood. In addition, their spare time can be used to take care of/supervise their children, as well as other productive activitis such as making crafts, selling various daily needs, either by gathering themselves into female farmers group (KWT) or personal activities. About the KWT, based on the interview it can be understood that KWT in Kerta Village with its various business activities has also been grown rapidly. In 2017 there are only one KWT, in by 2011 there have been 5 KWT. Besides being utilized as energy for daily needs which is cooking, biogas gas also used as source of lighting by using modified Petromak Lamp called Petrogas (petromak using biogas fuel). The petrogas is commonly used for lighting the cowshed by placing in 2-3 points and 1 point in the kitchen. By placing the petrogas in the 3-4 points of lighting, each household manages to save the electricity expenses around Rp 15,000.00 – Rp 17,000.00/month.

The residual of biogas can be used as organic fertilizer, either directly or through process using earthworm media which later called worm fertilizer (kascing) which aims to fulfill the farmers need of organic fertilizer if the demand has been met, thus the rest of dried kascing is sold for Rp 500.00/kg at the farmers place. Each biogas reactor

produces minimum 20 kg organic fertilizer daily which equivalent to Rp 10,000.00/day, or can fertilize 3 ares (300 m<sup>2</sup>) of land. The cows urine is also made into liquid fertilizer (biourine). This activity is conducted by Organic Farmers Group “Pada Liang” by assistance from Udayana University.

The interview with families of biogas users reveals that the households expenses that can be saved are counted as follow:

**Table 2.6** Economic Impact of Utilizing Biodigester

Energy Needs for Each Family				
Number of People in Each Family	Needs of 3 Kg LPG per Person per Months	Total Needs of 3 Kg LPG per Months per Family	Price of Each 3 Kg LPG	Total Expenditure
3 People	2 Pcs	6 Pcs	IDR 16.000	IDR 96.000,-

Results of Biodigester Utilization						
Number of Cows	Fertilizer Produced by 6 Cows (Kg/ Months)	Fertilizer Price per Kg	Income Generated From Fertilizer	BioUrine Produced by 6 Cows per Months	Price of Bio Urine per Litre	Income Generated from Bio Urine
6 Cows	120 Kg	Rp 500,-	Rp 60.000,-	180 Liter	Rp 3.000,-	Rp 540.000,-

From the table we can conclude that one family can generate income from fertilizer for Rp 60.000 and from Bio-Urine for Rp 540.000 or Rp 600.000 for total income generated per month. If we calculate the income for 1 year, then the income generated is 7.2 million per year.

#### 2.4.2 Social and Environmental Impact

In this following part will be discussed the social and environmental impact from the processing of animal manure into biogas source in Kerta Village. Penyabangan Hamlet as main hamlet where Organic Farmers Group “Pada Liang” established which later on became the mainstay hamlet which has made Kerta Village was awarded the Acknowledgement of Forest Care Village from Ministry of Forestry as well as Energy Independent Village. those acknowledgement is worthy for Kerta Village (and of course Penyabangan Hamlets) because the management of processing animal manure into biogas.

Comprehensively, Kerta Village contributes in environmental conservation by the program of utilizing the animal manure. First, the program of utilizing animal manure aiming to renewable energy source which is also environmentally friendly since the

program can reduce environmental pollution. Next, as impact of fuel availability for daily household needs, there is no longer activity of searching firewood in the forest, which can also be an effort to environment conservation by protecting forest from the activity of obtaining firewood.

The acknowledgment of Forest Care Village and Energy Independent Village has led to the proud feeling of the community within and around the village. The national level awards means the acknowledge from Republic Indonesia towards the contribution of Kerta Village in forest conservation. The admiration also arises after receiving the acknowledge. The Organic Farmers Group "Pada Liang" has then become one of the references of various groups (farmer groups, foundations, governmental agencies, college, up to vocational schools) about management and utilization of cow manure. It makes Kerta Village more famous and a blessing.

Besides the pride, the awareness for hygiene and healthy living has also been increasing among Kerta Village residents. Animal manure was previously thrown carelessly and was not managed well thus polluted the environment. The cowshed or pigpen are usually nearby the houses, lack of animal manure management affected to the decreasing of household's hygiene and healthy level. After the installment of biodigester aiming to utilize the animal manure and the output is used for household need of energy, the village residents then understand the importance of environmental hygiene and health.

The installment of biodigester has made the villagers realized the importance of protecting environment and the issue of global warming. Global warming which is understood as global phenomena, happens in any part of the earth. The global warming has led the earth atmosphere which functions to cover the earth to keep the earth warm by holding part of infrared light under the earth atmosphere blanket, the condition is called as Greenhouse effect. Global warming is a problem faced globally and it needs contribution and cooperation from various parties including village community to find solution of the issue. The installment of biodigester in Kerta Village is a contribution from Kerta Village as manifestation of mitigation (intervention) towards the extreme climate change which causes the greenhouse effect, in order to reduce and slow down the process of greenhouse effect.

Biodigester can be functioned as animal manure processing equipment and can reduce the environment pollution caused by husbandry waste, reduce the forest damage, and also increase the community income by processing husbandry waste into solid waste, liquid waste as well as gas waste. Solid waste is used as fertilizer (vegetables, oranges, etc), the liquid waste is used to water the plant, while the gas waste is used to fulfill the need of energy for household (cooking and lighting).

## 2.5 Conclusion

Kerta Village as Energy Independent Village and Forest Care Village , eventually manages to meet the needs of its community through the potentials in the village which can be processed well through various organization existed in Kerta Villages such as Karang Taruna, Family Welfare and Empowerment, Village-Owned Enterprise, as well as Organic Farmer Group “Pada Liang” . The ability in utilizing the village potential eventually leads Kerta Village to become Independent Village which does not rely on Provincial Government as well as Regency Government in fulfilling their needs. This has also been supported by reliable income sources in Kerta Village that is from the agricultural sector which widely covers food crops, plantation, horticulture, husbandry, and fishery. Food crops sector and plantation products in Kerta Village has also contributed significantly, since this sector is managed by traditional institution called Subak. The success of Kerta Village as Self-Provide Village, one of which is caused by the success in conducting Biogas Innovation of Kerta Village. These innovations can not be separated from several supporting factors which has previously been explained, namely:

- (1) Organic Farmer Group “Pada Liang” with the Movement of Food and Energy Independence “GEMAR PANEN”, in disseminating information concerning the use of biogas reactor as independent energy source towards the Penyabangan residents as part of Payangan Sub-District, Gianyar Regency, Bali Province. Also in eliciting support and guidance from various parties such as Assessment Institute of Agricultural Technology Bali Province to build biogas reactor concrete type and process the biogas residual into kascing (worm leftover) compost. Obtaining training on the making of biogas reactor fixed dome type from BIRU (home biogas) in Hivos program which is able to produce more optimal gas quality compared to other biogas types.
- (2) The leadership of Kerta Head of village who roles as mediator between stakeholders involved in biogas innovation. The good communication skill of Kerta Head of village, the ability to response to the environment change and development, as well as deep insight and wide network built with other innovative villages. These matters has influenced on the development of Kerta Village towards better condition. It has been proven by his ability in raising funds and supports to enhancing the quality of human resources in Kerta Village which was still low. By empowering elementary school teachers in the village, former teachers as well as public figure, the Kerta Head of village has been able to established “Education Care Forum” to help enhancing the quality of education in Kerta Village. Although the Education Care Forum of Kerta Village has limited budget, this forum keeps running its function to identify school-aged children from Elementary School to College who have financial problem in continuing their study. For these students Education Care Forum strives to raise funding (both from government and private parties).

- (3) Community organization in Kerta Village (Karang Taruna, Family Welfare Empowerment, Village-Owned Enterprise) who help to socialize biogas and build good relationship with external parties who assist in biodigester asset.
- (4) External Parties (Balie AIAT and Hivos) who help in introducing biogas, delivering trainings on building biogas fixed dome type from Home Biogas (BIRU) which can produce more optimal gas compared to other biogas reactors as well as assist in conducting researches which later are beneficial as references in processing animal manure.

The biodigester installment to produce biogas as independent energy source which is sustainable, cheap, healthy, and eco-friendly. In addition to those impacts, there are also economic, social and environment impacts, such as:

- (1) Economic impact, that is expenses saving for fuel about Rp 90,000.00 – Rp 120,00.00/ month which usually spend on firewood. Besides there is energy sources equals to Rp 600,000.00 monthly. Thus, there is financial potential which can be used to other household expenses.
- (2) Social Impact, that is the pride as residents of village which was awarded in national level and the pride towards the Organic Farmer Group “Pada Liang” which has been reference of management and utilization of cow manure. In addition, there is awareness arised about environment and household health among the residents of Kerta Village.



**Figure 2.5**  
Interview with Kerta  
Head of Village  
Mr. I Made Gunawan



**Figure 2.6**  
Interview with Chief of  
Karang Taruna Kerta  
Village, Mr. I Wayan  
Artawa



**Figure 2.7**  
Interview with Chief  
of Family Welfare  
Empowerment of Kerta  
Village, Mrs. Ni Wayan  
Setiawati



**Figure 2.8**  
Interview with Head of  
Sub-Division of Welfare  
Mr. I Wayan Sutrita

**Figure 2.9**  
Documentation of  
Unpar Research Team  
Bandung Visit in Kerta  
Village



Tahap 1



Tahap 2



Tahap 3



Tahap 4

**Figure 2.10**  
Biogas Processing in One  
of the Resident's House  
in Kerta Village



Tahap 5

(Sources: Interview result of village officials by research team, documentation of research team, village archive)

INNOVATION to Establish  
Prominent and Sustainable Village





# LEARNING FROM KANONANG DUA VILLAGE: TRADITION THAT INSPIRED INNOVATION

## Yosefa

### 3.1 Overview of Kanonang Dua Village

#### 3.1.1 Profile of Kanonang Dua Village

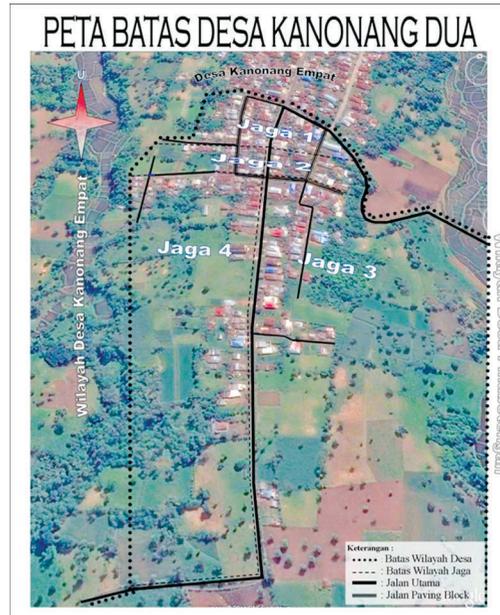
Kanonang Dua Village was established from the extension of Kanonang Village in 1978 and currently embraces 4 hamlets (“Jaga”) which was divided into territories as figured in Figure 1. This village is located within the Regency of West Kawangkoan, Minahasa Regency, Province fo North Sulawesi with the following boundaries:

North	: Kanonang Empat Village
East	: Pinabetengan Village
South	: Tonderukan Mountain
West	: Kanonang Empat Village

Geographically, Kanonang Dua Village is nearby the Capital of West Kawangkoan Regency ( $\pm 3$  km or approximately 12 minutes). The distance from Tondano (The Capital of Minahasa Regency) is  $\pm 25$  km or approximately 45 minutes and from Manado (The Capital of North Sulawesi Province) it is  $\pm 45$  km or approximately 1 hour 30 minutes away. This tropical village is classified as highland since it is located at an altitude of 850 meters from the sea level with the area coverage  $\pm 125$  Ha consisted of:

Agricultural Land	: $\pm 105,8$ Ha
Yard or Housing	: $\pm 13$ Ha
Rice Fields	: $\pm 4$ Ha
Community Forest	: $\pm 2$ Ha
Land of Village Government	: $\pm 0,2$ Ha

The location of Kanonang Dua Village on the slope of Somputan Volcano has lead to a relatively fertile land condition. Therefore the population of the village, which is with



**Figure 3.1**  
The Map of Kanonang  
Dua Village Boundaries

100% Christian, are hereditarily farmers who inherited the knowledge of ecological farming (without using chemical substances). In addition to being farmers, the residents in Kanonang Dua Village also earn a living by becoming builders, civil servants, labor, service providers, craftsmen, private employees, entrepreneur, etc. The economy in Kanonang Dua Village is supported by the village economic institutions included: cooperative, farmer groups, husbandry businesses, fisheries, and stalls.

In 2015, Kanonang Dua Village was inhabited by 247 head of families, the number of population is 789 consists of 390 males and 399 females. This village also has a distinctive local governmental structure, where the the head of village is called Hukum Tua, the head of hamlet is called Kepala Jaga, the vice of hamlet head is called Meweteng Jaga. The distinctive governmental structure is stated in Village Regulation No. 4 year 2014 concerning society.

### 3.1.2 Bukit Kasih (Hill of Love) and the Income of Residents in Kanonang Dua

Kanonang Dua Village is located close to religious tourism location known as Bukit Kasih (Hill of Love) Kanonang. This location has been famous among the local and foreign tourists with its brimstone view and beautiful landscape as well as Tugu Kasih (Monument of Love) which symbolize the tolerance of religions where in each edge of the monuments displays the symbols of religions in Indonesia). In this location, people can find 6 worship places from 6 different religions in Indonesia (Protestant Church, Catholic Church, Mosque, Vihara, Buddhist Temple and Kong Hu Cu).



**Figure 3.2**  
Religious Tourism Area  
Bukit Kasih (Hill of Love)  
Kanonang

Visitors can climb the hill towards the Cross Statue or approaching the 6 worship places. The path towards The Cross Statue is longer and steeper than towards the 6 worship places. With the existence of Bukit Kasih, the residents income have been increasing significantly. The residents who previously only relied on agriculture and plantation (which can be harvested in at most every 3 months), can now earn daily income from selling souvenirs (shirts, T-Shirts, bracelets made from burning bamboo and necklaces) in religious tourism area of Bukit Kasih Kanonang.

In addition to selling goods, the residents in Kanonang Dua are also obtain income by becoming masseurs. The visitors who feel exhausted after climbing the hills can pamper themselves with the massage of the women who have been trained on massage technique by the government directly or indirectly (most of the masseurs were trained by women who has been trained by the government). The observation revealed the strong sharing culture among the community of Kanonang Dua. They are not reluctant to share knowledge and experience to families or other residents. Generally speaking, the culture of sharing knowledge is highly applied in Kanonang Dua Village.

When will be massaged, first the visitors must take off their footwear. Then their feet are soaked into small tub filled by sulphur dissolved in water. The temperature and the massage strength can be adjusted to visitor's desire. The visitors can not only enjoy foot massage, but also other parts such as head, shoulder and hands. Different rates



**Figure 3.3**  
Massage Area in Bukit  
Kasih (Hill of Love)

are applied. During the massage, the visitors can enjoy corn on the cob or roasted corn which are offered. They can also relieve their thirst by ordering drinks sold in the stalls around the massage area. The stall owner will directly deliver the drinks to the visitors during their massage time.

### 3.1.3 Photographer and Cooperation with Canon Company

Another service offered by residents in Kanonang Dua in this hill tourism area is photographer service. In addition to taking picture with scenic background, the visitors can also take pictures with owl brought by the photographers. However, not all photographers have owl. The owl itself is considered as the substitute of Manguni bird icon (the bird icon in Minahasa symbol). Mr. Nofri Paendong (Head of Jaga 1) said that the population of Manguni birds have been scarce, therefore this icon is substituted by owl whose shape similar to Manguni bird. The difference is that Manguni birds have horn while owls do not.

Photography business in Kanonang village began to evolved since one of Sons of the Village, Mr. Stenli Sondakh (one of the village staff and photographer) taught the how to use digital camera and protable printer. This training and cooperation with Canon Company has led to significant improvement of the residents' skill in photography. The support from Canon also takes form by providing opportunity for photographers to obtain photography equipments with lower prices. This cooperation has led to delightful result that is the increasing of the residents' income.

Currently, there are 82 photographers from Kanonang Dua Village. According to Mr. Stenli Sondakh, during holiday seasons, each photographer manages to earn a profit of Rp 500,000 – Rp 1,000,000 daily. Besides Bukit Kasih area, the photographers



**Figure 3.4**  
Photographer of  
Kanonang Dua Village  
with Their Owl

from Kanonang Dua Village also offer the service around the other tourism destination outside the village, especially places where big events are being held. They even off to Manado City to offer photography service. Currently, Kanonang Dua Village is a village with highest number of photographers in North Sulawesi.

## 3.2 Innovation and Conserved Tradition

### a. Wowong Diakonia

In addition to be the first winner of Regional National Village Competition III (Kalimantan and Sulawesi) in 2016, this village was then awarded as Superior Village in category Innovative Young Village Year 2016 from Tempo Magazine, then was chosen as The Best Village in category Human Rights Year 2016 from The Ministry of Village, Development of Disadvantaged Regions and Transmigration as well as Tempo Media Group. Another reward received by Kanonang Dua Village is The award of Adhikarya Pangan Nusantara (APN) Year 2016 in field of Food Security Development from President Joko Widodo.

For the category of food security, Kanonang Dua Village was awarded because of the “Wowong Diakonika” tradition in that village. The “Wowong Diakonika” tradition has been carried out in Kanonang Village for 3 years. In local language (Tountembian) “wowong” means bamboo and in Greek “diakonia” means sharing to others. “Wowong Diakonika” tradition was adopted from the diagonal fasting observance of the Minahasa Evangelical Christian Church (GMIM) where the GMIM congregation applied yearly fasting in February to help others. The current Hukum Tua (Mr. Welly R.I. Rawis) explained that Wowong Diakonika is a form of solidarity and attention to the less fortunate people such as widows, elderly and the poor, therefore none of the society suffer from the lack of rice. Besides, this tradition aims to reduce the “dependency” toward the subsidized rice program (raskin) from the central government for the poor.



**Figure 3.5**  
Wowong Diakonia

As typically, initially, the local government's notion about "Wowong Diakonia" also received various reaction from the society. Some of the residents support the idea while some against it. However, this is when the role and determination of village leaders took part in consistently carried out the notion while intensively socialized to the community through the members of Family Welfare Development. After being continuously socialized by the village government, the community started to notice that "Wowong Diakonia" had many positive benefits for the community, therefore they accepted "Wowong Diakonia" as applicable tradition in Kanonang Dua Villag.

"Wowong Diakonia" is meant that every family in Kanonang Dua Village puts aside a handfull ("secupak" in Tountemboan Language) of rice from a litre which will cooked by the family and save it in a piece of bamboo. This is done every time the family cook. Every fortnight at weekends, all the bamboo filled with rice are collected by the village apparatus, The Kepala Jaga and Meweteng Jaga.

The rice is then distributed by the spouse of Kepala Jaga to the poor alternately (the beneficiaries will be different at each distribution). The residents who deserve the donation are group of elderly, widow and widower without income and have difficulty in surviving. The distribution is applied according to the Jaga area. For example, if all residents in Jaga 1 manage to collect 10 kilos of rice, then the rice is distributed to beneficiary in Jaga 1 area. This Wowong Diakonia tradition has been ruled in Village Regulation No. 4 on Society.

### **b. Drink Together in The Morning Tradition**

This tradition is held in Sunday morning (a week after a funeral) and must be attended by all the residents of Kanonang Dua. After the occasion the guests are required to provide Rp 10,000 for the bereaved family. This occasion aims to comfort and help the bereaved family. This tradition is also ruled in Village Regulation No. 4 on Society.

### **c. Eat on Banana Leaves Tradition**

This tradition is an inherited culture where after the 40th day of a person's death, the grieving family invite the residents using loud speaker, then the invitees are directed to sit on the provided place where food has been served on banana leaf. After meals, the guests are required to give Rp 20,000 to the family who hold the event (the compulsory donation will be noted in a book). The guests then leave the place after shaking hands with the grieving family. This event aims to help the grieving family. This activity is also regulated in Village Regulation No. 4 Year 2014 about Society.

### **d. Mandatory Hours for Students**

In addition to preserving the village tradition which can develop a sense of togetherness and solidarity, the government of Kanonang Village also imposed compulsory program for students to study at home during 16.00 – 18.00 WITA (Time of Central Indonesia). During that time the students are forbidden to wander outside homes. One form of the manifestation of the awareness toward education importance is in Village Regulation No. 4 Year 2014 concerning Society. Kanonang Society has its philosophy about the education awareness, ' I may be a farmer, but my children must have a bachelor degree'. Therefore, "many of the residents seem ordinary but all their children are bachelors even professors" (Regency of Minahasa, 2017).

Various innovation delivered by Village Government, vision, consistency and determination of mister head of village supported by solid village apparatus to manifest and preserve useful programs are the key of success for Kanonang Dua Village as the winner of Village Competition of North Sulaweso and furthermore, in National Level.

### **e. Tourism Village which Uphold Human Rights**

In 2016, Kanonang Dua Village was chosen as the best village 2016 in category Human Rights from The Ministry of Village, Development of Disadvantaged Regions and Transmigration as well as Tempo Media Group. Kanonang Dua Village deserve this predicate because the tolerance and respect among the community are always highly upheld. The configuration of tolerance is manifested into Bukit Kasih building which describes the attitude of Kanonang society. Although the residents in Kanonang are

majority Protestant, in Bukit Kasih was established six worship places from religions and belief recognized in Indonesia. Currently Bukit Kasih is a monument that becomes tourist destination which is always crowded by national and international tourists.

In addition to portray openness and tolerance, Bukit Kasih explicitly elucidates the effect of educational result of the society. Not surprisingly, from Kanonang Village, emerge bachelors and Government officials (Regency of Minahasa, 2017).

### 3.2.1 Superior Food Products

From the food security, this agrarian village produce superior food products from its agriculture and husbandry. The superior food products from Kanonang Dua Village agriculture include:

#### a. Corn

For years, the community of Kanonang Dua provide a spare stock named "Solimai", which in Tountemboan language means the corncob barn. In almost all houses (kitchen), the residents have "Solimai" for provisioning themselves in case a long dry season occurs as stockpile for the community. Corn that is stored is the whole corn (wrapped in its skin). Kepala Jaga 1 (Mr. Nofri Paendong) stated that the corn stored in "Solimai" can be consumed until the next 1 -2 years because the corn is stored above the cooking stove therefore the smoke will gradually give the effect of preservation. "Solimai" has been functioned for years in Kanonang Dua Village because this village produce a large number of corn commodity. In 2015 corn harvest reached 6.6 tons/ hectare. The number is 2.3 higher than harvest in 2013. "Solimai" is funded from the community self-financing.



Figure 3.6.  
"Solimai"



**Figure 3.7**  
Corn Is Being Dried (Left  
Above), The Milling  
Machine (Right Above),  
Corn Fine (Left Below),  
Fodder (Right Below)

Currently, there are 4 places in Kanonang Village where corn is managed and processed into maize and fodder. First the corn is dried using the sunlight, then the kernel is milled using machine. corn fine and fodder can be produced using the same milling machine. the difference lies on the level of fine and hygiene between the two.

Besides being processed into corn fine and fodder, the corn is also sold to The Religion Tourism Area Bukit Kasih Kanonang in the form of corn on cob and grilled corn. Ms. Friske Rawis (resident of Kanonang Dua as well as corn seller and photographer) said that the corn sold in this area is known as Jagung Minum Manis (Sweet Drink Corn). In addition to be sold, the corn is also processed into their speciality food named "Pedaal", that is local porridge. "Pedaal" is usually cooked in large portion in each family for breakfast. Because of it, "Pedaal" is usually shared to neighbours. This habit is also one of the unifying factors among the community of Kanonang Dua.

## **b. Peanut**

Kanonang Dua Village is the central producer of peanut in Minahasa since this village is one of the villages with largest peanut production in North Sulawesi Province. In 2015 Kanonang Dua Village harvested 8.2 tons peanuts/hectare. The numer is 2.5 ton/hectare higher than the harvest in 2013. There are two types of peanut produced,



**Figure 3.8**  
Roasted Equipment  
(Left), Peanut in  
sacks (Right Above),  
Kawangkoan Peanut  
(Right Below)

namely: red peanut and white peanut. The difference between the two lies on the crispness, where the red peanut is more crispy than the white. The peanuts are usually roasted 3 days after being harvested. Kawangkoan Peanut is famous in Minahasa as peanut that is derived from farmers in Kanonang Dua Village.

### c. Other Agricultural Produce

Other agricultural produce from Kanonang Dua Village is soybean, redbean and tomatoes. In 2015, Kanonang Dua Village produced soybean at 2.3 tons/hectare and redbean at 801 kg/hectare. Meweteng Jaga 1 (Mr. Joel Sondakh) said that the farmers are required to provide fertilizer first before they start to plant tomatoes because it needs special fertilizer to grow tomatoes. The residents of Kanonang Dua buy the fertilizer at handling agent and mix it with self-made compost.

Leading food products in Kanonang Dua Village from farms sector includes:

#### a. Cattle

The type of cattle bred in Kanonang Dua Village is Onggole Breed type, where the cattle husbandries are managed as family businesses. Kanonang Dua Village is potential



**Figure 3.9**  
Onggole Cow Breed (PO)

for cattle stockbreeding because this area has extensive and fertile agricultural area. In 2015, number of cattle in Kanonang Village was 321. It was 67 more than the number in 2013 and more than the number of families in in Kanonang Dua Village which was 247. Referring to the large number of cattle in Kanonang Dua Village and its manure, recently the Head of Kanonang Dua Village plans to process the cattle manure into biogas. Regarding the assistance from the government, Meweteng Jaga 3 (Mr. Heppi Pioh) said that 20 years ago the government gave calves to the village, but it has not been more government aid given afterwards.

The residents of Kanonang Village has a local wisdom value that put their children education as priority. To obtain better education, the residents without hesitation send their children to study in other cities. To support the cost of higher education, income earned from cattle farming is the funding solution. And as the result, Many of the bachelors and government officials are derived from Kanonang Village.

### **b. Pigs**

In 2015, the pig farmers in Kanonang Village were 34 families where each family on average has 12 – 15 pigs. The size of pig in this village is huge, which can reach up to ± 1 meter high. When a pig gives birth, the farmer will wait around until the labor ends. Pigs can deliver 10 – 14 piglet in each labor.

For the nurturing, birth and taking care of the pig's health, the farmers directly involve in helping the labor. They are not reluctant to improve expertise in helping the labor by inviting veterinarian or animal paramedics to see how to handle the pigs and what medicine used to take care of the pig's health. After observing the process, the farmers will practice it at other times when their pigs show similar symptoms. Besides that, the pig farmers in Kanonang Village are willing to share knowledge and experience in handling problems of farming. What they have done can be considered as successful since the pig farms in Kanonang Dua Village are well-cared and can produce optimally.



**Figure 3.10**  
Pigs Bred in Kanonang  
Dua Village

### c. Poultry

There are two types of poultry bred in Kanonang Dua Village, namely: duck and chicken. In 2015, this village had 14 breeder family where each family has on average 20 – 30 duck livestock. In contrast to duck, almost all of families in Kanonang Dua Village breed chicken. The type is Buras Chicken. The production of Buras Chicken in this village has been increasing annually.



**Figure 3.11**  
Ducks (Left), Buras  
Chicken (Right)

### 3.2.2 Effort to Enhance Food Security

Kanonang Dua Village has a program of utilizing yard land for food sources. Almost 90% of the community utilize their yards by growing plants that are usually used to cook. This program can be effectively practised because the residents of Kanonang Dua Village has an awareness in the importance of making the most of each span of the available land. Besides that, it is also regulated in Village Regulation No. 4 About Society Article 15.

Since being led by Mr. Welly R.I. Rawis, Kanonang Dua Village has 5 farmer groups ("Tumetees", "Esa Waya", "Tonderukan", "Mekar Tani", "Karondonan"), 1 Association of Farmer Groups (GAPOKTAN or "Serentape"), and 4 Dasa Wisma (Jaga I, Jaga II, Jaga III, Jaga IV). According to village staff, Mr. Stenli Sondakh, the existence of the groups is essential for Kanonang Dua Village because they have a significant role in defending the security food system in village.

In addition to these groups, other efforts delivered by Kanonang Dua Village to enhance its food security is visible from the Village Medium-Term Development Plan (RPJMDes) which discusses:

- a. Road construction for agricultural access
- b. Provision of fertilizer and agricultural medicines
- c. Provision of livestock assistance
- d. Training for business people
- e. Arranging the Village Regulation No. 4 Year 2014 About Society of Kanonang Dua Village which includes the efforts to improve production/village food supply.



**Figure 3.12**  
Program of Utilizing the  
Yard

The effort to enhance the village's food security was funded from The Village Revenue and Expenditure Budget (APBDes) as well as the community self-funded. During the last 2 years, The Government of Kanonang Dua Village has allocated special fund to support the village's food security at Rp 4.892.500 in 2015 and Rp 4.900.000 in 2016.

### 3.3 Driving Factors to The Success of Kanonang Dua

Referring to field research and interview conducted in Kanonang Dua Village, some factors supporting the success of Kanonang Dua Village include:

#### a. The Visioner Leadership of Hukum Tua

Mr. Welly R.I. Rawis is currently in charge as Hukum Tua (title for the Head of Village in Kanonang Dua). The succes during his leadership as Hukum Tua has made him gain trust from the whole society in Kanonang Dua. There are many policies derived from Mr. Welly's ideas which have led Kanonang Dua Villate to superior village. One of his policies is reactivate the tradition in Kanonang Dua, such as: "Wowong Diakonia" tradition and "Solimai" tradition. He also applies compulsory activity for students to study at home during 16.00 – 18.00 WITA (Time of Central Indonesia). The vision and mission of Kanonang Dua also reflects the visioner leadership of Mr. Welly.

**Table 3.1** Periods of Hukum Tua Leadership in Kanonang Dua Village

Name	Position	Period (Year)
V.I Kasenda	Hukum Tua	1978 - 1990
Joddy Sondakh	Hukum Tua	1990 - 1996
Syane Sondakh	Pejabat Hukum Tua	1996 - 1996
L.J. Kasenda - Poli	Hukum Tua	1996 - 2002
D. Lumintang	Plh Hukum Tua	2002 - 2002
Dj. H Sondakh	Hukum Tua	2002 - 2011
Stedy Warangkiran	Plh Hukum Tua	2011 - 2011
Welly R.I. Rawis	Hukum Tua	2011 - Sekarang

Current vision of Kanonang Dua is "Establishing prosperous, independent, democratic, secure and comfortable Kanonang Dua Society", with the following explanation: Manifesting prosperous, competitive Kanonang Dua society in globalisation era by striving to perform independent and open democratic govenment in favor of class of Religion, Tribe and Race.

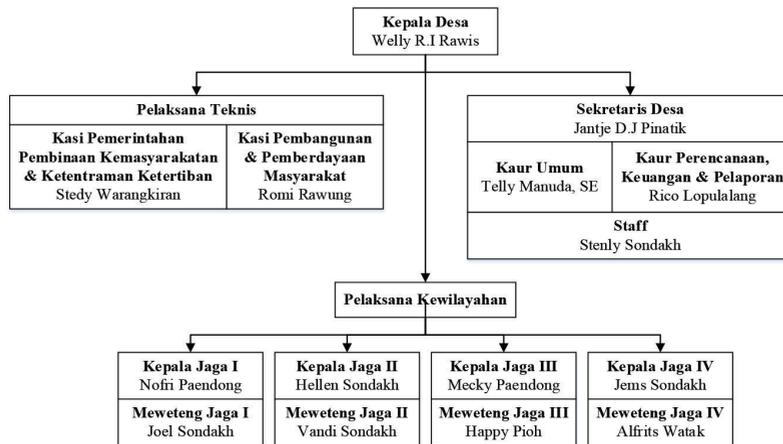
In order to manifest the vision, missions are arranged in 3 sectors, namely:

- 1) Government Sector
  - a. Utilizing government administration including books of village administration, land, land and building tax.
  - b. Manifesting transparent, accountable, participative financial management performed with solicitous and discipline budgetting.
  - c. Empowering village's institution including: Village Consultative Board (BPD), Institution of Village Community Empowerment (LPMD), Karang taruna (Youth Organization), Family Welfare Fostering (PKK), elderly, and other professional organizations.
  - d. Creating security and public order.
  - e. Optimizing public service.
- 2) Economy dan Development Sector
  - a. Undertake the development of village infrasructure, especially transportation infrastructure to improve community's economy.
  - b. Perform the infrastructure development in every Jaga and surrounding area.
  - c. Optimalize the function of Village-Owned Enterprise (BUMDes) in order to improve the community economy.
  - d. Establish the education infrastructure to improve science.
  - e. Build adequate health infrastructure for the society.
- 3) Community Welfare Sector
  - a. Accelerate the quality improvement of public health.
  - b. Encourage the community to optimize the available working opportunity, in order to create community with adequate income.
  - c. Enhancing political awareness through political coaching for the community.
  - b. Manifesting the relationship between villages aims to improve community welfare.

## **b. Active Involvement of Village Apparatus**

The active involvement of village apparatus in implementing the vision and mission of Kanonang Dua Village has led to superior village. The involvement happens by the assistance conducted by Apparatus of Kanonang Dua Village in implementing the village development, community coaching, and society empowering. The coaching related to governmental activities (in form of socialization about the village government performance and development plan) is periodically delivered to the community.

Supervision upon the implementation of the village government itself is conducted periodically by Badan Permusyawaratan Desa (Village Consultative Board). The establishment of BPD is a first step of Kanonang Dua Village in manifesting democracy and implementing the village's governmental activities in sectors of government,



**Figure 3.13**  
Governmental Structure  
of Kanonang Dua Village

development and community. BPD itself serves as an institution which protects customs, arrange Village Regulations, accomodates community aspiration, as well as conducting supervision upon the implementation of village government.

In practise, the Apparatus of Kanonang Dua Village are assigned related to the apparatus main tasks and function. In addition, they are also assigned to join training activities, technological coaching, and socialization held by Central and Provincial Government, as well as Regency Government. The program include training on capacity building for Village Apparatus, Village Finance management training, and socialization related to Security and Public Order (KAMTIBMAS).

The government of Kanonang Dua Village gives special award to the former Apparatus of Kanonang Dua Village. It was conducted to appreciate the performance of those village apparatus. The award was given in form of Cash Award as well as Charter of Recognition for the deceased Village Apparatus.

### c. Running The Government in Accordance with the Law Basis

Every activity in Kanonang Dua Village is conducted in accordance with the law basis set by central government, municipal government or local government, such as:

- 1) The distribution of Village Fund Allocation in Kanonang Dua Village is based on the Regent Regulation of Minahasa No. 68 Year 2015 concerning the procedure of allocation, Stipulation of Provision, Distribution and Use of Village Fund Allocation in Minahasa Regency.
- 2) The distribution of Village Fund in Kanonang Dua Village is based on the Regent Regulation No. 43 Year 2015 on The Procedure of Allocation, Stipulation of Provision, Distribution and Use of Village Fund in Minahasa Regency.

3) Kanonang Dua Village has had RPJMDes (Village Medium-Term Developing Plan) since 2014 and was amended in 2015 due to applicable Regulation and Laws.

Regularity in the government system prevents the confusion for the Kanonang Village Government in composing report required for a competition. The law basis used for the Report of Government of Kanonang Dua Village when participating in Village Competition Level Regional National III (Kalimantan and Sulawesi) Year 2016 covers:

- 1) Law No. 6 Year 2014 on Village.
- 2) Government Regulation of Republic Indonesia No. 43 Year 2014 on Implementation Regulation No. 6 Year 2014 on Village.
- 3) Government Regulation of Republic Indonesia No. 60 Year 2014 concerning Village Fund Sourced from State Revenue and Expenses Budget.
- 4) Regulation of Minister of Home Affairs No. 111 Year 2014 concerning Technical Guidelines for Village Regulation.
- 5) Regulation of Minister of Home Affairs No. 113 Year 2014 concerning Management of Village Financial.
- 6) Regulation of Minister of Home Affairs No. 114 on Guidelines for Village Development.
- 7) Regulation of Minister of Village, Development of Disadvantage Region, and Transmigration No. 1 Year 2015 concerning Guidelines of Authority based on Origin and Authority of Village.
- 8) Regulation of Minister of Village, Development of Disadvantage Region, and Transmigration No. 2 Year 2015 on Code of Conduct and Decision Making Mechanism of Village Deliberation.
- 9) Regulation of Minister of Home Affairs No. 81 Year 2015 concerning Evaluation of Development of Village and Administrative Village.
- 10) Regulation of Minister of Home Affairs No. 82 Year 2015 on Appointment and Dismissal of Village Head.
- 11) Regulation of Minister of Home Affairs No. 83 Year 2015 on Appointment and Dismissal of Village Apparatus.
- 12) Regulation of Minister of Home Affairs No. 84 Year 2015 concerning Organizational Structure and Village Governance.

#### **d. Attention from Village Government Towards The Residents of Kanonang Dua Village**

The Government of Kanonang Dua Village always conduct Planning and Development Deliberation Kanonang Dua Village annually, which is held in January. The participants consist of the elements of community, village government, Local Government Agency, Institution of Community Service, Community Leaders, and Religious Leaders. The material discussed in the deliberation is about the village management which covers sectors of governmental, development, community coaching, and empowerment. In

addition, it is also discussed the regulation making aims to support activity of village arrangement such as Village Regulation on Medium Term Village Development Plan, Government Village Workplan and Village Regulation concerning Village Revenue and Expenditure Budget. Before the Planning and Development Deliberation, there were discussions in every Jaga aims to listen to the resident's aspiration.

In addition to those matters, the village government also give attention to the residents of Kanonang Dua Village by:

- 1) Developing a clear master plan on the zone of rural economic development which is contained in Middle-Term Village Development Plan. Besides that, in near future a village market will be build.
- 2) Arranging policies related to development of community economic enterprises (micro economic enterprises) in the rural area in the form of regulations of Creating and Development the Regional-Owned Enterprises.
- 3) Providing assistance or cooperation in order to increase serenity and order, especially approaching Christian Holidays there will be night patrolling in the community.



**Figure 3.14**  
Documentation  
of Planning and  
Development  
Deliberation of  
Kanonang Dua Village

- 4) Conducting community empowerment through counseling and capital aid for the community.
- 5) Possessing program of alignment to underprivileged residents by giving capital aids, in which regulated in Medium-Term Village Development Plan.
- 6) Delivering periodical coaching towards community organization by giving simultaneous fund aids as well as improving the organization administrators capacity.
- 7) Having policy to encourage the development of Integrated Health Service Post (Posyandu) by delivering coaching and giving stimulantous fund aid for health cadres.
- 8) Having policy to encourage the development of Family Welfare Empowerment (PKK) by delivering training for members of Family Welfare Empowerment and allocating annual fund for the program of the Family Wefare Empowerment.
- 9) Establishing policy to encourage the implementation of community mutual cooperation through Village Regulation No. 4 Year 2014 on Society.
- 10) Delivering aid to Village Library by supplying books.

### e. The Active Involvement of Kanonang Dua Villagers

The amount of Community Institution in Kanonang Dua Village indicates the active involvement of community in Kanonang Dua Village. There are many Community Institution exists such as: Institution of Village Community Empowerment (LPMD), Family Welfare Development, Youth Organization (Karang Taruna) "Maesaan", Farmer Group, Paternity Organizational Group, Maternity Organizational Group, Youth (Teenagers), Professional Organization Group, and Customs Groups.



**Figure 3.15**  
Documentation of Jaga  
Deliberation in  
Kanonang Dua Village

Besides that, residents of Kanonang Dua Village also takes part in succeeding the compulsory education program established by the village government. In that program, the students are required to study at home during 16.00 – 18.00 Central Indonesia Time (WITA) and they are prohibited from wandering outside the home during those hours. That activity has been regulated in Village Regulation No. 5 Year 2014 on Society.

The participation of Kanonang Dua villagers is also noticeable from their attendance in Jaga deliberation. The attendance ration between men and women in the deliberation is equal because the activity is an effort to exploring ideas which later will be delivered in Development Planning Deliberation of Kanonang Dua Village.

Residents of Kanonang Dua also conduct a self-help, self-manage, and mutual cooperation for developing and community in Kanonang Dua Village. The programs can be executed well since Kanonang Dua Village still hold firmly the Mapalus culture and because of the assistance of the execution team.

#### **f. Fertile Geographical Area**

If a straight line drawn, Kanonang Dua Village is only 4 km from Mount Sopotan which is the most active volcano in Sulawesi. It leads to fertile condition of land in Kanonang Dua Village. The condition is beneficial to the villagers of Kanonang Dua because most of the residents earn a living from agriculture and farms. It is beneficial for the farmer due to the flourish crops and grass and plants stock available for fodder in Kanonang Dua Village.

Besides giving advantage for Kanonang Dua Village, Mount Saputan also leads this village prone to volcano eruption. Besides, some area around Kanonang Dua is vulnerable to landslide. In order to anticipate these disasters, Kanonang Dua Village conducts several programs, includes:

- 1) Conducting deliberation on disaster identification planning.
- 2) Creating disaster risk map.
- 3) Delivering knowledge and simulation in encountering disasters.
- 4) Establishing the Service of Village Disaster Management through Decision of West Kawangkoan Sub-District Head.
- 5) Disseminate and communicate to villagers of Kawangkoan Dua related to disaster response through loud speaker and social media.
- 6) Building places, paths, ada evacuation means. Currently there has not been signs for those parts.



**Figure 3.16**  
Map of High Disaster  
Risk of Kanonang Dua  
Village

### **g. Attention from Kanonang Dua Government Towards Environment**

The government of Kanonang Dua Village has programs aims to preserve the environment around the village especially near the springs. The programs include:

- 1) Presevation of the environment around the springs as well as Tourism Area Bukit Kasih Kanonang Dua.
- 2) Conducting reforestation around the springs.
- 3) Maintaining the Green Belt around spring areas.

## **3.4 Conclusion and Recommendation**

### **3.4.1 Conclusion**

Referring to the previous explanation, it can be concluded that the success of Kanonang Dua cannot be separated from:

- a. The leadership of current Hukum Tua, Mr. Welly who is visioner. Mr. Welly gains trust from villagers of Kanonang Dua after they see the result of policies to which he has implemented, especially policies to preserve old tradition which has almost been forgotten by Kanonang Dua Village such as "Wowong Diakonia", morning drinking together, eat on banana leaf and "Solimai". These policies has led Kanonang Dua Village to award of Adhikarya Pangan Nusantara (APN) Year 2016 in sector of Dvelopment of Food Security from President Joko Widodo, as well as other awards.

- b. Active involvement of Kanonang Dua Village Apparatus in implementing well all policies established by Hukum Tua. Training and appreciation obtained by village apparatus make them capable to do their responsibility as well as possible.
- c. All governmental forms conducted in Kanonang Dua have been run in accordance with law basis established by central government therefore the government is well organized.
- d. The Government of Kanonang Dua give attention to the residents therefore the policies generated are appropriate and applicable well by villagers of Kanonang Dua.
- e. Active involvement of Kanonang Dua villagers has generate actual benefits from all policies established. The spirit of mutual cooperation has been the base of development in Kanonang Dua Village.
- f. The fertile natural condition in Kanonang Dua Village due to the close location from Mount Soputan which is an active volcano. It is beneficial for farmers and stock breeders, especially to produce superior food products from Kanonang Dua Village. The superior food products in agricultural sector include corn, peanut, red beans, soybeans, and tomatoes, while in husbandry there are cattle, pigs and poultry.
- g. The Government of Kanonang Dua Realizes the importance of spring for the village. Therefore Kanonang Dua Village has several programs aim to preserve the environment, especially around the springs.

### **3.4.2 Recommendation**

Below are some recommendation that can be given to Kanonang Dua Village after conducting this research:

- a. Kanonang Dua Village owns many livestock and a vast amount animal menure from the husbandry. Currently the animal menure has been processed into compost. It is suggested to process part the animal menure into biogas therefore the residents of Kanonang Dua can reduce cost of gas for cooking.
- b. Currently the government of Kanonang Dua has possessed equipment to process waste, but they do not have the knowledge in using the equipment. Therefore it is suggested to deliver training firsthandly from competent parties in using the equipment.
- c. Institutionalization of village tradition and leading programs has been manifested in the form of Village Regulation aimed to support the sustainability of beneficial programs in the village. Even the if head of village is replaced, the program still

continuously implemented. Therefore a serious attention should be given from the regional government towards the institutionalization of village innovation program and tradition.

- d. Education is one of the key factors which supporting the success of residents in Kanonang Dua Village to enhance the villagers level of live. Therefore the compulsory study hours can be applied in other villages.

**(Sources: Interview result of village officials by research team, documentation of research team, village archive)**

INNOVATION to Establish  
Prominent and Sustainable Village



# IV

## VILLAGE DEVELOPMENT INNOVATION BASED ON LOCAL WISDOM IN LEU BIMA REGENCY WEST NUSA TENGGARA PROVINCE

**Pius Sugeng Prasetyo**

### **4.1 General Description of Leu Village**

Leu Village is one of the villages within area of Bolo Sub-District Bima Regency, Nusa Tenggara Province and located at western of the sub-district's downtown. Leu Village's history began long prior to 1808 when Leu Village was in a community derived from the Malayan tribe, La Leu indigenous tribe and the native of Oi Sanahi Community. They lived on fertile land, in the middle of community green plantation, and lived in harmonious and peaceful in spite of the primitive life. The presence of these three tribes mingled in building Islamic civilization, which is proven by the remaining of one clay pile (*Woto*) as worship place (*Langga/Hidi Sigi*), and they developed one community with religious value and the place is known as *Rasa Ntoi* (Old Village).

Another evidence indicates that one community that once inhabited territory which is Leu Village at present is the existence of an old cemetery of Malayan tribe, Daeng Bao. At present it is wellknown as Rade Bao. The cemetery lies on a small hill about 200 meters from the south of Leu Territory. Referring to the previous description about one community which was consisted of three tribes, Malayan, The indigenous of La Leu and The Native of Oi Sanahi Community, therefore the residents Leu Village was dominantly originated from the indigenous of La Leu who lived around the paddy-fields area La Kambuwu at the foot of Mount Maleme precisely from the west of present Pandede community Donggo sub-district.

The power of customs in their social class contains values of honor which is sincere, heartfelt and smart, therefore according to the customs it is an honour to posses title of *Ubada*, *Ubaba* and *Umaba*.

*Ubada*, people at the highest level, called as *Daeng* and *Tati*.

*Ubaba*, people at lower level, called as *Uba*.

*Umaba*, people at the lowest level, called as *Ama* and *Ubaba*.

Predicate and mentioning: Daeng, Uba, Ama and CHAPTERa aim to honor the oldest residents and community especially for men who have been married become the head of a family. This tradition is still firmly held by the community of Leu Village.

During the next civilization (1900 – 1913) the word *La Leu* had never been heard among the community at that time, they more easily said Leu, when they were asked by other communities. The word *Leu* in local language meant *Ayun* (swing) and the word *Ayun* was identical with moved (Lao), thus eventually the word LEU has been shining until now as the name of Leu Village, which stands for Lingkungan Elok dan Unggul (Beautiful and Superior Environment).

Territorial area including residential, mountainous, cultivation area, moor and rice-field are bordering with :

North	: Rato Territory
South	: Campa Territor
West	: Rade and Tambe Territory
East	: Timu and Sanolo Territory

This borders were prior to old area (*Rasa Ntoi*) with current Leu Village area. In the same year, in the middle of making a living: Hamzah Uba Sama was authorized the community during 1900- 1913 and really has a knight character (*Dou ma mbani ra disa*), asked the customs community at that time, including: *Sale Ama Muna*, *Sa Bin Rebo (ompu cepe weki)*, *Gani Ama Sama (uba ngao)*, *Kambo Ama Mina*. *Sama Uba Tima (usman bin hamzah)*, *Ama Beda La Waja* and others to make an entire consensus that their environment should be moved (*nggee raka*) closer to road asset (*nggee deni lao ncai bari*). The deliberation was agreed and they were moved from the old place to the new place, precisely in 1914. This community movement also gave different colours to their perception, thus partly of the community moved outside the region (*kampo jompa*, *kampo bali*, and other *kampo bada dompu*), some moved to *kara* community and moved to Rasabou Village therefore until now in Rasabou Village has been famous with the *douleu ese*, with the intonation and pronunciation (*sentu*) still colouring their life which was identic with ancient Leu.

As time went and shone witnessing the Leu community moved from old residential area (Rasantoi) to new area, their life was not apart from farming activity. Besides, they were looking for other activity, for the males they traditionally caught fish in sea (*lao moti ra ndala*) and sometimes hunted animals (*lao nggalo*) while the females were busy doing traditional weaving (*Muna Ra Medi*) from cotton raw material (*Wolo*) which until present time is famous as *tembe Nggoli dou Leu*.

Life conduct, tradition and culture was embedded in their community where they used to live in eternal culture nuance and tradition which was commonly colouring their

lifestyle such as the culture and tradition of *Tekala La Ndoli* (Climbing Mount *La ndoli*) of which the top of this tradition and cultural activity was after they plant rice (*Mura Ra Mboto*) at the nursery (*Hidi Dei*), they would be rushed to change clothes and then in a large group went to climb Mount *La Ndoli* accompanied by melodious sound of *Preretan* (*Sarone*) played by *Landa Uba La Unu* therefore famous as *Ufi Teka La Ndoli* while violin was played by *La Tanda Uba Yasin*. This culture is still exist generally within beloved Dana Mbojo society, especially in Leu community. After reaching the peak of *La Ndoli* they walked here and there enjoying the breeze of mountain air and magnificent landscape of nature, viewed the rice crops they had just planted together as well as admiring from apart the beautiful blue sea and listening to the relaxing noise of wave breaking and faded away. Soon after, came the dusk in blushing reddish hue, limiting their presence in the peak mountain. They slowly walking down to community where they were belong

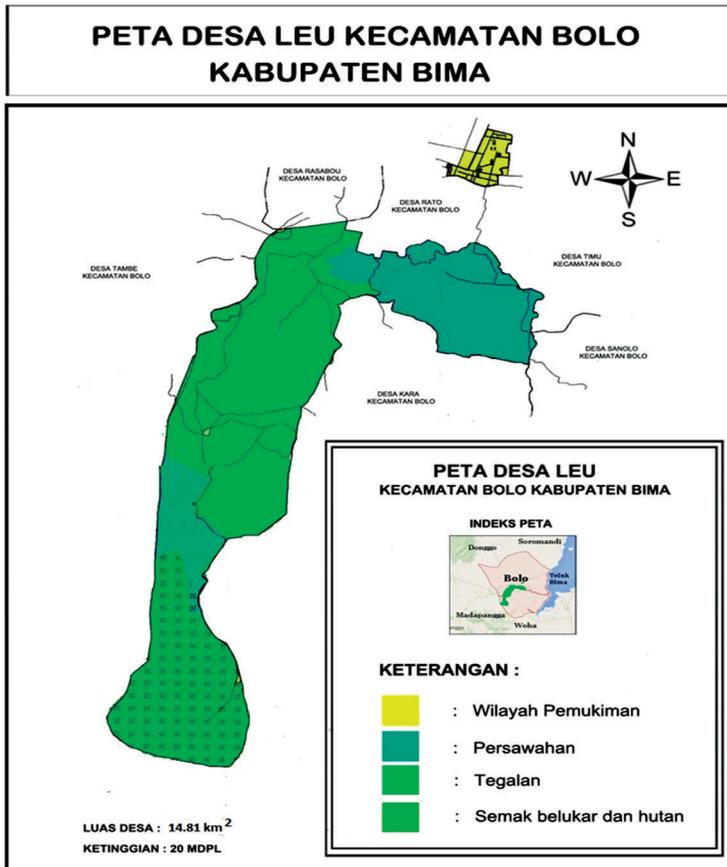
So is the tradition in story. After Hazah Uba Sama became the leader in community environment prior to the move from old environment to the new environment, afterward was continued by Saleh Ama Muna as the environment head at that times and after they moved to new environment in 1914, was raised Ama Beda La Waja (1930 – 1942). With the coincidende of fresh air derived from the independence of Republic Indonesia in 1945, was raised *La Huse* Head with the government center in his own house.

Leu Village was established in 1948 under the leadership of H. Ishaka. Along with the the healthy and clean leadership of the village head together with village's official and guards struggled to make *Kara* community became part of Leu Village because previously *Kara* had been independent community with village's borders as follow :

- East bordered with Timu Village, Bolo sub-district.
- North bordered with Kananga Village, Bolo sub-district.
- West bordered with Rato Village, Bolo sub-district.
- South bordered with Rato and Kara Village, Bolo sub-district.

The Village Leu at a glance both before as well as after being completely established as a village is recorded in a single sheet of history and graved as the village profile. Leu Village experienced a tremendous fire disaster which drowned the residents into deep sorrow for quite long time because their houses are burnt down by fire, just like a year of drought erased by a day rain. The residential and area where the fire disaster occured is known as *Mudu Village (Kampo Mudu)* until now.

Leu Village area is located on Lintas Sumbawa road, 1 km from the heart of Bolo Sub-district capital, Bima Regency, Nusa Tenggara Barat Province with altitude 0-200 meter above the sea level. Leu Village is on a plateu with slope therefore it has 3 types of soil. Total area of Leu Village is 14.81 km<sup>2</sup> divided into 5 hamlets, 6 Community Association (RW) and 12 Neighbourhood Association (RT). The area is divided into:



**Figure 4.1**  
Map of Leu Village

- Residential area of 10.02 ha/m<sup>2</sup>
- Agricultural area of 179.00 ha/m<sup>2</sup>
- Plantation area of 12.25 ha//m<sup>2</sup>
- Offices, cemetery, and other public facility of 11.08 ha/m<sup>2</sup>

Population density in Leu Village in 2016 is 257 people/km<sup>2</sup>. The population number has experienced the increasing and decreasing over the years. In 2013, the population was 4010, in 2014 it increased to 4,025 and in 2015 it was diminished into 1,763; and in 2016 the population was 3,812 people, consists of 1,933 males and 1,897 females. The population number by hamlets are as follow:

**Table 4.1** Population Number Males and Females in Leu Village

Name	Population Number Males (person)	Population Number Female (person)	Total
Mawar Hamlet	370	347	717
Melati Hamlet	356	357	713
Seroja Hamlet	356	401	755
Sepeda Hamlet	319	320	639
Garuda Hamlet	487	501	988
<b>JUMLAH</b>	<b>1933</b>	<b>1879</b>	<b>3812</b>

The residents in Leu Village consists of various ethnic group namely Sasak, Malayan, Samawa, Bugis and Javanese and from other islands. The population are mostly Islam. They live side by side in an atmosphere of mutual cooperation which has been pace of their daily life. There is a social habit namely tradition of being together. The solidarity and togetherness values are reflected into the term of bar which means help each other, working together to accomplish a goal without expecting any compensation. Another terminology absorbed from Arabic and has been part of culture in Bima island. Besides, there is term of maksaira which means visiting each other to build kinship relationship and term of makmaked which means listen to each other and give respect to each other. The faith upon customs which is grow and develop in Leu Village community is upheld and performed according to religious values.

In education sector, the average of time spent for education is 10.09 years or equals to second grade of junior high school. Literacy number is 99.47% or almost all residents in Leu Village can read or write. The success of education in Leu Village is supported by cooperation agreement between village government and education institution in the village, particularly character building.

**Table 4.2** Literacy Number of Leu Village 2015/2016

Indicators	Sub Indicators	Total	
		2015	2016
Education Level of People Age Over 15 Years Old	Alphabet blind	43	15
	Graduated from Elementary	774	818
	Graduated from Junior High School	668	686
	Graduated from Senior High School	1.287	1.329
	Graduated from Diploma 1	0	0
	Graduated from Diploma 2	32	28
	Graduated from Diploma 3	18	23
	Graduated from Bachelor	204	216
	Graduated from Master	1	1
Total		3.543	3.645

At health sector, There was zero mortality of pregnant mothers and infant occurred in 2016 and there was no malnourished infant. Expected life number in Leu Village in 2016 was 63.47 years old. All the households in Leu Village are accessible to clean water. The level of community participation in posyandu (integrated health post) during 2016 was 77.57%. The Average achievement level of Leu Village's Health Program in 2016 was 65.34%. Every household has already had their own latrines. Therefore in 2016 Leu Village is declared as Village of Open Defecation Free (ODF).

**Table 4.3** Health Level in Leu Village

No	INDICATOR	SUB INCIKATOR	NUMBER	
			2015	2016
1.	Infant Mortality	1. Number of infant born	47	50
		2. Number of infant mortality	0	0
2.	Nutrision and Toddler mortality	1. Number of toddlers	263	300
		2. Number of Malnourished Toddlers	-	-
		3. Number of Well Nourished toddlers	243	285
		4. Number of less nourished toddlers	20	15
3.	Immunization	1. Immunization Coverage of polio	139	110
		2. Immunization Coverage of DPT-1	51 children	44 children
		3. Immunization Coverage of BCG	51 children	44 children
4.	Expected Life Number	Expected Life Number	63,58 Years Old	-
5	Coverage of Life Needs Fulfillment	Total number of households accessible to clean water	994 RT	1001 RT
		User of Well pumped water	52 RT	52 RT
		User of digged well	-	
		User of spring	-	
		User of Public hidrant	45	15 RT
		User of rainwater	-	
		User of Dew	-	
		User of water pipes	780	787 RT
		Others	-	.....RT
		10. Total households not accessible to clean water	994 RT	1001 RT
6.	Latrine Owners	1. Total Housholds own latrine/WC	538 RT	887 RT
		2. Total Households that do not own latrine/WC	-	-
		3. Users of MCK (Public facility for taking shower, washing, and latrine)	275 RT	114 RT

Revenue per capita in Leu Village in 2016 was divided into:

- Agricultural sector Rp. 27.373.209.600
- Farms sector Rp. 2. 995.062.400
- Trade sector Rp. 186.635.52
- Home Industry and SMEs Sector UKM Rp. 435.482.000

Total family income was Rp 31,105,920,000/year. Average income per family member was Rp 8,160,000/year. Unemployment number in Leu Village was considerably high. For the level of family welfare in Leu Village, from 1001 families in 2016, there were 179 underprivileged families. Below is table of economic condition in Leu Village:

**Table 4.4** Economic Condition of Community in Leu Village 2015-2016

No	INDICATOR	SUB – INDICATOR	Total	
			2015	2016
1.	Unemployment	Number of productive-aged population 15-56 years old	2.014 people	
		Number of population aged 15-56 years old	2253 people	2.141 people
		Female population aged 15-56 as housewives	959 People	965 People
		Female population aged >15 years old unemployed due to disability	2	2
2.	Income	Income Source		
		Agriculture	Rp. 21.456.131.000	Rp. 27.373.209.600
		Forestry	-	-
		Plantation	-	-
		Farms	Rp. 2.895.629.000	Rp. 2. 995.062.400
		Fishery	-	-
		Trading	Rp. 182.881.000	Rp. 186.635.520
		Service	-	-
		Lodging Business / Hotel etc	-	-
		Tourism	-	-
		Home Industry	Rp. 426.724.000	Rp. 435. 482.000

3	Welfare Level	Number of families	994 Kel.	1001 Kel
		Number of underprivileged families	179 Kel	179 Kel
		Number of welfare families 1	234 Kel	236 Kel
		Number of welfare families 2	398 Kel	402 Kel
		Number of welfare families 3	183 kel	184 Kel
		Number of welfare families 3 plus	-	-

The security and public order of Leu Village community is including conducive because during the last 2 years , 2015 – 2016 there has not been any racial and religion conflicts, fights, theft and robbery, gambling, drugs, prostitution, murder, and sexual crime. The participation of community in security an public order sector is represented by the the presence of 6 siskamling (Environment Security System) posts and 15 hansip (civil defense). Besides being partisipative in security and public order sector, the community of Leu Village are also actively invloved in participative development planning which has been proclaimed by Leu Village, Musrenbangdes (Village Development Planning Deliberation), and mutual development.

**Table 4.5** Security and Public Order in Leu Village

NO	INDICATOR	SUB INDICATOR	Jumlah	
			2015	2016
1.	Conflict of Sara (Tribes/ethnicity, Religion, Racial	Conflict between groups	None	None
		Conflict between ethnicities	None	None
		Religion related conflict	None	None
2.	Brawl	Fight cases	None	None
		Fight cases with life causing death	None	None
		Fight cases leaving badly injured victims	None	None
3.	Theft and Robbery	Theft/robbery cases	None	None
		Theft/robbery cases with violence	None	None
		Theft/robbery cases with local criminal	None	None
4.	Gambling	Gambling causes	None	None
5.	Drugs	Drugs cases with local residents as perpetrator	None	None
		Number of cases where the residents are the victims	None	None

6.	Prostitution	Prostitution cases	None	None
7.	Murder	Number of murder cases	None	None
		Number of murder cases which victims are local residents	None	None
		Number of murder cases with perpetrators local residents	None	None
8.	Sexual Crime	Number of raping cases	None	None
		Number of raping cases towards children	None	None
		Number of out of wedlock pregnancy	None	None
9.	Kidnapping	Number of kidnapping cases	None	None

The government of Leu Village has run well and balance both the executive as well as the legislative (BPD). The community village in Leu Village includes women organization (Family Welfare Fostering), youth organization (karang taruna), LKMD (village community resilience institutions), mutual coordination group, and customary institution (resolving residents conflict). Village Revenue and Expenses (APBDes) Leu in 2016 was Rp 1,194,210,748 which was divided into revenue at Rp 1.194,201,748 and expenses Rp 1,144,921,748 which was distributed into:

- 1) Governmental organization (penyelenggaraan pemerintahan) Rp 501,656,145.
- 2) Development Rp 457,820,603.
- 3) Society Fostering Rp 54,245,000.00.
- 4) Community Empowerment Rp 131,200,000. With SILPA Rp 711,000 and financing Rp 50,000,000.

Below are achievements that have been obtained by Leu Village:

- 1) Achievement as Prospective Village Implementing Good Governance on Village Financial from Ministry of Finance RI Year 2016.
- 2) Reward as Village of Open Defecation Free (ODF) by Health Office Bima Regency Year 2016.



**Figure 4.2**  
Achievements That Have  
Been Obtained By Leu  
Village

**Table 4.6** Implementation of Leu Village Government

INDICATOR	SUB INDICATOR	TOTAL	
		2015	2016
Village Governmental	<b>Village Deliberation Board</b>		
	Office	Available	Available
	Budget	Available	Available
	Book of BPD Decisions	Available	Available
	Book of BPD member data	Available	Available
	Book of BPD Activities	Available	Available
	Book of BPD Secretary	Available	Available
	Typewriter/Computer	Available	Available
	<b>Village Government</b>		
	Office Building	Available	Available
	Book of Village Apparatus Data	Available	Available
	Village Apparatus	Complete	Complete
	<b>Village Administration</b>		
	General Administration	Available	Available
	Financial Administration	Available	Available
	Population Administration	Available	Available
	BPD Administration	Available	Available
	Development Administration	Available	Available
	Other Administration	Available	Available
	Area Map	Available	Available
	<b>Accountability</b>		
	Village Head Accountability to the Superior Government	Available	Available
	Submission of Informatio About Accountability Report to BPD	Available	Available
	Publicity on the Subject of Accountability	Available	Available

**Table 4.7** Infrastructres and Facilities in Leu Village 2016

No	Type of Facility and Infrastructure	Number
1	Village Office	1
2	Senior High School Building	
3	Gedung SLTP	
4	Elementary School Building	2
5	MI Building	-

6	Kindergarten Building	2
7	Mosque	3
8	Musholla (Islamic Prayer Room)	1
9	Village Market	
10	Polindes/Posyandu	1
11	Institution of PKK	-
12	Poskamling (Environment Security Post)	2
13	Brige	1
14	TPQ	8

Vision of Leu Village is “ Manifesting Leu Village as Independent Village Through Agricultural and Small Industry Sectors” and the values underlying the vision are:

For years, Leu Village has been holding a title as developing village category. The village is proud of the title because it indicates that they have sufficient resources which need to be managed optimally for improving the society welfare. Most of the residents are farmers and farmer labourers, some are raising livestock although in small scale, commonly for short-term investation.

The vision will be achieved by 5 mission, namely :

- Improve and increase facilities and infrastructure required for enhancing the Human Resources through formal and informal education.
- Cooperate with the agriculture field officers in order to improve the farm produce.
- Improve the Agricultural Effort.
- Improve and Manage Village-Owned Revenue.
- Perform a good and clean government through the implementation of Regional Autonomy.

Along with the Village Mision to improve and increase the facilities and infrastructure, the goal and target for the next six years are as follow described and in table 4.8:

- Goal 1 : Open the village isolation, with the target: Availability of infrastructure and basic facilities in the village;
- Goal 2 : Cooperate with the agricultural promotion field officer, with the target: Improving the Human Resources on Agriculture

**Table 4.8** Goal, Target and Performance Indicator of Forwarding Mission

<b>Goals</b>	<b>Objectives</b>	<b>Work Indicator</b>
Open the village isolation	Availability of infrastructure and basic facilities in the village	<ol style="list-style-type: none"> <li>1. Availability of formal and non formal Schools</li> <li>2. Number and length of roads and bridges.</li> <li>3. Number of hamlets accessible to clean water</li> <li>4. Number of hamlets accessible to electricity</li> </ol>
Cooperate with the agricultural promotion field officers	<ol style="list-style-type: none"> <li>1. Improving human resources concerning agriculture</li> <li>2. Increasing the good and service trading, investment between villages</li> </ol>	<ol style="list-style-type: none"> <li>1. Intensity level of land transportation connecting to neighbour villages</li> <li>2. Number of accessible village.</li> <li>3. Value of trading good and service transaction</li> </ol>

In order to achieve the Welfare among Bima Society Mision, the goals and targets for the next six years are described below and in the table 4.9:

Goal 3 : Improve public health level, targeted at: Improving health status of the community, including indicators of decreasing the infant mortality, the increasing of expected life number and decreasing the number of malnourished

Goal 4 : Improve the public education level, aimed at: improving the primary and secondary education by providing school facilities and infrastructures and improving education quality through trainings.

Goal 5 : Improve community and village innovation, with the aim of: improving the workforce knowledge and skill indicated by the increasing number of skillful workforce.

**Table 4.9:** Goal, Target and Performance Indicator of Welfare Mission

Goals	Objectives	Work Indicator
Improving community health level	Improvement of Community Health Status	1. Number of infant imortality 2. Expected life number 3. Malnourished number
Improving community education level	Quality improvement of primary and secondary education	1. School facility and infrastructure 2. Education through training delivery
Develop village community's innovation	Development of workforce's knowledge and skill	Number of skillful workforce

Development stage in 2017 is accelerating the infrastructure development particularly roads, bridges and other infrastructure networks, effort in improving human resources. Development stage of 2017 is mainly directed to support the achievement of the following:

- Increasing the availability of strategic infrastructure particularly road, bridge and drainage network constructions.
- Reinforcing human resources development.
- Sharpening poverty reduction program and activity.
- Increasing production, productivity, value added and revenue from agriculture, farms, Small Enterprises and Skill.

By analyzing internal and external factors, there are a strategic issues identified in Leu Village within several following years that is the lack of community culture in utilizing knowledge and technology and the village government has not optimally synergized with regency government in developing information and communication technology.

## 4.2 Innovations in Leu Village

In order to overcome the strategic issue and implement vision, missions, goals and targets, the government of Leu Village make several innovations to foster the development in the village.

#### 4.2.1 Technology-Based Village

Following up one of the strategic issues which is the lack of community culture in utilizing knowledge and technology, Leu Village attempts to use technology, which are:

- Internet and hotspot network
- Computer and network devices;
- Public administration and population management based on village information system
- Village Website (<http://leu.desa.id>).

The internet, hotspot and computer devices in Leu Village is used for daily governmental activities by Leu Village's apparatus. Hotspot in Leu Village is also freely used by the village community. They usually utilize wi-fi until midnight in the village office yard due to the limited range of hotspot therefore the village residents, especially the youth, converge around the village office to utilize the hotspot. This activity circumstantially leads to interaction between the residents and make them know each other with whom previously not.

Public administration and population management in Leu Village has been based on Sistem Informasi Desa (SID). The SID has begun since September 2016 accompanied by Kolaborasi Masyarakat dan Pelayanan untuk Kesejahteraan (KOMPAK). KOMPAK is a partnership between governments of Australia and Indonesia in supporting poverty alleviation program.

Sistem Informasi Desa (SID) is an initiative taken by COMBINE Resource Institution, a civil organization of persistent and dedicative people in developing alternative information and communication based on community established in 2009 in Yogyakarta. The earthquake on 27 May 2006 that devastated Yogyakarta and part of Central Java area was unforgettable experience for the village officials. The damaged of village files has driven COMBINE Resource Institution to develop Sistem Informasi Desa (SID). Sistem Informasi Desa which was previously called SIDESA then changed into SID which has double meanings, narrow and broad.

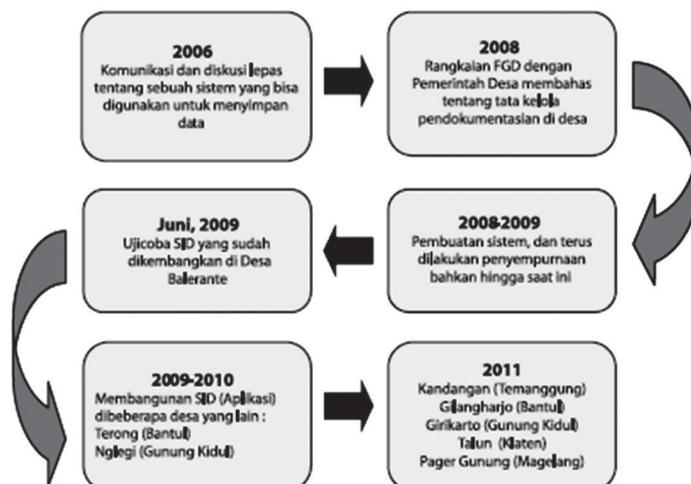
In narrow meaning, SID is intended as an application to assist village administration in documenting village-owned data in order facilitate its searching process.

While in broadly, SID is meant as a set of system (mechanism, procedure up to utilization) aimed to organizing resources available in the community. In this broad definition embodies the mission of COMBINE organization which aims to facilitate participants of COMBINE network to create autonomous communities, to be able to organize collective decision making process in a democratic manner and conducting public control.

Basically, each village has its own characteristic in communicating and delivering information to its residents. Initially, village have information system developed by mechanism of announcement board and oral communication. Due to the evolving of data size, an alternative facility is required to manage the data to be more conceptual and systematic. Sistem Informasi Desa (SID) is actually responding to its environment development and now becomes an embryo capable to accelerate the public information disclosure, transparation and accountability in good governmental governance. However as previously reviewed, the establishment of SID was innitially driven by the requirement to improve capacity in data warehousing, data accessing and data processing about village. This efectiveness and efficiency aspects was emphasized the background of SID establishment. Some reasons that was colouring the establishment of SID, including:

- 1) Many of the village documents could not be saved when the earthquake occured, hence there was a need for changing files from hardcopies into soft file.
- 2) The requirement immediate finding/accessing data
- 3) Some villages have already started using paid system, but it was perceived to burden the village financial.
- 4) A lot of data request from supra-villages to villages which cannot be immediately fulfilled.

Village information eventually leads to a convergent point in solving the data problem faced by village administration better. Not only for internal needs, but moreover the need from external parties including supra-village government which frequently requires the villages data for various purposes. These needs have been processed into the development of SID , which was later on established and introduced to villages in



**Figure 4.3**  
Flow of SID  
Development History

mid of June 2009 in Balerante Village Kemalang sub-district, Klaten Regency, Central Java and in 2010 in Terong Village, Dlingo Sub-district, Bantul Regency, Special Region of Yogyakarta.

Structurally, like common information system, the design of SID program was developed using 3 users in managing this system. The three users are:

Super Admin : those who can conduct database and program changes.

Administrator : those who can update the data.

More broadly users : those who can only read/view the account but cannot make editing.

There are 8 (eight) systematic stage flows in Sistem Informasi Desa (SID), but the intensity level is adjusted to the needs, namely:

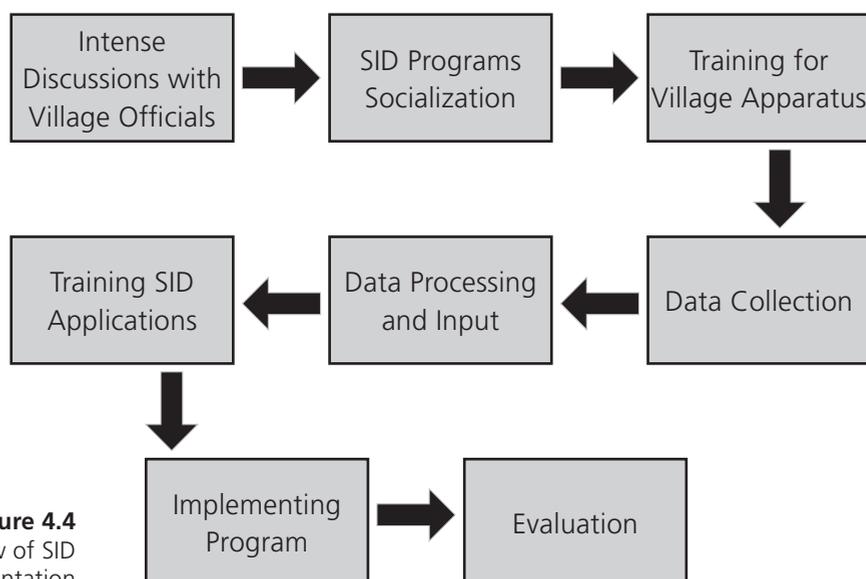
- 1) Intensive discussion: is conducted at the beginning of the program, intended as an effort to collect the village administrative requirements as well as the community needs in extensively, in order to be included in the content of the system. This discussion will commonly produced a requirement list as well as method to be used in implementing the program, from collecting data activity to the stage of implementation and publication to the community.
- 2) SID Program Socialization: is delivered to all community, using media of community meeting, community radio, announcement board, etc. This activity is aimed to get participation from the residents, at least assisting the data submission.
- 3) Training: is delivered to village apparatus as an effort to introduce the existing software to village government apparatus, in order to elicit inputs or additional content needed as well as preliminary introduction about the beneficial and application technique.
- 4) Collecting data: is conducted in order to fill the content. It can be derived from the available source at the village administrator, however a new data collecting is possible to obtain richer and more valid data. This process can be done by village apparatus through government structural in the village, but it can also be done by the residents using the method which has been previously agreed.
- 5) Data input/process : is commonly done by those who has adequate capacity in operating computer. It can be done by Karang Taruna as well as capable residents. Data input processing requires a number of computer devices thus the input process can be completed fast.
- 6) SID Application Training: is delivered after all data have entered the system and is ready to operate. This training is commonly delivered to officials who give service

to the public. However, due to the ease of use, training usually also involves other village apparatus, therefore if the service official is not available, process of public service can be performed by substitute personnel.

- 7) Program implementation is a stage of SID program operated for public service. Public service using this system will indeed be much faster compared to manual service delivery.
- 8) Evaluation and refinement will continuously be done in order to complete and improve the existing system. However, since SID is limited as an application and has not yet been an extensive system, the evaluation and refinement process is frequently limited to technical matters, not the substance, for example data utilizing by community, or method that can be used to maximized the utilization of SID.

Currently Leu Village has been in the implementation stage of the SID program. Leu Village also has an SID administrator who always studies accompanied by KOMPAK in using the method from COMBINE Resource Institution.

Leu Village has also developed village website at domain <http://leu.desa.id> accompanied by Badan Prakarsa Pemberdayaan Desa dan Kawasan (BP2DK) in program of Sistem Informasi Desa dan Kawasan (SIDeKa). Sistem Informasi Desa dan Kawasan (SIDeKa) is an information system which is able to collect, process as well as present data corresponds to the need of Village Government and Supra-Village Government. SIDeKa is designed in term of data accuracy to manifest a village which is independent, democratic, transparent and accountable. The village is expected to play a role in



**Figure 4.4**  
Flow of SID  
Implementation

organizing its households and at the same time becomes a step of village contribution in solving the problems of nation.

This information system is developed by principles of participation, transparency and accountability in encouraging community empowerment as well as establishing democratic values in village level. Begun with planning stage, data warehousing, data processing and utilization, all are done by village administrator together with public openly. In the implementation, SIDeKa is designed as an information system which is grown from the bottom and assisted by institutional arrangement and policy from the superiors. Cooperation with various parties will be very important and need to be organized well to be effective and systematic.

SIDeKa has bottom-up nature to accomodate local data requirement. SIDeKa in particular limit has top-down nature because required several data entry to the system. Nevertheless, the need for top-down data is expected to be inclusive and acommodated as far as possible by SIDeKa. SIDeKa should be at least beneficial for information and resource governance. Information governance provides information needed by the village community, using existing media in the village, such as village web, community radio, community journalism, SMS gateway. Resource governance covers resources utilization of existing resources in the village for increasing the community welfare. Through SIDeKa, the village is expected to obtain ability in creating development planning, increasing the public service quality, increasing the village community partisipation, increasing transparency and accountability of village financial. In addition, village is expected to be capable in overcoming the problems of poverty, health, and increasing the village economic productivity.

Leu Village accompanied by Badan Prakarsa Pemberdayaan Desa dan Kawasan (BP2DK) has succeeded in creating a website domain although still in very simple form which can be accessed through <http://leu.desa.id>, the content includes:



Figure 4.5  
Website of Leu Village



**Figure 4.6**  
Social Media (Facebook)  
Leu Village

- Lates village news which is regularly updated by the village officials.
- Village profile containing history and Leu Village map.
- Village Government (Village administration, BPD, and village institution).
- Village news, Population, Budget, Gallery, as well greeting from village head.
- Link to Leu Village’s Social Media which is facebook account of Leu Village.

#### 4.2.2 Village-Owned Enterprise (BUMDes) LANDOLI

BUMDes Landoli was established on 11 January 2016 where the initial capital was derived from village equity capital at Rp 50,000,00.00. the fund is distributed to the community through various stages or process. The establishment and development of BUMDes is aimed to facilitate the village to be autonomous and independent. The establishment of BUMDes will be instruments for increasing the Pendapatan Asli Desa (PAD). The increasing of PAD will be capital for development activities through local initiative (village), therefore gradually will reduce dependency to regional and central government. By the available of PAD, the village government will have capability to plan and implement the village development to slowly release themselves from the proverty because it has been able to provide infrastructure and other important facilities not only wait for the development from regional or central government.

The establishment of BUMDes was located in Leu Village office, by delivering socialization and village deliberation. In the village deliberation, the administrators of BUMDes Leu Village was formed and named “BUMDes Landoli” by issuing the Decree of The Village Head No. 03 Year 2016. After more than one-year operating BUMDes which initially focus on offering service and trading began to be extended into a new company in Leu Village by utilizing entire village assets in the scope of village that is potential to be consumed by the residents themself up to be exported abroad. Below is the short profile of BUMDes Landoli:

Name of BUMDes	: Landoli
Village	: Leu
Sub-District	: Bolo
Regency	: Bima
Province	: Nusa Tenggara Barat
Year of Establishment	: Senin, 16 Januari 2016
Base of Establishment	: Masyawah Desa
Adress	: Desa Leu
Phone number	: 0823-4054-3863
Type of Business	: Service, Trading, dan Barns
Financial Sources	: APBDes TA 2016 (DDA)
Assets of BUMDes	: Rp. 50.000.000,00
Account of BUMDes	: Bank NTB, 0412202605109
Name of Head	: Muhammad Irfan, S.Pd
Vision	: Being an enterprise of Leu Village which is healthy, developed, and trusted and capable to serve neighbourhood community in order to achieve life full of safety, peace and welfare..
Mision	: Developing BUMDes as economic locomotive of community in Leu Village .
Type of Payment	: POSPAY, Electricity, PDAM, TV Cable, BPJS, Ticket of Pelni, Flight ticket, Telephone, Multi Finance, dll; Grain purchasing; Provision of subsidized/ nonsubsidized fertilizer Provision of pesticide / herbicide fertilizers; Procurement of goods and services; Construction service; Distribution of merchant's special financing; Institutions of working and skills trainings, and entrepreneurship for Leu village community.
Corporate Culture	: Independent, Synergic, and trusted

### 4.2.3 Local Economic Development

Leu Village also develops their local potency in order to increase the village economic. In addition, for sustainable life of community themselves, Leu Village encourages several developments of their local potency, including:

#### a. Typical Mbojo Cloth from Leu Village

Leu Village is one of the villages in Bima Regency which still develops traditional woven cloth which is made by hands using traditional loom instead of using modern loom. This traditional weaving has been practised in hereditary manner. The fabric is known as Mbojo cloth or cloth of Bima people. This woven cloth has been existed since the ancient kingdom of Bima and was frequently used by the women there. Mbojo cloth has various motives and hues. Mbojo woven cloth which is currently quite famous is a



**Figure 4.7**  
Traditional Woven Cloth  
Products



**Figure 4.8**  
Weaving Activity by  
Village Women



**Figure 4.9**  
The Weaving Activity is  
Done by the Women in  
Leu



**Figure 4.10**  
Traditional Loom

combination of three colours and woven into a zig-zag motive. This cloth, according to the native of Bima, suitable to be used in any weather, warm or cold.

There is also a tradition for the women who do the weaving to wear cloth on their head like a veil from Mbojo woven cloth named Rimpu. Rimpu for married women will be different with Rimpu for the singles. If the woman who does weaving has not been married, then rimpu is worn covering all her face, only show her two eyes. But for the married women, they are allowed to uncover their face while wearing the rimpu. Mbojo cloth in Leu Village is sold at price range of one hundred thousand up to millions rupiah, depended on the complexity of cloth motive desired. Leu Village also has packaging with the name of Mbojo Cloth Leu Village on it as an identification that the cloth is made in Leu Village.

The weaving activity is done by the women in Leu Village at their own houses. It has been their routine activity and is commonly done in the morning.

## b. Bedek/Jarimpi Leu Bolo Village

Bedek or in Bima language is called Jarimpi as a kind of plait handicraft which has been occupied by Bima community since long ago. But these days the craftsmen as well as the needs of badek has been decreasing. But in Leu Village there is a group of residents who called themselves as Group of Bedek "O'O RAGI" Leu Bolo Village which produce the bedek. At the past times, accoring to one of the craftsmen in Leu Village, jarimpi is bamboo plaited into mats which were needed for wall or room divider within a house. In other word, jarimpi is one of building materials. Since Jarimpi is a necessity, it is not surprising that almost all adult men were skillful in plaiting Jarimpi. Later on, emerged a bedek group "O'O RAGI". Process of making Jarimpi is not very complicated or difficult. The tools used are quite simple, including small-sized jigsaw, *Cila Golo* and *Cila Ncara Ncua* (Kind of Cila to cut the bamboo), and the main material is bamboo. Bamboo is cut and sliced, the size of length and width is adjusted to the Jarimpi will be plaited.



**Figure 4.11**  
The Making of "Bedek"  
– Plaited Bamboo For  
House Wall



**Figure 4.12**  
Group of the “Bedek”  
Maker

The bamboo is cut into several slices or in local language is called as *Dipina*, then trimmed or refined using special knife. Afterward the bamboo slats are drained under the sunlight then plaited into Jarimpi. The prices vary from Rp 15,000.00 for thin Jarimpi and Rp 60,000.00 – Rp 65,000.00 for the thick ones.

### c. Producing the Snack

In addition to woven and bamboo handicrafts which are the mainstay of economic activity based on local wisdom and potency, some residents also conduct another home economic activity which is producing snack such as crackers or cookies. The snack is then sold to local market or to other regions

It is interesting to observe that besides creating marketable product, they also open job opportunity for other residents in that village. As found in the survey that the residents who run the home industry are assisted by employees who are entirely from Leu Village. This condition certainly helps those who are unemployed,



**Figure 4.13**  
Processing the Snack  
Crackers



**Figure 4.14**  
Processing Cookies



**Figure 4.15**  
Processing Cookies

therefore can be beneficial to overcome the labor issues in Leu Village. some household economic activities open the opportunity to all of the residents in that village without any binding contract, which means that they can work as daily workers in that home industry. This activity contributes to reduce the unemployment burden in Leu Village. Working opportunity which is created by the residents eventually open the opportunity for productive-aged residents in Leu Village.

### 4.3 Closing Note

It can be said that Leu Village has experienced a very progressive development. The last achievement where Leu Village won the first place of Village Competition at Bima Regency level indicates that the village is getting capable in improving the development quality and its sustainability. If utilizing indicators that commonly used to measure a village's superiority such as aspects of food security, energy renewable, local business activity, sanitation/health, technology utilization, education, and democratic involvement, then Leu Village has experienced improvement in several aspects by the innovation made.

One example of the innovation in aspect of information technology development and utilization which has been developed by conducting cooperation with external parties, in this case Non-Governmental Organization Friedrich Ebert Stiftung – Indonesia. This innovation indeed supports the effort to manifest the principle of clean and good governance. This cooperation in technology sector affects constructively to the application of transparency principle which is implemented in preparation of the village development budget therefore the community can be easily informed the budget plan. It also means that the community not only know but also oversee the fund distribution in village development.

Strategic factor that should be noted is the leadership of the village head. As other villages which has been more advance in innovation, a leader and leadership is a key factor in conducting a breakthrough for village progress. In this case a directive and collaborative leadership is needed in changing mindset and motivating the village residents. This is by no means an easy step to be realized especially in changing habits or behavior which may be previously not conducive to be involved further in developing activities.

The leadership impact demonstrated by Leu Village Head is eventually show a delightful result particularly from the residents involvement which is conducted continuously. It should be noted that the continuous participation will be strengthened if the activity based on culture or local wisdom which is still maintained. It is evident in traditional woven cloth production activity that is attached with the daily life of women in Leu Village. Besides, the local potency/treasury will also contribute a great support to sustainable productive economic activity such as the creating of “bedek” – house wall made of bamboo which is supported by the availability of many bamboo plants grown and continuously taken care in Leu Village.

The idea to make a kind of roadmap proposed by the Leu Village Head is a constructive idea to make the dream or other aims of Leu Village come true. This idea should be supported by various parties who can collaborate with sustainable accompany therefore the village development can be systematic and dynamic. Leu Village and its unique characteristic of potencial both human as well as natural resources has demonstrated its ability in collaborating with various external parties thus can make innovations which result in improvement for community welfare. Development innovation based on its potencial and local wisdom will be foothold in ensuring that the development conducted still protect the village’s identity and sustainability.

**(Sources: Interview result of village officials by research team, documentation of research team, village archive)**

INNOVATION to Establish  
Prominent and Sustainable Village





# SUPERIOR AND SUSTAINABILITY INNOVATION IN MAJASARI VILLAGE

## Phenomena of Working abroad as Accelerator of Village Development Based on Community Empowerment

**Kristian W. Wicaksono**

### **5.1 Preface and General Description of Majasari Village**

#### **5.1.1 Preface**

This research was started by randomly searching villages with achievement in Indonesia. One of the information found was Majasari Village which was the winner of National Village Competition Regional II (Java and Bali) in 2016. This achievement was considered exceptional since it was hardly ever a village in in West Java Province succeeded in achieving the first place at National Level of Village Competition. It triggered curiosity of this reasearch team to find profound information and data about Majasari Village.

Equipped with information about the achievement, this research team from Parahyangan Catholic University (Unpar) visited the Majasari Village. Based on the preliminary observation, reasearch team caught an impressive image, from the magnificent physical structure of the Village Office up to activities of the village apparatus which was still delivered until late at night. It indicates that the Village Head as well as the apparatus of Majasari Village have a quite intense level of activity.

At the same time with the visit of research team from Unpar, The Government of Majasari Village also accepted a study visit from Regional Government of Cianjur Regency and North Sulawesi Province. It is confirming the indication that Majasari Village has become a reference source from various stakeholders who want to learn about the village governance, Community Empowerment and Public Service.

One of the unique breakthroughs in Majasari Village is to facilitate Indonesian Migrant Worker (TKI) from Majasari Village who work abroad. The Village Government of Maasari issued Village Regulation No. 3 Year 2012 Concerning The Protection of Indonesian Worker from Majasari Village. What is interesting from this Village Regulation is the target group of the policy as beneficiaries is not only aimed at the residents of Majasari Village who work abroad but also empower participatively their families who are stay in Indonesia.

Based on a number of those indications, this research team attempted to raise a research question: "How are the innovations in Majasari Village, in term of shape, process, result, effect, and driving factors of the innovations?" Therefore, this report is aimed to describe about the innovations in Majasari Village as a village in Indonesia which succeeds in performing excellent governance so that empower the participation of its community.

The sytematic presentation of this research is divided into six sections, namely:

- 1) Preface and General Description of Majasari Village.
- 2) The Innovation Forms in Majasari Village.
- 3) The Innovation Process in Majasari Village.
- 4) Result and Effect of The Innovation in Majasari Village.
- 5) The Innovation Driving Factors in Majasari Village
- 6) Closing which consists of Conclusion and Recommendation

### **5.1.2 Profile of Majasari Village**

Majasari Village is located in West Java Province, precisely in Sliyeg sub-district, Indramayu Regency. This village consists of 4 Rukun Warga (Community Association) and 16 Rukun Tetangga (Neighbourhood Association)

Reviewing the typology aspect Majasari is an agricultural village with the area width is 295.02 hectares. The area consists into:

Paddy field	:	201,04	Ha
Public Facility and Infrastructures	:	36.7	Ha
Residential	:	35,16	Ha
Plantation	:	1,35	Ha
Cemetery	:	1,35	Ha
Offices	:	0,58	Ha

The orbital distance of Majasari Village to the Center of Sliyeg sub-dictrict is 1 km while the distance from Majasari Village to Indramayu Regency is 20 km, and from Majasari Village to Bandung as The Capital of West Java Province is 221.3 km.

Majasari Village area borders with 5 other villages in Sliyeg Sub-District, Indramayu Regency. The detail of villages bordering with Manjasari village are :

North	: Majasih Village
South	: Sleman Lor Village and Tambi Lor Village
West	: Bulak Lor Village
Eats	: Sliyeg Village

Based on data in 2015, the population number of Majasari Village is 3,677 people consists of 1,807 males and 1,870 females. While the number of Family Head in Majasari Village is 1,230. From educational level, commonly, the residents of Majasari Villager (50%) are elementary school graduates, 24% are Junior High School graduates, 18% are Senior High School graduates, and 5% are College graduates. While the percentage of residents who did not finish the elementary school is 18%.

In terms of livelihood, the residents of Majasari Village are commonly work as farmers (36.22%) and farm labourers (32.05%). Besides, 12.23% are migrant labours and 5.53% is entrepreneur. The rest, less than 5% are breeders, private employees, civil servants, private teachers, drivers, peddlers, village apparatus, artists, retirements, artisans, make up, TNI (Indonesian National Army), POLRI (Indonesian Police Officer), and private midwives.

### 5.1.3 Vision and Mission of Majasari Village

The vision of Mjasari Village is manifesting Majasari Residents who are Religious, Aspirative, Productive, Innovative and Harmonious (RAPIH) supported by good and professional village governance in social institutions which are civilized, equals and fair. Below is further description of each innitial from the term RAPIH:

#### **a. Religious**

The word religious means that the residents of Majasari Village are expected to obtain a level of understanding and practice religous values correctly and properly, therefore reflected in mindset and behavior along with the the religious values that are believed.

#### **b. Aspirative**

The word of aspirative means that the residents of Majasari Village has desires to actualize a goal in civilized society, upholding equality and justice.

### c. Productive

The word productive is understood as an image that the residents of Majasari Village are capable to empower, process, and produce any resources in order to meet the life needs.

### d. Innovative

The word innovative is interpreted as any forms of renewal required in dealing with the challenges in this era at any life joint.

### e. Harmonious

The word harmonious means that the residents of Majasari Village live in harmony, help each other, loving peace and by not seeing the difference of social status, ethnicity and gender.

In order to actualize the vision, Majasari Village has missions called Panca Karya Hita (Five works to create prosperous). Below are the missions of Majasari Village:

- a) Developing qualified SDM (Human Resources) based on religious values, science, technology, and culture as well as encourage the improvement in educational sector both formal and informal which are accessible and enjoyable by all the community.
- b) Improving the role of all the community particularly women in development.
- c) Enhancing the community economic by optimizing agricultural sector.
- d) Establish a clean governmental system which is oriented to public service
- e) Enforcing security and public order by building solidarity between public figures and all community components in participating to develop the village based on moral as well as uphold mutual cooperation and custom values.



**Figure 5.1**  
Majasari Village Hall  
(Front View)



**Figure 5.2**  
The Vision of Majasari  
Display on the Road  
Accessing Village Office

The Vision and Missions Narrative of Majasari Village is displayed at inside wall of Majasari Village Hall. These Vision and Mission are also displayed at the front part of Majasari Village Hall and road accessing to Majasari Village Hall.

#### **5.1.4 Majasari Village Programs**

To actualize its Vision and Mission, The Government of Majasari Village create several program which are continuously performed. There are 5 village programs implemented by Majasari Village, namely:

##### ***a. Improvement the quality of SDM (Human Resources) Through Mastering Science and Technology***

In 2015, Majasari Village delivered two activities in order to actualize this program, which are: campaign on public reading interest through the movement of Majasari Membaca (Reading Majasari), as well as improving the health service for mother and child. In 2016, there were four activities undertaken by Majasari Village in implementing this program, namely: constructing PAUD (Education for Early-Aged Children) building, internet network development in RT (Neighbourhood Association)/RW (Community Association), providing free internet access, and sport facility.

##### ***b. Enhancing Women's Role in Planning and Development***

In 2015, Majasari Village delivered two activities for manifesting this program. First activity is to improve the prevention and protection of women from violence, exploitation and discrimination. The second activity is improving skill for Purna TKI (Former Indonesian Migrant Worker). In 2016 there were two activities implemented by

Majasari Village related to this program, by delivering: training on Village Development Planning, as well as training on financial management for TKI candidates and Purna TKI.

***c. Promoting Community Economic Through Optimizing Agricultural Sector, Farms, and Capital Access***

In 2015, Majasari Village executed two activities as implementation of this program, by conducting: improving agricultural produce through agricultural innovation, as well as consolidation business cluster based on agricultur and farms. In 2016, there were two activities executed by Majasari Village as realization of the program, by conducting: training on utilizing agricultural waste for cattle fodder, and traini to make beef floss.

***d. Improving Public Service and Fulfillment of Basic Facilities and Infrastructures***

In 2015, Majasari Village implemented four activities associated with this program, namely: Application of SOTK according to regulation guidelines, developing village information system, constructing and maintaining the village roads, as well as providing Posyandu (Integrated Helath Service post) facility. In 2016, there were four activities undertaken by Majasari Village supporting this program, namely: developing SITU (Integrated Information System) for public service, building and maintaining village irrigation, providing public road lighting, as well as providing Poskedes (Village Health Post) facilities.

***e. Improving Mutual Cooperation and Facilities for Security and Public Order (Kamtibmas)***

In 2015, Majasari Village delivering three activities as embodiment of this program, by conducting: reinforcement the capacity of community group, Implementation of IT (Information Technology) for Security and Public Order (Kamtibmas). In 2016, there were two activities delivered by Majasari Village, which are: Enforcing community capacity on disaster preparedness, as well as preserving village's art and culture.

## **5.2 Innovation in Majasari Village**

The researchers identified a number of innovations which has been running in Majasari Village. The innovations include:

***a. Integrated Agricultural and Farms Activity***

Agricultural waste, mostly rice husk, is utilized as cattle fodder. Since Majasari Village was not a breeding area, the Village head facilitated the community with cattles from Central Government aid. To maintain the sustainability of the aid utilization, a concept of communal farms was proposed to be BUMDes (Village-Owned Enterprise)

program. Each family of TKI who are interested in cattle farms receive the cattle aid and required to be independently involved in building the cowshed.

Majasari Village Head conveyed an idea that integrated agricultural and farms activity is not only directed to family economic welfare, but also expected to maintain the harmony of TKI's family. The harmony can be created because the party who are on duties as TKI (mostly the wives) feel save to leave the family (mostly the husbands) which has positive activity, that is being farmer and stockbreeder.

### ***b. Producing Biogas***

The increasing number of cattle in Majasari Village has potential for new problem if the cattle manure is not handled and processed well. Therefore Majasari Village received assistance on technology facility and infrastructure to process the farms waste into biogas which was delivered by the government through Office of Water Resource, Mining and Energy of Indramayu Regency in April 2014.

### ***c. Village Regulation Related to the Protection of TKI (Indonesian Migrant Workers) from Majasari Village***

The third most populous occupation in the village where 100% of its population hold Islam religion, is being TKI (Indonesian Migrant Worker) and Purna TKI (the term for residents of Majasari Village who was once TKI and currently no longer work as TKI). This fact drives the emergence of several innovation forms in Majasari Village, such as Village Regulation No. 3 Year 2012 concerning The Protection of Indonesian Migrant Workforce Originated from Majasari Village, which contains: the requirement of TKI candidates recruitment originated from Majasari Village, recruitment mechanism, Purna placement, protection for TKI orgininated from Majasari Village, The role of Government in Majasari Village, up to sanctions related to TKI.

Ideas related to various innovation forms began from TKI issues in Majasari Village are confirmed by the slogan of village leading innovation, namely: "As the Nationally Best Village of Handling, Protecting , and Empowering Migrant Worker".

### ***d. TKI House of education***

TKI House of education delivers skill education for TKI cadidates related to foreign language learning as well as introduction to the culture of country where they are going to work. The TKI candidates can also listen to experience from the former TKI during their times as TKI. Beside the TKI candidates, their children can also play at this house of education. Those children get free english course and computer training. The Purna TKI also get coaching in order to be economically independent.

### ***e. Saving and Loan Cooperative***

Cooperative is the forerunner to the establishment of BUMDes (Village-Owned Enterprise) Majasari. The purpose of this saving and loan cooperative is to facilitate the residents of Majasari Village in lending money, whether for business capital or for urgent needs. In addition, the residents of Majasari Village can sell their products in this cooperative (BUMDes).

### ***f. Village Library***

Majasari Village has library with fairly complete book collection for the level of village library. In addition to books, the library also equipped with computer facility connected with internet. This library is located in second floor of Majasari Village Hall therefore all residents of Majasari Village can visit the library any time.

### ***g. Children Reading Area***

The Majasari Village Head realizes the importance of fostering reading intention among children in Majasari Village. Therefore, besides providing library, The Majasari Village Government also provides children reading area inside the Majasari Village Hall Building.

### ***h. Village Community Radio***

The community of Majasari Village can easily know information in the village from the village community radio. Besides, the radio also becomes entertainment facility for the village community.

### ***i. Live Streaming***

The Majasari Village Government provides free wireless internet for it residents so that they can do video streaming or video calling with their family who are working abroad as TKI.

## **5.3 Innovation Process in Majasari Village**

Bellow is explanation related to process in executing the innovations by Majasari Village:

### ***a. Integrated Agricultural and Farms Activities***

Initially, this innovation emerged because of the negative stigma among the community concerning the husbands whose wives are working abroad. The community



**Figure 5.3**  
A Communal Cattle  
Farm in Majasari Village

considered that the husbands often spend their time for negative things. Aiming to eliminate the stigma, Majasari Village Government empowered the the spouses of the migrant workers to do cattle breeding. Since Majasari Village was not a farms area, Majasari Village Head facilitated the residents by cattles from Center Government Aid. In order to be sustainable utilized, a concept of communal cattle farm was proposed to be BUMDes (Village-Owned Enpterprise) activity. Each TKI family interested in cattle breeding, were receiving the cattle aid and required to be independenly involved in building the cowshed.

Chairperson of Farmers Group Tunggal Rasa (Poktan Tunggal Rasa) explained that initially he observed that other villages get cattle aid from the government. Then he inisiated to propose for the cattle aid so that Poktan Tunggal Rasa obtained 32 cattles from The Ministry of Agriculture. The cow breeding used artificial insemination (AI), where the AI injection is done by Indramayu Agricultural Office because currently none of the Majasari residents has adequate skill to do the AI. In addition, Poktan in Majasari Village also get assistance from Indramayu Agricultural Office which is a one or two-day counseling. The couseling is delivered fortnightly or monthly. According to the chairperson of Poktan Tunggal Rasa, it needs at least one-month counseling to make the breeders become more understand.

The Majasari Village Head said that TKI led to great economic impact towards Majasari Village. One noticeable impact is the established of wasteless agriculture cooperated TKI, where the agricultural waste, mostly husk, is utulized for cattle fodder (amoniation). The Majasari Village Government obtained assistance from LPPM Padjadjaran University Jatinangor and Wiralodra University Indramayu in the activity.

Currently there is a research on fodder, where several cattle are given fresh hay dan some are given fermented and amoniation hay. The chairperson of Poktan Unggul Rasa said that the indigofera plant which is used for the fodder is on purposely grown around the cowshed.



**Figure 5.4**  
Cattle Fodder

Prior to the existence of Wasteless Agriculture, the cattle farmers spend a lot of their time searching for grass, therefore they do not have adequate time to take care of their cattle. By the Wasteless Agriculture, the cattle can be bred from previously 1-2 cattle into 5-8 cattle without any constrain in finding the fodder.

During the research, Majasari Village Head conveyed an idea that integrated agricultural and farms activity is not only directed for the family's economic welfare, but also expected to assist the harmony of TKI's family. The harmony can be created because the party who are working abroad as TKI (mostly the wives) feel save leaving their family (mostly the husbands) who has positive activity which is being farmer and cattle breeder.

### ***b. Processing Biogas***

The waste from agricultural activity carried out by Majasari Village residents is processed into biogas. Currently the process of biogas is still developed. When this research was conducted, the biogas equipment owned by Majasari Village was broken



**Figure 5.5**  
Biogas Equipment

due to the leaking of plastic gas container. However, the chairperson of Poktan Tunggal Rasa said that before the plastic was broken, the biogas was able to be used to boil water. Furthermore he said that currently they intended to replace the biogas container material because the plastic used was considered easily damaged. It was because the same problem had happened previously.

#### ***c. Village Regulation Related to Protection for TKI Originated From Majasari Village***

The existence of TKI has led to great economic impact for Majasari Village, so that many residents have desire in working as TKI. Therefore the presence of village regulation related to protection for TKI is welcomed by the community. In that regulation, each resident who are going to work as TKI must sign an agreement between their families, the labour suppliers, and Village Head in order to prevent problems occurred when the migrant workers depart to their workplace abroad, at the workplace, or when they are back to Majasari Village.

The village regulation related to protection by TKI established by Majasari Village drew attention from National Agency for Placement and Protection of Indonesian Workers (BNP2TKI) as well as Women Crisis Center Balqis Cirebon (WCCBC) supported by Tifa Foundation. WCCBC and Tifa Foundation suggest inputs for the village regulation, therefore established a social organization of Majasari Village Government named Community Based Organization (CBO) Zulfikar. The organization provides 3 service access for the community concerning TKI, which are: information access, advocacy, and financial. Members of CBO Zulfikar are former TKI, families of TKI, and TKI activists. CBO Zulfikar receives fund aids from Tifa Foundation and use it to set up an internet shop (warnet) aimed to the families of TKI who want to communicate with TKI who are working abroad. The family of TKI are given free monthly facility for doing live streaming and webcam from CBO Zulfikar.

#### **d. TKI House of Education**

The building used as TKI House of Education has been located on the land owned by a resident of Majasari Village since 2012. Construction of The house of education has been supported by the community and government of Majasari Village as well as bank. There are a weekly meetings in this house od education.

This house of education is utilized to teach several skills for the former TKI thus they can have new livelihood from the new skills have been learnt. There are several skills taught here, which are: processing banana chips, bag handicraft, rempeyek (a kind of wide chip usually with peanut or small fish) and salted egg (commonly made of duck eggs).



**Figure 5.6**  
House of Education



**Figure 5.7**  
Processing Banana Chips



**Figure 5.8**  
Handicraft Bag Products



**Figure 5.9**  
Processing Salty Egg



**Figure 5.10**  
Typical Rempeyek from  
Majasari Village

### **e. Saving and Loan Cooperative**

This saving and loan cooperative was established in 2010, prior to West Java Governor Regulation in 2016 which obliges every village to establish BUMDes (Village-Owned Enterprise). This cooperative began from an agreement among former migrant workers to establish a saving and loan organization for residents of Majasari Village, especially for women. There several membership requirements, includes:

- 1) Deposit principal saving of Rp 50,000.00 when register the membership.
- 2) Deposit compulsory saving of Rp 10,000.00./month.
- 3) Voluntary Saving with no minimum amount.

Secretary of Majasari Village Government explained that if a member could not pay the loan on the due date, the cooperative would give 5 days as extended due date. Furthermore, He said that during the last 10 years, the loan payment has gone current. Profit gained from the saving and loan cooperative is allocated 30% for the BUMDes and 70% for the community (in form of cattle aid).

Currently, member of BUMDes still consists of the village apparatus. BUMDes in Majasari has not develop because the residents' mindset still refers to loan activity. The residents prefer to borrow money from Bank Harian since the process is faster than other banks in general. In addition, most loans are made due to urgent needs. The payment which can be done daily facilitates the residents in paying back the loan since they can use the profit gained from their daily selling activity.

Although the residents prefer to borrow money from Bank Harian, it cannot be considered as a positive habit because the the interest set by Bank Harian is very high. According to Secretary of Majasari Village Government, if the residents has a financial need, they had better borrow it from BUMDes of Bank BRI or Badan Amil Dzakat Nasional (BAZNAS) because the interest will be lower than Bank Harian.



**Figure 5.11**  
Goods Sold at BUMDes  
Majasari

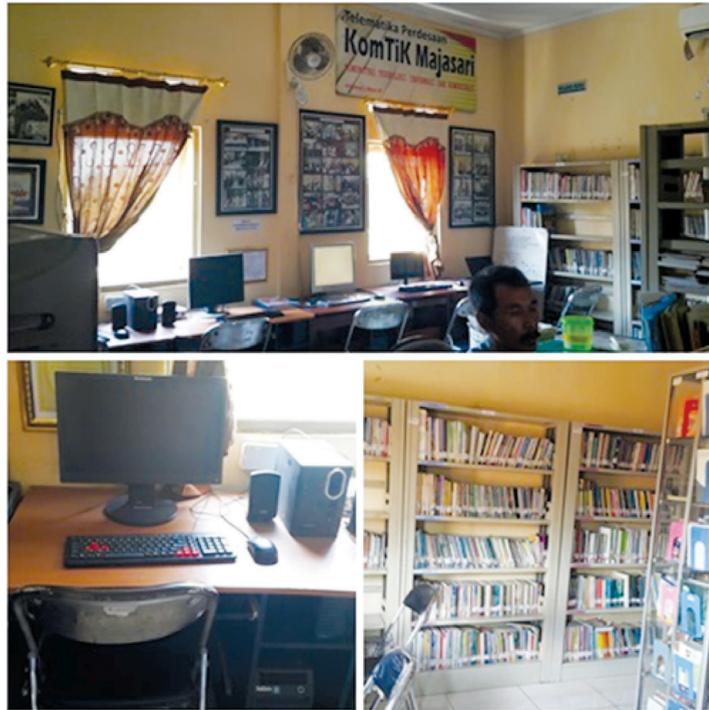
Currently there are 3 villages in Indramayu which can join in BAZNAS (National Board of Zakat) Indramayu Regency including Majasari Village. BAZNAS in Majasari Village was established in May 2017 and already has 25 members. The membership requirements of BAZNAS in Indramayu Regency are:

- 1) Deposit principal saving of Rp 500,000.00 when register the membership.
- 2) Deposit compulsory saving of Rp 20,000.00/month.
- 3) The membership is binding.

Besides referring to financial loan activity, at saving and Loan cooperative, also called as BUMDes in Majasari Village sells various goods produces by the community of Majasari Village.

#### ***f. Library and Information Technology Development***

According to the story of Lambang Desa Majasari, the library in Majasari had been established before 2010, during the leadership of current Majasari Village Head. The library began with the desire of community in Majasari Village to have a library. The intention was then discussed further with BPD and LPM. Furthermore, he told that several books available in the Library of Majasari Village were donated by Library of Republic Indonesia, Government, and Schools in Indramayu, and some are bought by Majasari



**Figure 5.12**  
Library of Majasari  
Village

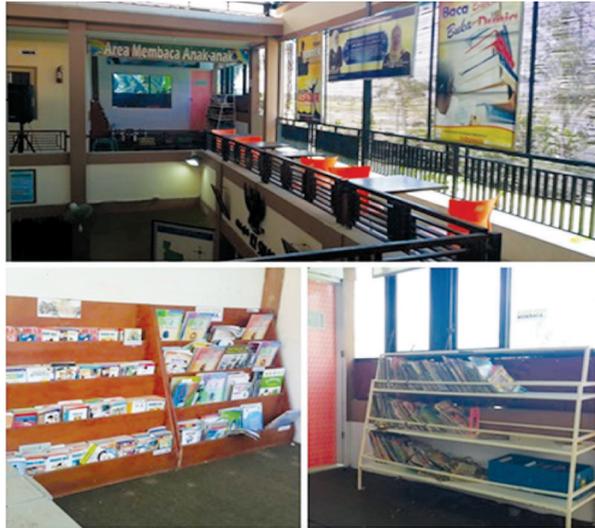
Village Government itself. The library of Majasari Village also provides traditional toys can be borrowed by the children. In addition to books and toys, the children of Majasari Village can also use computer and internet facilities in the library.

Perpustakaan Desa Majasari juga memiliki mainan tradisional dan modern yang dapat dipinjam oleh anak-anak. Selain buku dan mainan, anak-anak Desa Majasari juga dapat menggunakan fasilitas komputer dan internet yang di perpustakaan.

The library used to be a tricycle vehicle (pick up vehicle) used as travelling library. The vehicle was supposed to be a garbage transport vehicle obtained when Majasari Village won a sub-district level of village competition. Every Saturday and Sunday there were 2 or 3 volunteers who rode the vehicle around the village. Those Volunteers were youth activists in Majasari Village, such as Karang Taruna. The travelling library has not been operated since Majasari Village had a permanent library on the second floor of Majasari Village Hall.

### ***g. Children Reading Area***

Besides at the library, the children of Majasari Village can also find books at the children reading area. The area is located on the second floor of Majasari Village Hall, in front of the radio broadcasting room. The children can read books while sitting on the floor or on the chairs provided.



**Figure 5.13**  
Children Reading Area  
inside the Majasari  
Village Office

#### ***h. Village Community's Radio***

Majasari Village has a radio station located on the second floor of Majasari Village which has been established for 3 years. The broadcast is aired in 2 sessions. First session is during 13.00 – 14.00 pm after dzuhur prayer time. The second session is 18.30 – 23.00, when during 18.30 – 19.30 the radio broadcasts recitation and is continued with free broadcast program. The free broadcast usually filled by information around Majasari Village and entertainment such as dangdut music.

This community radio was initially proposed by BPD and LPM. The idea was then conveyed to Majasari Village Head and brought into deliberation with public figures in the village. The community responded positively the idea because they believed that the community radio would facilitate them to information around the village.



**Figure 5.14**  
Broadcasting Room Of  
Majasari Radio

### ***i. Live Streaming***

Live streaming commonly made is through social media such as Youtube (mostly) and Facebook. The migrant workers originated from Majasari Village who are working in Saudi Arabia or Taiwan can access information and big events in Majasari Village through live streaming. Information which is usually announced is obituary and big religious ceremonies. There are 3 customary activities covered in life streaming, namely:

#### **1) Mapagsri or Harvest Festival**

In this occasion *wayang kulit* (puppet made of animal skin) or *wayang golek* (typical puppet from west java) performed by group from other villages and recitation from other region. This activity is held annually.

#### **2) Mendem Sedekah Bumi**

This activity derived from Indramayu customs which is conducted annually to indicate beginning of the planting season as well as land tenancy. In this occasion there are *wayang kulit* and *wayang golek* show by performer from other village and recitation from group of other region.

#### **3) Mider Tamba**

This activity is held annually, after rice is planted. In this occasion, the village officials go around the paddy field from 3 a.m. until dawn. There is a division of area that will be encircled by the village official.

## **5.4 Result and Impact of Innovation in Majasari Village**

Below is result and impact from innovations made by Majasari Village towards its community:

### ***a. Integrated Agricultural and farms activity***

The number of cattle raised has currently thrived from 32 to more than 200 cows. The success of cattle farms in Majasari Village draws attention from many parties thus this becomes a pilot project. In addition, the success of cattle farms also gradually eliminate negative stigma from the community towards the husband who are left by their wives to work abroad because the community understand that the husbands are busy with their routine activity. In the mornings, they take their children or grandchildren to school, afterward they go to cowshed to take care of their cattle. In the afternoons they are also busy looking for grass for their cattle. At nights they feel tired and go to sleep so there is barely an opportunity for them to go out at night or stay until late.

The success of cattle farms is also accompanied by the success in processing fodder from agricultural waste. The community of Majasari Village do not have to allocate an entire day to look for grass. They can simply feed the cattle by amoniation. It makes people can raise 5-8 cattle without being troubled by looking for fodder. Whereas previously they can only raise 1-2 cattle. Observing the improvement, the Majasari Village Head targets one cattle farmer to raise at least 10 cattle. The Majasari Village Head considers that the community of Majasari Village are able to reach the target since he himself owns 23 cattle taken care by 2 cattlemen.

### ***b. Processing Biogas***

Currently the impact of Biogas processing has not been felt by the community in Majasari Village because biogas can only used in several places in Majasari Village. nevertheless, if the biogas processing can be continously developed, Majasari Village can distribute the biogas to each house thus the community do not need to buy gas for cooking. Biogas is considered prospective because currently it has been utilized to boil water.

### ***c. Village Regulation Concerning Protection for Migrant Workers orinigated from Majasari Village***

By the issued of this regulation, none of the migrant workers from Majasari Village who has experienced problems since 2014 until now. Even the migrant workers from other villages also consult with CBO Zulfikar established by Majasari Village Government

### ***d. House of Education for Migrant Workers***

The existance of house of education for migrant workers has led to positive impact for community in Majasari Village. for the candidates of migrant workers, they can obtain more knowledge about things to be prepared or matters thay might be dealt with during their working abroad. For the children of the candidates, they can gain knowledge from the English and Computer courses at houses of education for migrant workers. For the former migrant workers, they can obtain new skills which is beneficial to earn a living when they no longer become migrant workers.

### ***e. Saving and Loan Cooperative***

Currently there has not been great preceived impact from the presence of saving and loan cooperative Majasari Village, because most of the residents in Majasari Village are more interested in borrowing money from Bank Harian. But there is a quite large impact associated with the sale of goods produced by the residents of Majasari Village. Since Majasari Village won several competitions, many parties conducted study in Majasari Village. Everytime the study was conducted, it was observeable that all of

them were interested in buying goods sold at BUMDes. It has motivated the community in Majasari Village to intensify their business.

#### ***f. Library***

The existence of library at Majasari Village Hall has drawn the community of Majasari Village, especially school-aged children, to visit Majasari Village Hall every day. In addition to borrowing books, they can also use computers which are connected to internet. All the facilities assist the children in doing their school assignment as well as entertain them.

#### ***g. Children Reading Area***

The impact from this children reading area is demonstrated by the enthusiasm of the children in reading books in that area. This is in accordance with the expectation of Majasari Village Head to build reading culture among the children of Majasari Village.

#### ***h. Village's Community Radio***

The presence of Village's community radio makes it possible for the community in Majasari Village to obtain entertainment as well as information that can be listened to in their own houses. Besides for the community, the government of Majasari Village also facilitates in conveying information to the community, particularly important information that must be immediately notified to the public.

#### ***i. Live Streaming***

The existence of live streaming facilitates communication between the family where the spouse is working abroad as migrant worker. The migrant workers who are originated from Majasari Village can see live broadcast of big events held in their village.

### **5.5 Driving Factors Emerging the Innovations in Majasari Village**

Based on the result of research in Majasari Village, there are several factors that encourage the innovation, including:

#### ***a. The Visioner Leadership of Majasari Village Head***

The leadership of Majasari Village Head has important role in all innovation forms that develop Majasari Village. Because generally, various innovation that emerge in Majasari Village came from the initiative of Majasari Village Head. Some aspect related to the welfare of Indonesian Migrant Workers and their families are given special attention

because the Village head himself has bad experienced his wife became Indonesian Migrant Worker. Due to the lack of clarity on the selection and placement process, she had to move to several countries within one year, from Saudi Arabia, Jordan, up to Syria.

The current Majasari Village Head is an innovative person. It is demonstrated from his desires to strive in developing Majasari Village as a different and superior village among the other villages in Indramayu.

### ***b. The Large Number of Indonesian Migrant Workers and Former Indonesian Migrant Workers in Majasari Village***

Village Regulation No. 3 Year 2012 concerning The Protection of Indonesian Migrant Workers Originated from Majasari Village is one step taken by Majasari Village Government aiming to avoid the migrant worker candidates of Majasari Village from irresponsible agents. The protection effort is also given by establishing House of Education for Indonesian Migrant Workers, where not only provides counselling for the migrant worker candidates but also delivers knowledge on financial management during or after performing their duties as Indonesian Migrant Workers.

Majasari Village is actually not an area famous for agricultural commodities, but the Majasari Village Head initiated a concept of agricultural and farms as a concept of welfare for families of migrant workers who are left in the village. Initiative taken related to the agricultural revitalisation based on the experience of current Majasari Village Head when he chaired a farmers group.

The welfare for the migrant familied is not only focused on farms activity, but also focused on the farms produce. Ahead of Idul Fitri Holiday, BUMDes will sell beef at Rp 80,000.00 only for the residents of Majasari Village. the price is 50% cheaper that the common market price during that times

### ***c. Active Involvement of Majasari Village Apparatus***

In order to support the development in their village, the Majasari Village apparatus involve actively, thus every activity can be performed well. In addition, the awareness to maintain and improve achivements that have been received has already embedded within themselves. For example, the Majasari Village apparatus has already been thinking that if the current Majasari Village is no longer served, they should find the the next Village Head who has similar mindset with the current Majasari Village Head.

### ***d. Trust of Majasari Village's Residents towards Their Village Head***

Various approach conducted by Majasari Village Head in developing the village has made him as a respected person. In 2008, the current Majasari Village head proposed

to be a candidate together with the 4 other candidates, but eventually the other 4 candidates resigned thus he was the sole candidate of Majasari Village Head. At the next period, he even had to proposed his wife as opponent candidate because there was none who wanted to be his opponent.

#### ***e. Trust of Majasari Village's Residents Towards The Government of Majasari Village***

Majasari Village Head conveyed that the main requirement of village innovation is building trust. He added that building kinship ties is the best strategy which has been practised to gain support from various parties upon new ideas proposed by Majasari Village Government. Trust of Majasari Village indeed emerged by using the strategy. Various activities and infrastructure development programs based on independent effort is one conclusive evidence of the high trust of the Majasari Village's residents towards the Majasari Village Government.

#### ***f. The Involvement of External Parties***

In order to provide various activities in house of education, the Majasari Village Government build partnership with varioun Non-Governmental Organization such as : Badan Nasional Penempatan dan Perlindungan Tenaga Kerja Indonesia (BNP2TKI), *Women Crisis Centre Balqis Cirebon (WCCBC)*, *TIFA Foundation*.

## **5.6 Conclusion and Recommendation**

### **5.6.1 Conclusion**

Based on previous explanation, it can be concluded that the success of Majasari Village is not apart from:

- a) The fact that majority of Majasari Village's Residents are Migrant Workers and former Migran Workers
- b) The presence of visioner leadership delivered by Majasari Village Head which has led to various innovations encouraging the development in Majasari Village
- c) Active involvement of apparatus and community of Majasari Village in supporting the development of Majasari Village, where Majasari Village also obtain assistance from external parties.

### 5.6.2 Recommendation

Below are some recommendations can be proposed to Majasari Village after conducting this research, including:

- a) The Majasari Village Government should conduct personal approach to the community so that they are interested in utilizing Saving and Loan Cooperative instead of borrowing money from Bank Harian.
- b) Conducting repairment to existing biogas system, thus can be utilized by the households.

**(Sources: Interview result of village officials by research team, documentation of research team, village archive)**



# LALANG SEMBAWA: VILLAGE OF HEALTH INNOVATION BASED ON COMMUNITY LIFE PATTERN EDUCATION

**Trisno Sakti Herwanto**

## 6.1 Preface: The History and Potensial of Lalang Sembawa Village

Lalang Sembawa Village is located in Sembawa Sub-District, Banyuasin Regency, South Sumatera Province. The distance between Lalang Sembawa Village and The Capital City of Banyuasin (Pangkalan Balai) is 16 Km which takes 30 minutes by motorcylce or approximately 2 hours on foot, while the distance between The Capital City (Palembang) is 29 Km which takes approximately 1 hour by motorcycle. The boundaries of Lalang Sembawa Village are:

**Table 6.1** The Boundaries of Lalang Sembawa Territory

<b>Border</b>	<b>Village/ Administrative Village</b>	<b>Sub-District</b>	<b>Regency</b>
North	Limau	Sembawa	Banyuasin
South	Sejagung	Rantau Bayur	Banyuasin
West	Pulau Harapan	Sembawa	Banyuasin
East	Rejodadi	Sembawa	Banyuasin

The territorial width of Lalang Sembawa Village, Sembawa Sub-District, Banyuasin Regency is 1397 hectares with natural landscape is 14% swamp and 86% land consists of:

Residential Area 170 ha/m<sup>2</sup>

Plantation 1217,23 ha/m<sup>2</sup>

Cemetery 2,5 ha/m<sup>2</sup>

Yard 0 ha/m<sup>2</sup>

Offices 5 ha/m<sup>2</sup>

Other Infastructure 0,97 ha/m<sup>2</sup> (tanah bengkok)

The existence of Lalang Sembawa Village began from the history of a hamlet which was very close to river. At ancient times, river was one of center of economic life and transportation thus became the crowd center. It led to the emergence of densely populated residential center on the riverside or at the confluence of two rivers. Lalang river is a tributary of Banyuasin River which was one of the transportation routes to the sea and was the the beginning of the emergence of Lalang Sembawa Village.

Referring to the establishment history of Lalang Sembawa Village, the formation pattern of hamlets was later following the river stream, including Dusun Pangkalan Balai, Dusun Langkan, Dusun Pulau, Dusun Limau, Dusun Sungai Rengit. Lalang Sumbawa was called Marga and Led by a Kerio. Until 1984, Lalang Sembawa Had been Led by following Kerios:

- 1) Kerio KH. Akhir
- 2) Kerio Haniman
- 3) Kerio Rakhmat
- 4) Kerio Azwar AL, 1979 s/d 1984

Since 1984 Lalang Sembawa status has been changed to Village by the elimination of Marga. Following is the history of Head of Village in Lalang Sembawa:

- 1) H. Anang Basri during 1984 - 2002
- 2) Untung Prasito during 2002 - 2007
- 3) Rainan Harun during 2007 - 2012
- 4) Gunadi Utama Shn., SP during 2013 – Now

The word of Lalang Sembawa Villave derives from the word “Talang” or “Talang Sembawa”. This village is called Talang Sembawa because there were many wild boar spotted in this area (“Sembawa” means pig in local language). During the Dutch colonial times, in Sembawa was established a Landbauw Consulent (Agricultural Counseling Center), pilot/experiment place for vegetables and fruits. During the Japanese colonial times, Lalang Sembawa remained a horticultural plantation as source of the japanes army needs.

In Republic Indonesia times, Balai Mekanisasi Pertanian (Agricultural Mechanism Center) was established in 1953 and Sekolah Menengah Pertanian (Agricultur High School) on 15 November 1955. Due to its natural potential which is suitable for hard plant types, in Lalang Sembawa also has plantation program managed by Dana Tanaman Keras (DATAK). DATAK is operated by institution named CSIS which was eventually dismissed and converted into rubber plantation of South Sumatera Provincial Plantation Office in 1972. Besides the hard plants, Lalang Sembawa also has a history

in husbandry. In 1972 Unit Pengelola Teknis Peternakan (UPT Ternak) was established under the supervision of Director General of Animal Husbandry. The UPT was technically managed by South Sumatera Provincial Animal Husbandry Office.

Currently Lalang Sembawa is well-known for its agriculture school, Balai Penelitian Karet (Rubber Research Center) and center of superior calves breeding. Sembawa has also been the icon for rubber tree seedling. Advance technology and rapidly growing population have developed Sembawa into candidate of Independent Integrated City with facility of axis road connecting Palembang to Jambi.

Referring to census data in 2015, demographically the population number in Lalang Sembawa Village was 7,320 residents consisted of 1,913 Head of Family and 1,753 houses. Due to enormous population, Lalang Sembawa then expanding its neighbourhood association (RT) and dusun (hamlet) from 14 RT and 5 dusun into 40 RT and 10 dusun. Based on group of age, the community in Lalang Village is divided into 1,145 residents are in group of over 60 years old, and 1,250 fertile couples, 2,101 fertile women, 142 infants, 720 toddlers, 142 nursing mothers, 155 pregnant mothers, and 147 maternal mother.

The residents of Lalang Sembawa whose religion is Islam at 3,447 men and 3,581 women, and other religions at 104 people, consists of 54 males and 50 females. The livelihoods of residents in Lalang Sembawa in 2015 consisted of 891 farmers (652 males and 239 females), 1,107 farm laborers (961 males and 146 females), 415 Civil Servants (253 males and 162 females), 8 Mechanics, 14 army (TNI), 19 police officers, 245 retirements (182 males and 63 females), 5 private midwives.

Lalang Sembawa has promising potential in plantation, especially horticulture. Crop types which are commonly grown by the community are corn, peanut, cassava and sweet potato. The farm produce is sold to the market, first-handly to the consumers and consumed as daily meals. Besides depending in horticulture plantation, the community grow rubber plants and the produce is sold through middlemen. Besides the soil characteristic, rubber plant is very suitable to be grown in Lalang Sembawa Village because of tropical climate and adequate rainfall in this village.

In addition to natural sources, Lalang Sembawa has highly qualified Human Resources. The educational level of residents in Lalang Sembawa in 2015 as follow::

**Table 6.2.** Education Level of Residents in Lalang Sembawa Village in 2015

No	Criteria	Number
1	Aged 3 – 6 years old who have not attended kindergarten	523 people
2	Aged 3 – 6 years old who are studying at Kindergarten	173 people
3	Aged 7 – 18 years old without formal education	191 people
4	Aged 7 – 18 years old who are in progress of formal education	1.330 people
5	Aged 18 – 56 years old without formal education	209 people
6	Aged 18 – 56 years old who did not graduate from elementary school	191 people
7	Graduated from elementary school/ equal	589 people
8	Number of Age 12 – 56 years old not graduated from Middle School	149 people
9	Number of age 12 – 56 years old not graduated from high school	140 people
10	Graduated from Middle School/equal	586 people
11	Graduated from High School/equal	981 people
12	Graduated from D - 1/ equal	152 people
13	Graduated from D - 2/ equal	294 people
14	Graduated from D - 3/ equal	576 people
15	Graduated from S - 1/ equal	916 people
16	Graduated from S - 2/ equal	140 people
17	Graduated from S - 3/ equal	7 people

Referring to data of community education level, it can be understood that Lalang Sembawa is a village which is advance in education aspect. The data are supported by the availability of education facilities in Lalang Sembawa Village consisting of 2 Kindergarten (TK), 1 pre-school (PAUD), 5 Elementary Schools (SD), 1 Junior High School (SMP), 1 Senior High School (SMA), 1 Vocational School (SMK) and 1 Agriculture School.

In addition to education facilities, Lalang Sembawa Village also has public and private facilities and infrastructure including:

- 1 village office and other public facility.
- 1 Poskedes (Village Health Post) Building which provides service for mother and child, KB (family planning), Imunisasi (immunization), Nutrition Consultation, diarrhea and ispa handling or basic health service for residents and childbirth.
- 1 Puskesmas (Community Health Center) Building, public service facility, Health service facilities by the community and private namely:
  - 2 Toddler Posyandu (Integrated Health Service Center),
  - 2 Elderly Posyandu,
  - 1 Medical Center/Clinic (Research Center),

- 1 individual physician practice,
- 4 Balai Pengobatan Mandiri (Independent Medical Center).
- 4 mosque buildings and 9 mushola.
- 1 KUA (Religion Affairs Office) office
- 1 PDAM (Regional Water Supply Company)
- 1 Rubber Factory (Cakrawala Factory)
- 1 Rubber Research Center Company (Perusahaan Balai Penelitian Karet)
- 1 Balai Percontohan Ternak Unggul (BPTU)
- 1 market structure
- 2 banks including ATM facilities (Bank Sum-Sel (Bank of South Sumatera), Bank BRI)
- Transportation Infrastructure and Facilities :
  - Length of village land road approximately 5,600 meters
  - Length of village land road connecting villages/sub-district approximately 1 Km
  - Length of asphalt road of regency, provincial, and Country which passes the village approximately 2 Km, all in good condition
  - 6 units of village concrete bridge in good condition
  - No wood bridge in the village

The various facilities show that Lalang Sumbawa is a village which is developed well.

According to government administrative, Lalang Sembawa has 6 government apparatus, 1 PNS (Civil Servant) midwife, 1 village midwife PTT, and 1 village midwife THL, assisted by administrators of PKK (Family Welfare Empowerment) who are assigned at Poskedes (Village Health Post). The community organisations exist in Lalang Sembawa Village are:

- Village Consultative Board - Badan Permusyawaratan Desa (BPD)
- Village Penitentiary - Lembaga Pemasarakatan Desa (LPD)
- Family Welfare Empowerment (PKK)
- Karang Taruna (Youth Organisation)

The vision of Lalang Sembawa Village as written in RPJMDes (Village Medium Term Development Planning) 2014-2020 is "Lalang Sembawa Independent Integrated Village 2018". In order to manifest the vision missions of Lalang Sembawa Village are arranged as written in RPJMDes 2014-2020 as follow:

- Improve agriculture facilities and infrastructure
- Develop group-based agribusiness
- Improve the human resource quality
- Improve community service
- Develop economic community
- Improve religious facilities and infrastructure
- Indicative programs and activities

There are several strategic issues in Lelang Sembawa Village which can be divided into 3 sectors namely :

1) Public Works Sector (Bidang Pekerjaan Umum)

Road: condition of many roads in the village are damaged and not decent.  
Bridge, Deker Platform and Culvert: Condition of bridge is damaged, no Deker Platform, Many Culverts are clogged and damaged  
Office structure: village office building needs repairment  
Public Facilities structures: public facilities are not adequate, and some buildings need repairment.  
Irrigation and water resources: clean water infrastructure has not been available yet.  
Environment and Territorial: lack of neatness and Sanitation  
Population: administrative data have not been feasible  
Research Development and Technology: there has not been government effort to develop research and technology at village level

2) Economic Sector

Infrastructure and economic facility: there has not been infrastructure and facilities to support economic  
Agriculture: lack of development and fostering in agriculture sector  
Husbandry: lack of development and fostering in husbandry sector  
Trade: in trading sector community is constrained by capital  
Industry, Craftmanship, SMEs and Cooperative: nurturing and development of Industry, Craftmanship, SMEs and Cooperative has not been maximum.

3) Social Sector

Education: facility and education quality need to be improved.  
Health: Facility and health quality need to be improved  
Religion: nurturing is needed in religion sector  
Skill, Art, Culture and Tourism: preservation and development are necessary in sectors of skills, art, culture, and tourism.  
Sport and Youth: coaching and developing sport facilities are highly required.  
Government and Institution: need to enhance the capacity of administrators (government apparatus and institutional apparatus)  
Politics: political education is required  
Public security and order (Kamtibmas): implementation of Kamtibmas has not been satisfying  
Society: requires planning and execution of social programs

Through potential exploration and being supported by administrative governance as well as good facility developments, Lelang Sembawa succeeded in incising various achievements. The achievement of Lelang Sembawa Village during 2014-2015 are:

Winner: Village Mutual Cooperation Competitive at Regency Level 2014  
Winner: Village Competition at Regency Level 2014  
Winner: Yard Utilization Competition “ Hatinya PKK (Heart of PKK)” at Regency Level 2015  
Winner: PHBS Competition at Regency Level 2015  
Winner: PHBS Competition at Provincial Level 2015  
Winner: Best Library Competition at Regency Level 2015  
Winner: Health and Outstanding Elementary School at Banyuasin Regency Level 2014  
Winner: Desa Siaga (Stand-by Village) Competition at Regency Level 2014  
Runner-up: TOGA Competition at Banyuasin Regency 2014  
Runner-up: Yard Utilization Competition “ Hatinya PKK ” at Provincial Level 2015  
Runner-up: Health Elementary School at Level of Regency 2013  
Runner-up: Hand-Washing With Soap Ambassador (Cuci Tangan Pakai Sabun - CTPS) Banyuasin 2015  
Winner: Mosque Example Jami’ Al-Muhajirin Lalang Sembawa Village at Regency Level 2015

Based on the fast development and village achievements during those years, the head of village received acknowledgement as example head of village from Musi Banyuasin Head of Regency.

## **6.2 Innovations of Lalang Sembawa Village**

Lalang Sembawa Village has conducted various innovation but emphasized in health as leading sector in the village. Lalang Sembawa has great orientation and attention to improvement of health quality. It has been proven by achievement of Lalang Village which has successfully represented South Sumatera Province in Lomba Perilaku Hidup Bersih dan Sehat (Sanitation and Healthy Lifestyle Competition) at national level 2017. Previously in 2015, Lalang Sembawa also became the winner of PHBS Competition at Regency level and the winner of PHBS Competition at Provincial Level. The government of Lalang Village has conducted several innovation in health sector, including:

### **6.2.1 Establishment of PHBS Cadres (Hygiene and Healthy Lifestyle)**

One form of attention and seriousness of Lalang Sembawa Village towards health aspect especially which covers Hygiene and Healthy Life Pattern is by forming cadres of Perilaku Hidup Bersih dan Sehat (PHBS). The PHBS cadres are established in village level meeting which was chaired by head of the village by inviting public figures, religious figures, village apparatus, health cadres and PKK. At this forum, head of the village was accompanied by the village midwife and Puskesmas Head as facilitator. This meeting discussed the importance of community active role in solving the problem face by the village, particularly concerning the establishment and implementation of UKBM

(Community Health Effort) and PHBS. The meeting has resulted in the establishment of PHBS cadres were organized by chairperson of TP PKK. The establishment of PHBS cadres was then accompanied by clear institution process, such as distributing tasks and roles in implementing PHBS as well as making SK of PHBS cadres administrators. Currently Lalang Sembawa Village has 20 PHBS cadres. These PHBS cadres are voluntarily socializing healthy lifestyle to the community through various ways.

The PHBS cadres were later given training from village midwives in Poskedes Lalang Sembawa. The training materials were as the following:

Knowledge about PHBS and 10 indicators of PHBS in households.

Data collecting method through visit to all residents' houses by using forms, to identify whether the house is health or not.

Make a recapitulation of the data by counting and percentage all collected data.

Mapping the PHBS village, in the map PHBS village is given hue according to the data. Red for unhealthy households and blue for healthy households.

Besides conducting cadres PHBS training together with PKK (Family Welfare Fostering) administrators under coordination of Head of Village, TP PKK (Driving Team of PKK) chairperson and Village Midwives also conduct Survey Mawas Diri (self-conscious survey). Survey Mawas Diri is collecting data by visiting houses and conducting interview and discussion with the head and members of the family as well as observing the houses/public places and the surroundings of Lalang Sembawa Village.

Musyawah Masyarakata Desa (Village Community Deliberation) is conducted after the Survey Mawas Diri. The Musyawah Masyarakata Desa is attended by the Head of Village, TP PKK chairperson, village midwives, as well as public figures and administrators to discuss results of Mawas Diri Survey and plan the health problem handling identified from the survey result. Musyawah Masyarakata Desa is also attended by puskesmas officers and related sectors at sub-direct level. Musyawah Masyarakata Desa is held at Village Hall and opened by Head of Village by outlining the purpose of Musyawah Masyarakata Desa. PHBS cadres as executor team of Mawas Diri Survey present the result of survey/data collecting. The formation and defining problem priority are then followed by technical recommendation from health officers/village midwives. Afterward the potentials available in the community are explored to solve the problem. The arrangement of workplan in handling the problem is led by the head of village, followed by concluding the Musyawah Masyarakata Desa by distributing tasks relating to the workplan by head of the village.

The result Musyawah Masyarakata Desa is implemented or manifested in the PHBS activities which is counselling about PHBS. The counselling itself covers several things including:

### **a. Through House Visit**

PHBS cadres conducts counselling from house to house according to problems identified by the data collecting, the media used is photocopy of the 10 PHBS indicators namely:

- 1) Laboring assisted by health personnel
- 2) Exclusive Breastfeeding
- 3) Weigh infants
- 4) Using Clean Water
- 5) Washing Hand with soap
- 6) Healthy Latrine
- 7) Eradicating Mosquito Larva
- 8) Consuming vegetables and fruit
- 9) Physical activities
- 10) Not smoking inside the house

### **b. Conducted by TP.PKK chairperson and PHBS cadres**

TP.PKK chairperson gives counselling during arisan PKK (arisan is a kin of social gathering where the members take turn to win an amount of money by conducting lottery). Cadres of Toddler Posyandu and Elderly Posyandu deliver the counselling during the operational time of Posyandu, cadres of Qur'an recitation deliver the counselling during the time of majelis taklim by approaching the women at Qur'an Recitation and gives counselling to the elementary students during their visit to library.

### **c. Conducted by Village Midwives**

Village midwives delivers counseling concerning PHBS to the members of Posyandu during the routine posyandu operational time every month, thus mothers with toddlers can apply the 10-indicator of PHBS at their households. Village midwives give counseling to elementary students in Desa Lalang Sembawa, including teachers, so that PHBS can be known, recognised, and understood, and to be supported.

After delivering counseling, PHBS cadres evaluate and make another visit to problematic households as well as put PHBS sticker at each house according to counseling evaluation. Below is the data collecting analysis of 10 criteria (indicators) Healthy Lifestyle in Lalang Sembawa Village:

**Table 6.3** Result of Data Collecting and Analysis PHBS Lalang Sembawa Village Sembawa Sub-Direct Banyuwasin Regency Year 2015

KODE WILAYAH	Jumlah Desa	Jumlah RT	Jumlah RW	Jumlah KK	REKORD DATA MELAKUKAKAN PHBS DI RUMAH TANGGA															RUMAH TANGGA SEHAT					
					PERSALINAN DITOLONG OLEH NAKIB		PEMBERUNGAN ASI EKSKLUSIF		MENIMBANG SIKSI BALITA		PARKIR AIR BERSIH		CUCI TANGAN BAKAR SABUN		SAMBAN SEHAT		BERANTEN JENTE		MILIKAN LUPUS B. BUAH		MELAKUKAKAN JAKET PUS		TIDAK MELIBOKOK DALAM RUMAH		
					TG	TA	TG	TA	TG	TA	TG	TA	TG	TA	TG	TA	TG	TA	TG	TA	TG	TA	TG	TA	%
Da.001	231	129	800	25	0	0	0	77	5	211	0	195	16	177	14	109	7	190	11	109	0	154	17	104	87,2
Da.002	176	152	709	18	0	17	0	77	11	176	0	168	15	152	17	178	0	168	15	177	2	168	15	167	95,2
Da.003	216	157	865	8	0	7	0	77	8	216	0	202	12	199	25	214	0	194	20	201	0	191	23	170	87,2
Da.004	219	202	1034	12	0	20	0	100	8	219	0	212	17	214	11	217	1	211	20	217	2	227	12	241	94,6
Da.005	199	114	793	25	0	0	0	62	5	199	62	179	20	168	11	174	19	171	20	167	2	154	41	139	68,8
Da.006	115	126	540	4	0	5	0	57	7	115	0	96	19	85	11	113	0	101	13	119	8	72	41	90	78,2
Da.007	200	104	708	12	0	11	0	74	8	200	0	187	15	182	10	201	0	181	20	201	8	177	26	188	84
Da.008	177	191	811	15	0	11	0	70	10	177	0	163	14	152	15	170	7	169	12	170	2	171	29	181	89,8
Da.009	147	111	511	7	0	4	0	80	0	147	0	131	16	112	11	147	0	141	6	0	0	138	13	139	94,5
Da.101	39	79	311	5	0	4	0	23	1	39	0	40	10	41	11	39	0	44	4	49	11	48	12	41	87,2
JMBA	1751	1011	7300	142	0	111	0	641	17	1751	62	1610	110	1496	167	1714	29	1586	167	1741	11	1507	206	1361	88,1
%				100	0	62,9	0	92,1	3,9	96,6	5,4	91,4	6,6	84,8	10,2	98,1	1,7	90,1	9,1	99,4	0,6	86	14		91,1%

The survey or data collecting using 10 criteria of PHBS (Sanitation and Healthy Lifestyle) 2015 reveals that:

- 1) Laboring assisted by health personnels in 2015 in Lalang Sembawa Village from hamlet one up to hamlet ten has reached 100% of the target. From 142 labors, all of them has assisted or helped by health personnel.
- 2) Exclusive breastfeeding in Lalang Sembawa Village from hamlet 1 – 10 has reached 92.3% of the target. From 142 toddlers born in 2015, 131 infants has been exclusively breastfed.
- 3) In case of weighing infants, from 720 infants in 2015 in Lalang Sembawa Village, 663 infants (92.1%) have been brought by their parents to be weighed in order to monitor the growth of the infants.
- 4) The percentage of households using clean water from hamlet 1 up to hamlet 10 in 2015 reached 96.6% (1693 out of 1753 households)
- 5) In 2015, 91.4% households in Lalang Sembawa Village which are 1603 out of 1753 households has practised washing hand using clean water and soap.
- 6) In 2015, 84.8% or 1486 out of 1753 households in Lalang Sembawa Village has utilized healthy latrine.
- 7) Among 1753 households in 2015, there are 1724 households in Lalang Sembawa Village or 98.3% who has understood the importance of eradicating mosquito larva

- 8) During 2015, 90.5% from 1753 households in Lalang Sembawa Village have included vegetables and fruits in their daily menu.
- 9) The percentage of households who has done physical activities every day in 2015 reached 99.4% or 1,742 households.
- 10) In 2015, 246 households still smoke inside the house while 86% (1507) households have been aware not to smoke inside the house.

### **6.2.2 Elderly Posyandu (Integrated Health Service Post)**

While other posyandu commoly specialized for toddlers, Lalang Sembawa Village has Posyandu for the elderly. Currently there are 2 Elderly Posyandu in the village. Elderly Posyandu is actually a resident's house which is routinely used for the elderly to gather. In addition to check the elderly's health, this posyandu is actually an innovation form which emerges from the thought that psikologically the elderly will always be happy if they have a routine activity together.

### **6.2.3 Environmental Management Innovation Based on PHBS**

Various efforts has been made in order to expand the coverage of PHBS-based households. One of the innovations is managing the environment based on PHBS. Below are several activities related to managing environment to become healthy community in Lalang Sembawa Village

#### **a. Istallation of garden lamp with PHBS logo in the residents' yard (roadside)**

The istallation of garden lamps with PHBS logo in the residents' yard is aimed for street lighting and information media or reminder of PHBS program. The installation is done independently by the community whose house is on the village roadside.



**Figure 6.1**  
Lamp with PHBS Logo



**Figure 6.2**  
Educative Poster  
concerning PHBS

### **b. Create the Messages concerning 10 indicators of PHBS**

Messages concerning 10 PHBS indicators are displayed in strategic public places and crossroads. It is purposed to remind the community to always live with clean and healthy culture. The messages of PHBS are made into several forms and funded from APBDs and the community themselves.

### **c. The Creation of Garbage Bin from Used Plastic Jerry Can**

To make the environment clean and neat, the village made garbage bins from used plastic jerry can. The used plastic jerry cans were derived from the residents and plantation around Lalang Sembawa Village. The Garbage bins are made by the community and distributed to anyone who does not have a household waste disposal facility.

### **d. Processing the Village Garbage Independently**

At collective level, the collection of household garbage is coordinated by each RT (Neighbourhood Association). Garbage from each RT is collected by motorized rickshaw (bentor) and thrown away to a landfill. Garbage which has economic value is transported to Garbage Bank which is located in hamlet IV.



**Figure 6.3**  
Process Of Making Garbage Bin From  
Used Plastic Jerry Can



**Figure 6.4**  
Collective Garbage Collection



**Figure 6.5**  
Weighing Worth Selling  
Garbage

#### **e. Establishing Cooperation Agreement between Village Government and Used Goods Businessmen (Garbage Bank)**

Lalang Sembawa builds cooperation with private party in managing worth-selling garbage. Through a clear mechanism of profit sharing, commercial garbage will directly be sold to garbage bank in Lalang Sembawa Village. Other garbage which is not worth-selling will be processed into various handicrafts.

#### **f. Handicrafts Made of Garbage Material**

Various garbage that is not worth selling is processed by PKK and women of Lalang Sembawa into handicrafts which has economic value. It is beneficial to reduce garbage which cannot be recycled. The handicrafts are often exhibited in various occasion held by Banyuasin Regency.

#### **g. Building permanent ditch/ siring**

In order to overcome flood and puddles that may detrimental the health, Lalang Sembawa Village builds permanent waterway or ditch in the village. the build of ditch or siring is done together by the community of Lalang Sembawa Village.



**Figure 6.6**  
Exhibition of Handicrafts



**Figure 6.7**  
Building Permanent Ditch/Siring



**Figure 6.8**  
Admission of KKL  
Students from Health  
College

#### **h. Building Cooperation with Higher Education in Health Sector for the Placement of students conducting Field Work (PKL) and Fieldwork Visit (KKN)**

In order to encourage clean and neat culture and better environment arrangement, Lalang Sembawa Village build cooperation with high education institution in placement of PKL and KKN students according to the theme of health issue.

#### **i. Cleaning up the Village Surroundings**

Besides conducting voluntary work, Lalang Sembawa Village also nurturing cooperation with companies around the village related to cleaning up the village (one of which is regularly grass cutting))

#### **j. Clean Environment And Not To Litter Competition**

The Mosque Teenage Association and Landfill personnels hold Drawing and Colouring Competition with the theme Clean Environment and Not To Litter. This competition is held by Al-Muhajirin Mosque in Lalang Sembawa Village.



**Figure 6.9**  
Cleaning Up the Village Surroundings



**Figure 6.10**  
Colouring Competition with Theme of Clean  
Environment

**Figure 6.11**  
Fruit Plantation in  
Residents Yards



**Figure 6.12**  
Creating TOGA  
Garden



### **k. Awarding The Clean and Healthy, Yard Utilizing Households**

Most of residents in Lalang Sembawa has utilized their yards by planting fruit plants. The award was given to families who has utilized their yard thus the the cleanliness is given more attention.

### **l. Creating TOGA (Tanaman Obat Keluarga – Family Medicinal Plants)**

TOGA garden was collaboratively made by the government and members of PKK. Members of PKK Lalang Sembawa made TOGA at the backyard of village office, and on Fridays they take care of the TOGA garden together. The seedlings were derived from the housewives in Lalang Sembawa Village and some were bought using funds from Pokja II and Pojka IV PKK Lalang Sembawa Village. In 2014 TOGA of Lalang Sembawa won the second place of TOGA competition at Regency Level..



**Figure 6.13**  
Environment Cleaning at Level of Hamlet and  
Neighbour Association (RT)



**Figure 6.14**  
Environment Cleaning at Level of Hamlet and  
Neighbour Association (RT)

### **m. Mutual Cooperation in Cleaning up The Hamlet and Neighbourhood Association (RT) Environment**

Each RT is regularly work together on Sundays. The males cleaned the ditch and tidied road while the females participated in preparing refreshments.

### **n. Producing Rosella Syrup**

To increase stamina and body fitness, Lalang Sembawa initiated planting the Rosella. The harvested Rosella flowers are then processed into syrup and consumed as drink. Besides being consumed for healthy drink, Rosella is expected to be one of the leading commodities in the village. Rosella syrup is often exhibited in several occassion and available at the souvenir stores in Banyuasin.



**Figure 6.15**  
Harvesting Rosella  
Flowers

### o. Distributing Katuk (Sweet Leaf) Seedling

To meet the needs of vegetables, daun katuk (sweet leaf/*Sauropus androgynus*) seedlings are distributed to families in Lalang Sembawa Village. the leaf is also believed to increase breastfeeding productivity. The seedlings are planted the yards and around the residents' houses.

### p. Healthy Latrine Movement

It is a fund-rising movement to help the neighbours who do not have healthy latrine. The fund-raising has been done voluntarily as a form of attention to the other households. The fund is collected through the RT so that the distribution for building healthy latrines can be more effective.

## 6.2.4 Government Innovation in Health Sector

Institutionally, Lalang Sembawa Village also administer health development by issuing various village regulations (Perdes) as the following:

### a.. Perdes Concerning Non-Smoking Areas

In order to create non-smoking areas, the village government has provided banner about non-smoking areas and issued village regulation on non-smoking area to support the effort which is Perdes No 05 Year 2015. In addition, the government of Lalang Sembawa Village also provide smoking corner as solution to Non-Smoking Village Regulation Area. It is also done to protect the rights of not smoking residents. The smoking corner is lated near the Village Toga Garden, which was funded from development fund awarded as the runner-up of Toga Competition at Regency Level.



**Figure 6.16**  
Non-Smoking Area



**Figure 6.17**  
Smoking Corner

## **b. Perdes Concerning Night Hour for School-Aged Children**

In order to build healthy and educated behavior, the village government compels a prohibition for school-aged children to be out of homes after 11 p.m. which is stated in Perdes No. 09 Year 2015 on Night-Hour Rule in Lalang Sembawa Village Area.

## **6.3 Health Innovation Process in Lalang Sembawa Village**

Lalang Sembawa Village began to give attention when a flood disaster occurred on 11 December 2013. This disaster happened because of the narrow water channel was clogged by the plantation waste. The phenomena had encouraged the village government to take initiative to normalize the river channel. There were two big challenges in realizing this intention. First the willingness of the residents to give up their land for the normalization and second, the budget constrain.

The Village Head had a special strategy to surmount the problem regarding the willingness of the residents to donate their land. The Village Head started the water channel normalization work from group or residents willing to donate their land. Gradually, group of residents who were previously unwilling to give up their land changed their mind and support the effort of water channel normalization.

To overcome the budget constrain, the village head encouraged the self-funding from the residents. It also faced challenge. The residents initially did not give positive response to this idea. To raise the residents' interest, the village head took initiative to do fundraising from the benefactors in the village. When the benefactors started to donate, the residents' intention was gradually emerged to support the waterway normalization by self-funding. The community self-help support was also gained from deliberation at level of Neighbourhood Association (RT) regarding the waterways normalization planning based on self-help.

After the water channels had been normalized, the village residents began to feel the merits and support the programs of village government to organized their environment. When the environment began to be well-organized and the community culture was getting healthy, in 2014 the village government spotted an opportunity for Lalang Sembawa to participate in PHBS competition. The village government observed that the 10 indicators of PHBS had actually implemented by the village residents. Since then, Lalang Sembawa Village has begun to be actively involved in PHBS competitions from the level of Regency and then Provincial up to succeed in being winner at national level in 2016.

After being actively participate in PHBS competitions, the village government has actively build partnership with various institutions including university to promote the community healthy lifestyle. After winning the PHBS competition at nationallevel in 2016, the village head had a goal to have one member of every family in the village who obtain education in health thus the healthy culture can be completely internalized at level of family. Collaboration in promoting healthy lifestyle has also been implemented by Lalang Sembawa Village by building family latrines together with Indonesian National Army (TNI).

## **6.4 Innovation Factors in Lalang Sembawa Village**

### **a. The Openess of The Village Head**

The village head of Lalang Sembawa always opens not only regarding the fund but also the problems in the village as well as the solution will be conducted. Through the consistent openness shown by the village head, trust and sense of belonging are grown among the village residents towards various forms of innovation as well as village programs. In additon, the village head always internalizes values and builds trust to the hamlet heads. The village head always emphasizes that the village apparatus should focus on any efforts for the community. This step is established in the village slogan “work for all”. The word “work” here has a far more noble than the ordinary working. When the hamlet heads choose to be working, it is actually motivated from the economic incentive, instead of the honorable desire for the community welfare.

This message has been completely supported by the hamlet heads. This tendency was seen when the village expansion policy was temporarily delayed due to the lack of reserve fund from the central government to provide fix income for the village apparatus. Realizing this condition, the village head explained the hamlet heads that they all worked not due to the motivation to obtain fix income, but working and contributing for the community. Through the openness and socialization of the purpose of the social work, every program pioneered by the village head is always fully supported by the hamlet heads and village apparatus.

## **b. Community Education Level Has Been Relatively High**

Another factor which supports the success of Lalang Sembawa Village in innovating on health aspect is the community education level which has been relatively high. The highly-educated community has affected to their open-minded to health care. Besides, the community become more welcome, being educated and giving attention to health because of the presence of students who are conducting field practice (PKL) and Fieldwork visit (KKL) from university relating to health sector.

## **c. Natural Disaster**

Referring to the innovation history in Lalang Sembawa Village regarding the maintenance of healthy living behavior, it can be understood that the natural disaster is one of the important factor which encourage the emergence of healthy innovation. Flooding disaster which happened encouraged the village community to give more attention and awareness towards the environment organization and preservation. Disaster is often considered as a starting point of development, and in the case of Lalang Sembawa Village, the flood disaster has initiated innovation and development focus in healthy sector.

## **d. Incentive**

Although not very significant, incentive is one of the factors in healthy innovation in Lalang Sembawa Village. In this case, it is not economic incentive but tend to be derived from the acknowledge from several parties. There are two kinds of incentives colouring the innovation process in Lalang Sembawa Village which are from the external village government and the village government itself.

The external village government such as regencial government, provincial government and central government has given incentives in form of organizing PHBS competitions. This competition has encouraged Lalang Sembawa Village to compete and organizing the environment better although they have conducted innovation in health sector.

Incentive or appreciation from the village government is delivered through motivating the PHBS cadres. Besides, awarding the households who has obtained healthy living behavior is also effective in improving the residents awareness towards healthy sector. The community also become more pro-active in doing mutual cooperation to create healthy environment in Lalang Sembawa Village.

## 6.5 Closing: Disaster, Incentive, and Healthy Innovation Approach

Based on form, process, as well as factors affecting healthy innovation, an important valuable learning can be concluded. Different to most innovation in various villages and regions which was motivated or inspired from other regions, the innovation in Lalang Sembawa Village was initiated from the experience of flood disaster. Although the natural disaster has become one of the key drivers for innovation, the community culture and concern in manifesting healthy innovation will be not entirely changed without an effort. The continuous openness, work spirit, of the village head has eventually become key factors for the evolving community culture and mindset.

From the research in Lalang Sembawa Village, it can be understood that budget constraints cannot obstruct the process of innovation. The efforts from the village head and apparatus in moving the community was able to encourage voluntary contribution from various parties. Based on the innovation process explained at previous part, it can be understood that Lalang Sembawa Village has begun organizing the environment and focus on development issues prior to their participation in PHBS competitions at regency level, provincial as well as national level..

One of the very important learning from the case of Lalang Sembawa Village is the mind set and approach which based various innovation form in health sector. From the healthy clean pattern of living, the government of Lalang Sembawa Village has applied a concept focusing on efforts in manifesting the healthy rather than providing the health facility. Focus on PHBS has succeeded in building community culture directing to health, whereas developing the quantity of health facilities too high can be considered as incentive for the community to become in sick. Health facilities are indeed needed to overcome several illness and accidents but the existence should not lead to emergence of unhealthy culture among the community.

The innovation approach has given a profound understanding that Lalang Sembawa Village has succeeded in educated its residents to live and focus on good health, instead of educating and give a suggestive thinking towards its community to be unhealthy by developing the quantity of health facilities. Besides, the importance of education on health innovation in Lalang Sembawa Village has been implemented by the effort to deliver health education at early age. This attention is given by the village cadres and apparatus to continuously invite local elementary students to promote PHBS by various interesting ways such as the practise of brushing teeth and washing hands together as well as singing songs with healthy behaviour content.

**(Sources: Interview result of village officials by research team, documentation of research team, village archive)**

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