



**PROGRAM REPORT
MOBILE EDUCATION AND CONSERVATION UNIT
MECU-2016**

**M
E
C
U

2
0
1
6**

**FINAL REPORT OF MOBILE EDUCATION AND
CONSERVATION UNIT**



Education and Conservation of Orangutan Mobile Unit Program Mobile Education and Conservation Unit (MECU) 2016

Education and conservation of orangutan mobile unit program of Mobile Education and Conservation Unit (MECU) aimed to minimize the conflict between orangutan and the society in villages of Timbang Jaya, Timbang Lawan and Laudamak because these villages are bounded directly with the habitat of orangutan.

To achieve those objectives, Mobile Education and Conservation Unit (MECU) carried three (3) components of activity. They were:

1. Community awareness of sustainable agriculture demonstration plot
2. Environment education and conservation of orangutans and their habitat at schools.
3. Reboitation and plant enrichment of orangutan feed in the villages border with Gunung Leuser National Park as orangutans' habitat in Bahorok District.



PREFACE

Praise gratitude we prayed to the presence of Almighty God, because with His help we were able to complete this report of Mobile Education and Conservation Unit (MECU 6). Despite the challenges and the obstacles that we experienced in the process of this project, we were working to fix it properly.

We are thankful to Orangutan Republik Foundation (OURF), President/Project Officer : Gary Shapiro, Grant Manager: Dan Benveniste, OUREI USA Santa Monica US Fish and Wildlife (USFW), OUREI Indonesia, Yayasan Inisiatif Pendidikan Orangutan Indonesia, The Foundation Adviser : Mr Soedomo Morgonoto, The Foundation Ambassador : Mrs Angelina Sondakh, The Head/Program Director : Mr Ridhwan Effendi, Chief of Monitoring & Evaluation Program: Mr Marison Guciano, Dinas Kehutanan Sumatera Utara, all Donatur, NGO, BTNGL of North Sumatera, BBTNGL of Bukit Lawang, Bahorok District: Camat, Leaders of Villages in Bahorok, RUFFORD Foundation, International Primatological Society, TOP Foundation and all Staff of Mecu VI (Cpoi-Sumut) and volunteers that have contributed both directly and indirectly in this MECU program.

This report is expected to be able to give significant impact on the problem solving for the conflict between Orangutan and the society who live around the forest.

My Regards,
Director Operational

Herman Syahputra

DAFTAR ISI

	Hal
Cover	1
Preview of MECU Program in 2016	2
Preface	3
Table of Content	4
Program Report of MECU 6	5
Chapter I. Introduction	6
1. Brief Preview of Program	6
2. The Background of Program.....	7
Chapter 2. The Journey of MECU 6 Program	9
1. Components of Activity 1. Activities in Sustainable Agriculture Demonstration	
Plot	11
1.1. Activities in Villages of Timbang Jaya and Laudamak	11
1.2. Adequate Agriculture Technology	14
1.3. Nursery	17
1.4. Planting	18
1.5. Treatment, Sanitation, Fertilization, and Maintenance	18
1.6. Harvesting and Pasca Harvesting.....	18
1.7. Trainings	19
1.8. Visits Activity	19
2. Components of Activity 2. Increasing The Students' Knowledge and Awareness	
on The Importance of Orangutans and Their Habitat	20
2.1. Orangutans Conservation and Their Habitat	20
2.2. Environment Education and Orangutan Conservation	21
2.3. Events	22
2.4. Distributing Material Campaign of Orangutan Conservation	23
2.5. Training and Comparative Study	24
2.6. Reboitation and Tree Planting	24
Program Monitoring	26
Chapter III. Achievement Analysis and Result	27
Chapter IV. Analysis of Chances, Challenges and Recommendation	28
1. Analysis and Chance.....	28
2. Challenges.....	30
3. Recommendation.....	31
BAB V. Closing	33

PROGRAM REPORT OF MOBIL EDUCATION AND CONSERVATION UNIT 2016 (MECU 6)

Program Area	Asia/South Pacific
Country	Indonesia
Program Title	The Development of Community Economic Empowerment Around Gunung Leuser National Park and The Improvement of Environment Education for Students in Bohorok District, Langkat Regency, North Sumatera by Sustainable Agriculture Demonstration Plot.
Phase	Sixth (6)
Project Title	YIPOI – CPOI 2016 (MECU 6)
Address of Program Implementer	Villages of Timbang Jaya, Timbang Lawan, Laudamak in Bohorok District, Langkat, North Sumatera, Indonesia.
Duration of Project	One (1) Year
Date Report written, Signature	
Reporting Period	January – December 2016



Project Location

CHAPTER I INTRODUCTION

1. Brief Preview of MECU 6 Program

2016 is the sixth year of program implementation of Mobile Education and Conservation Unit (MECU). Mobile Education and Conservation Unit 2016 (MECU 6) was a follow up of Mobile Education and Conservation Unit 2015 (MECU 5). In 2016, MECU 6 conducted sustainable agricultural demonstration program which is located in Timbang Jaya, a village directly borders with Gunung Leuser National Park, the habitat of orangutans in Bahorok District. Generally, Mobile Education and Conservation Unit 2016 (MECU 6) aimed to increase the society's knowledge and awareness on the importance of orangutans and their habitat. Besides, MECU 6 supported efforts to improve the local economy through alternative business models that ecologically supporting orangutan conservation and their habitat.

Sustainable Agricultural Demonstration Program is still ongoing and expected to be continuously help local community especially farmers who are directly adjacent to the area of Gunung Leuser National Park or the buffer zone in Bohorok District, Langkat Regency, North Sumatera Province. In 2016, We have three local community groups, they are Tombo Sekar in Laudamak Village, Salang Punggur in Timbang Lawan Village and Tani Mandiri in Timbang Jaya Village. Each group consists of 25-30 members.

The priority of CPOI program is the local people who live in the buffer zone of Gunung Leuser National Park in Bahorok District. It has been begun since 2013 until 2016. The efforts to continue this program depends on the intervention and support provided by improving the capacity building of human resource, such as mentoring or assistance through MECU -CPOI program as the third party to make the program successful.

Besides, we support various training both technical and non-technical to support the success of the program. Non technical trainings such as group management, values-based planning and participatory monitoring. Technical trainings such as organic fertilizer production, plant pests and diseases, harvest and post-harvest, environmental awareness, preservation and forest conservation as the habitat of orangutan.

Field staff (community facilitator) CPOI-MECU also conducted intensive mentoring and regular meeting with the local community group. And the campaign activities are importance as well by asking the stakeholders to participate in conducting reforestation activity in the moment of Environment Day and Orangutan Care Week.

The program is expected to improve social welfare and independence of participants and local community group to create solidarity and mutual cooperation in order to maintain the sustainability of their lives while preserving the environment and conservation of orangutans and their habitat. By planting trees as a source of feed for animals, especially orangutans around the buffer zone of Gunung Leuser National Park (TNGL).

2. The Background of Program

Status of orangutans in Borneo and Sumatra, the population is very indangered now, and projections about the long-term survival could be extinct in the most recent survey in the final report, issued in August 2004, that the Borneo population now reaches 5,000-6,000 individuals. There are many factors affecting the remaining orangutans. It means that it requires immediate mitigation actions by conservationists and wildlife management authority.

While the Sumatran orangutan species ranging from 7000-7500 individuals left in 2004 and 6.500 to 6.700 individulas in 2009 (Singleton, personal communication). The remaining orangutans are found in 13 habitat units (HU), especially in Aceh province. Most have less than 500 individuals, and only three that have populations of more than 1,000 orangutans (Singleton, et. Al, 2004). Current data indicates that the overall population decreased at a rate of about 1,000 individuals per year mainly due to habitat destruction (logging), hunting, "pest" (Robertson and van Schaik, 2001). The loss rate is significantly greater than the rate of population growth, and habitat destruction and conversion is also significant: 10 to 13, lost 10% or more of their habitat each year.

At the rate of habitat destruction, that is, the possibility that the Sumatran orangutan could become extinct in large numbers in five to ten years in the future. The endangered status of Sumatran Orangutan is the mirror as threatened as other wildlife in Sumatra such as, gibbons, bears, elephants, rhinos and tigers.

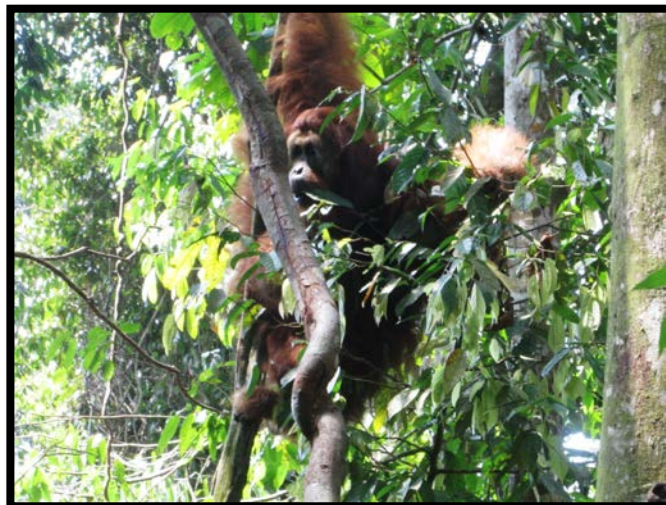
By conducting education and awareness activities of MECU program, it is expected to be able to influence the local community attitude and their destruction activities in the area adjacent to the habitat of endangered wildlife. Finally it would decrease the rate of threats both orangutans and their habitat.

Indifference towards wildlife is common among the local population, and the need to meet the economic needs that motivate the locals are very important. That is why MECU program chose education and awareness approach for children in early age and the the village leaders.

There are two NGOs who have the same program in this area, the Sumatran Orangutan Conservation Program (SOCP) and the Sumatran Orangutan Society-Orangutan Information Center (SOS-OIC). However, it is not enough to cover the orangutan habitat areas which is covering Aceh and North Sumatra.

It describes the public knowledge on the importance of orangutans and their habitat is still weak. YIPOI Foundation through their partners, North Sumatra CPOI, will apply participatory methods to build awareness so that people would be more environmentally friendly and has the knowledge to improve their livelihood.

YIPOI conducts regular visits to the village in order to build long-term relationships with CPOI-North Sumatra. Conservation education conducted by YIPOI through CPOI-North Sumatra aims to protect orangutans and their habitat. YIPOI believe the best way to build awareness in the village is by building trust with the village leaders and explain to them that conserving and improving their livelihood could be jointly carried out.



CHAPTER 2
THE JOURNEY OF MECU 6 PROGRAM



1. Components of Activity 1. Sustainable Agriculture Demonstration Plot

This sustainable agriculture demonstration plot has entered the second year, and has provided a special experience for the development of CPOI program in 2016. Many things have happened but the presence of the demonstration plot has set an example and provided a positive contribution to the surrounding community. Although they have no fixed maintain the habit of using chemicals materials, at least they got the information about the importance of health food, especially for the needs of their family. It still difficult for them to change but slowly they must have been aware of it by reducing the use of chemicals and see that many alternatives by utilizing natural materials to be used as biopesticides and natural fertilizers. And farmers have started growing awareness and the added knowledge that is not good if they use chemicals primarily to maintain their own health and for the fertility of the soil.

The developments and changes in the pilot project is not very significant, that we keep conducting ongoing experiment in accordance with the capability and capacity of existing human resources. We are pursuing the production by adjusting with the local market situation, the weather conditions, determine suitable plants according to the season. And it needs additional models and methods of farming especially in the use of a narrow yard.

The position of this plot is located near the tourist area so that we sell our harvest to the the restaurants in Bukit Lawang. Of course we need to have network with the restaurants owners to build the independence of the demonstration plots itself. And we are optimistic to get optimum results. But we keep remembering that this demonstration plot is a place to learn and make researches of sustainable agriculture to gain experience and increase knowledge about organic farming.

Sustainable Agriculture Demonstration Plot is an agricultural system that encourages the formation of soil and healthy plants by performing cultivation practices such as recycling plant nutrients, crop rotation and avoiding synthetic fertilizers and pesticides. In order to support sustainable agriculture demonstration plot, the use of organic matter derived from plants and animals must be implemented optimally and sustainably, considering that since the use of synthetic chemicals in agriculture, the soil and its actual function is missing. This is because the land is seen as a mere object, regardless of its sustainability. One of the indicators (benchmarks), the decrease in soil fertility is the increased use of artificial fertilizers per unit area for maintaining the level of productivity.

Learning from the history and experience that illustrates that agriculture is no longer promising in terms of both productivity and safety for consumption if the conventional practice which using fertilizers and pesticides is still conducted. The question is what should we do to save from more destruction? Sustainable Agriculture Demonstration Plot has become one of alternatives that can be applied to reduce the acceleration of destruction and even expected to be an attempt to recovery. Sustainable Agriculture Demonstration Plot is also known as organic farming, botanist and various other terms. Sustainable Agriculture Demonstration Plot is an agricultural system that is more environmentally friendly and an approach on exploiting the potential of farmers as the main actor.

1.1. Activities in Timbang Jaya and Laudamak

a. Timbang Jaya



The activities were carried out by students and people who live around the plot and MECU team had regular meeting with them. Here, they started to make natural fertilizers, biopesticides and tried horticultural/vegetable planting techniques.

Mobile Education Conservation Unit (MECU) team also coordinated with the village government to obtain information about people who have a problem or concern with the issue of agriculture and orangutans. Besides, the village government also needs to know the Mobile Education Conservation Unit (MECU) program that will be carried out in the villages.

- Land preparation



For the execution of the land, we normally do it manually by using hoes. In the second semester of 2016, we accepted donation (tiller machine and drill for planting trees) from PT Rutan through Mr. Gary Saphiro as the President of Orangutan foundation. Farmers also

appreciate these machines because it becomes easier for them to cultivate the land. Using drill machine make their work faster and save much time to do other works but they must be very careful in using it because there is a risk. And it needs to be considered by the user when the smoke released by the machine that can delivers air pollution (machine usage data is in attachment).

- Experiments

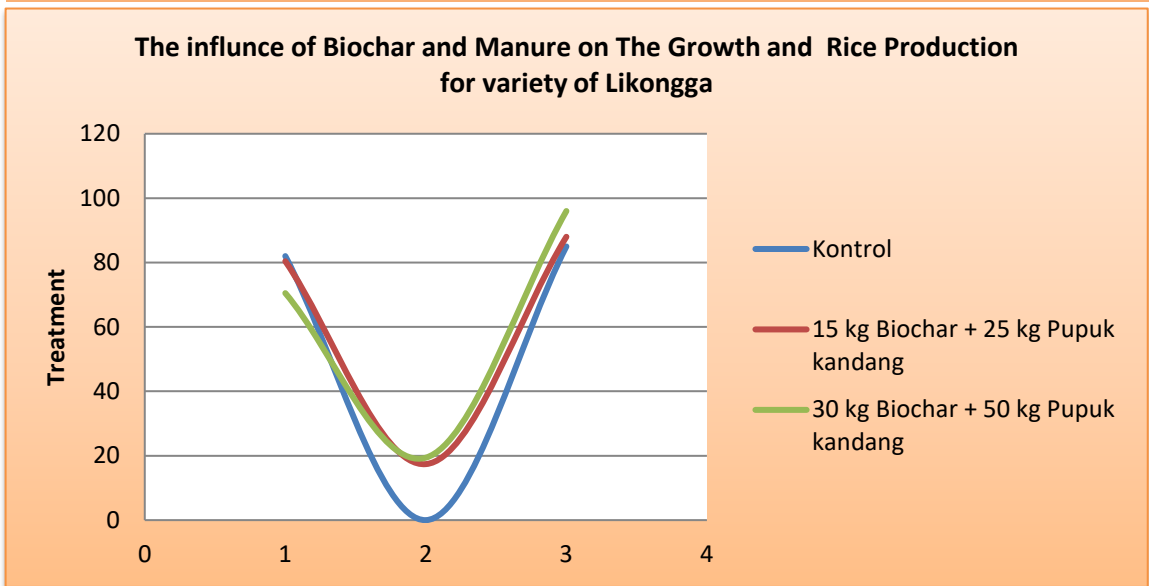


One of the experiments that we do is rice and biochar as fertilizer for crops. The level of success of the pilot project have a positive impact for the institution of supporter CPOI as demonstration plots and community activity in Bohorok, especially people around the

demonstration. To give encouragement to the team around the field and farmers, there is a degree of success of the results of experiments conducted at the demonstration plot. In accordance with the conditions surrounding many farmers planting rice paddy we conduct experiments. As we've created an experiment on the "Effect of biochar and fertilizer on the growth and production in rice (varieties likongga)". From the experiments, the conclusions are:

1. By adding the volume of biochar to the experimental plots, the height of the plant is reduced when it is compared with the controlled one
2. By adding the biochar, the number of chicks are more that the controlled one
3. The average of grain weight increased with the addition of biochar on the experimental plots compared with the controls
4. The difference or the percentage when compared to the control as below:

Treatment	Height of Plant	Sum of Chicks	Weight of Grain
control	82	15,4	85
15 kg Biochar + 25 kg of manure	80,4	17,4	88
30 kg Biochar + 50 kg of manure	70,5	19,4	96



a. Lau Damak



In 2016, the local community group, Sekar Tombo, focused on the development of the plot by doing experiments for several plants and nursery. They failed many times because of pests, such as Thomas Leaf Monkeys and other animals. The group has tried to find a solution to overcome these problems. The last, they planted land-rice and the result was quiet good. But pest was a problem that still needed to be solved. They have planted vegetables, gingers, and

watermelon but the result was not good because of the pest.



From this bad experience, the group prepared the long-term crops with intercropping such as palm, coconut, gaharu, and jengkol. CPOI as the supporting team always conduct regular discussions about planning and team work. Besides, topic about conservation and orangutan

1.2. Adequate Agriculture Technology

Farmers always deal with problems in agriculture. Soil lost its fertility, pests, expensive fertilizers and agricultural poisons. And it is not only about expensive price to buy seeds but farmers are difficult to obtain good seeds. In sustainable agriculture demonstration plot, we tried to make the technology independently by producing simple compost from leftover garden waste, the rest of cow dung, using natural materials in the garden as a trap crop pests and then applied them on plants.



a. Compost



Compost is the end result of the process of organic materials with the help of bacteria. In compost there are not many elements of N, P and K, that is why it is different from synthetic fertilizers. But compost contains many

micro nutrients Fe, S, Ca, Mg, etc. This element was not contained in artificial fertilizers particularly. We make 2 types of compost. They are solid and liquid compost. To make solid compost is by collecting organic waste materials (kitchen, gardens, livestock, etc.), cut/chopped organic materials, mix the wet and dry organic material, insert it into the box, the bottom should be lined with bamboo twigs for air circulation and the water is not stagnant. We should control the temperature, moisture, odor, and the acidity. Flipping - turning compost according to the conditions of natural processes (2 or 3 weeks), and then compost is ready to use approximately 2-3 months. While the liquid compost is practically made only by immersing the manure into the drum and filled full of water, then let stand for 15-21 days, and the fertilizer is ready to use.

The most important thing to speed up the composting process is the population of microorganisms, the surface area of the material with the least possible cutting of materials, organic materials which are used for example legumes (beans), stimulators eg manure, EM4 (Effectively microorganisms).

b. Biochar



Biochar is actually has been used to enrich the soil by ancient society along time ago. Lately it has been also demonstrated that the addition of biochar to the soil can reduce greenhouse gas emissions CO₂ and others to the atmospheric.

Modern science and technology has been started to examine the influence of biochar on plant growth since the early 20th century. The use of charcoal as fertilizer plant biodiversity in fact has been done by the ancient people of the different regions. In Indonesia, rural communities have been using charcoal or other energy sources and improvement of soil fertility at a limited level. But modern society realize the true benefits of biochar after the discovery of black soil in the Amazon basin of South America. Amazon black soil known as terra preta was formed since more than 2000 years ago by the habits of the people burn biomass and sank into the ground. In sustainable agriculture

demonstration plot, we have just started to try to make biochar as an additional planting media.

c. Biopesticide



Preparing the manufacture of biopesticides is by utilizing existing plants around like leaves of the soursop, papaya, spinach leaf, extracted to be used as a biocontrol agent, then spray it on plants which are affected by pests or diseases. The treatment of this biological agent is to give plants resistance to diseases.

d. Plants of Pest Trap



The plants that we use as a pest trap are *tahi ayam* and *kipahit* (local name), the bright yellow flowers and their distinctive smell make pests do not want to come to disturb the plants.

e. Planting Medicinal Plants



We have planted many kinds of medicinal plants, such as red ginger, elephant ginger, *kencur*, *kelor*, *pepaya jantan*, *lengkuas*, *pare* (local name). The plan is we will make special plot for medicinal plants and we can sell it to earn money for the project itself.

1.3. Nursery



Mobile Education and Conservation Unit (MECU) collaborated with local community group in the sustainable agriculture demonstration plot of Laudamak village to make nursery . The process is:

- a. Filling the polybag
The local community groups that are involved in this program was the one who take incharge in filling the polybags. The materials we used were soil, compost and rice husks with a ratio of 1 : 1 : 1, to support the growth of plants optimally.
- b. Planting seeds into the polybag
Planting seeds of the plant have to fit with the type of plant, because each plant has its own characteristics, so it has a different treatment for each plant.



c. Seed treatment

Treating seedlings need special care before being transferred to the field. Treatments are done regularly to have a good seedling growth and fulfillment of nutrients for plants.



1.4. Planting

Planting activities in the field conducted regularly and be aware of the condition of the seedlings are ready to plant, the age of seedling growth because it will affect the growth and production.



1.5. Treatment, Sanitation, Fertilization and Maintenance

Plant treatment has been conducted since planting until the harvest. There are preparations, such as fertilizers that we use for the plant after the plant grows. We gave liquid compost 3x a week in order to accelerate the growth of cultivated plants while solid compost has already given into the planting media before. In treating the plant, the planting media should be clean and we had to observe the condition of the plants against pests, or other such nuisance.

1.6. Harvest and Pasca Harvest

The plants which is harvested in plot depend on the season. Our production is sold to the markets, restaurants, cafes, household. Fluctuations in results and sales data contained in the Appendix.



1.7. Trainings



CPOI staff, Mrs Erna was explaining the process of making natural fertilizer. Usually, the trainer gives many questions to stimulate the participants to learn. For example, why organic materials can be decomposed? Why plastic is not biodegradable? And the trainer will tell them about the microorganism (living creature that can't be seen by eyes) that is often being the victim because of the use of synthetic fertilizers and toxic chemicals. In the introduction session, participants are invited to make the list of kinds of organic materials that exist around them, which are utilized as compost. Then, the participants discussed to understand the benefits of organic fertilizer. In the next session, participants would practice on how to manufacture liquid and solid organic fertilizer and natural pesticide.

From this training, participants gained knowledge about the ecology of the soil and microorganism which helps the human life particularly. Participants got to know the type of organic materials that can be composted and organic pesticides. Participants understand how to make solid and liquid compost, organic pesticides and biochar.

1.8. Visit Activity



Visits to CPOI's sustainable agriculture demonstration plot is very valuable. It means that CPOI can share with the visitors who come to contribute in the plot. That is why promoting this program needs good marketing management to attract students and public to come into this sustainable agriculture demonstration plot.

2. Components of Activity 2. Increasing The Students' Knowledge on The Importance of Orangutans and Their Habitat.



This activity aims to broaden students' perception about the environment, the knowledge of the orangutan and its habitat particularly. This activity was held at school in the District of Bahorok. This program tried to reach many students at schools to participate actively in the activities of environmental education and orangutan observation.

There are some stages to apply the environmental education and orangutan conservation program in 2016. They are conducting orangutan conservation education through tree planting that was followed by conservation cadres in Bahorok District, visiting schools to do environmental education and orangutan conservation, conducting environmental events and orangutan caring day, distributing campaign materials to schools and facilitating and supporting schools in developing environmental schools in the district of Bohorok.

2.1. Orangutans Conservation and their habitat



Conducting orangutan conservation education through tree planting that was followed by conservation cadres, university students from Medan and the community in Bahorok District.

2.2. Environment education and orangutan conservation

Visiting schools to do environmental education and orangutan conservation in the district of Bohorok. The target of this visit program is the selected schools which are located in the district of Bahorok. The purpose of this activity is to provide information, knowledge and build students' awareness and concern about environmental issues, the condition of Gunung Leuser National Park as the habitat of orangutan which is known as one of the endangered species.

In each school, MECU team was assisted by teachers who had been followed the environmental education and orangutan conservation previously. These teachers helped to prepare students to gather in one classroom which is provided for MECU team to conduct environmental education and orangutan conservation. This environmental education activity consisted of introduction, presentation about Gunung Leuser National Park and the key species.

Besides, Field Manager of MECU would also explain about school environment especially the waste management, club of nature lovers and the ways to establish and organize nature conservation work by students. And each presentation would be followed by question and answer session. From the information above, the students' knowledge and awareness are increased. This can be seen from the enthusiastic and their response to the information presented by the speakers.



PUJI MULIANI
Member of Tombo Sekar in
Laudamak Village

We are in the destruction of nature. But why are there still many people who want to destroy the forest? Come... We are young people should be able to maintain and preserve the forest as a habitat for orangutan.



IDRIS
DISHUTBUN LANGKAT

2.3. Events

a. Orangutan Caring Week



Total population of protected animals in the area of Gunung Leuser National Park such as orangutans, tigers, elephants, and rhinos are threatened to decline because of the forest encroachment and illegal logging in some forest areas of Sumatera. That is why it needs attention from all parties to preserve those animals in the forest.

Today, the threats to the existence of orangutans are still higher due to the forest encroachment and illegal poaching in the forest area of Sumatera. These reasons encouraged Orangutan Care Foundation in collaboration with the Center of Environmental Education in Bahorok to hold Orangutan Caring Week 2016. This event was expected to attract and increase young people and the community awareness to concern about the existence of orangutan.



This activity took a theme "save the orangutans from extinction", an educational media for students to understand the importance of keeping wild orangutans. It was expected that the students understood the importance of preserving nature for the survival of endangered wildlife in forest areas of Gunung Leuser National Park.

A series of activities carried out in orangutan caring week this year, they were coloring contest and drawing orangutan, fairy tales, and planting trees on the riverbank of Bukit Lawang. The participants were students from kindergartens, elementary schools, junior and senior high schools in Bahorok District.



The students were very enthusiastic in following a series of orangutan caring week 2016. This event was attended not only students but parents and educators. Orangutan caring week is a media so that the students love and participate in conserving forests and protected species.

2.4. Distributing The Material Campaign of Education



Material campaign was distributed to the students and schools in MECU program, environment education and orangutan conservation activities. The material campaign consisted of information sheet about orangutan and conservation efforts which have been done by the society.

2.5. Training and Comparative Study



Training activities were held to improve public education. People are expected to think more broadly in the future to achieve better life. And one of CPOI's success indicators is based on the ongoing community activities.

Study banding juga penting kita lakukan agar dapat membuka cakrawala berpikir kita lebih luas dan berkembang untuk melihat dunia luar dan bisa sharing dengan orang yang lebih berpengalaman.

The comparative study is also important in order to open up the minds to see the outside world and can share with people who are more experienced.

2.6. Reboitation and Tree Planting



This activity aims to stimulate people motivation to do reboitation and plant enrichment for orangutan in the border between villages and Gunung Leuser National Park. In this activity, seedling was conducted by the local community, Tombo Sekar, while the participants involved in planting were students and villagers. There were three steps to do this activity. They were seedling, distribution of seedlings to the planting site and planting activity.

Number and types of plants is in the following table:

TABLES OF PLANTING IN MECU PROGRAM 2016
BUKIT LAWANG – TIMBANG LAWAN – LAUDAMAK – BATU KAPUR

Time	Names of Tree	Sum	Location	Note
January	Kayu raja	300	Laudamak-Batu kapur	Riverbank
	Gaharu	800	Laudamak	Community garden
	Nangka	50	Laudamak	Yard
February	Matoa	100	Laudamak	Riverbank
	Nangka	50		
	Pete	50		
	Tampoi	150		
March	Mahoni	100	Batu katak-Batu Kapur	Riverbank near to Gunung Leuser National Park
	Ketapang	100		
	Pete	100		
	Durian	100		
April	Maggis	50	Slang Pangeran-Timbang Lawan	Riverbank and community gardens border with Gunung Leuser National Park
	Jambu Bol	50		
	Matoa	50		
	Kayu raja	50		
May	Durian	100	Slang Pangeran-Timbang Lawan, cooperated with Pramuka MTSN Bohorok and MAN Binjai	Riverbank and community gardens border with Gunung Leuser National Park
	Sirsak	100		
	Jambu klutuk	50		
	Matoa	100		
	Nangka	50		
	Tampoi	100		
June	Durian	100	Laudamak – Batu Katak – Batu Kapur – Slang Pangeran – Timbang Lawan	Riverbank and community gardens border with Gunung Leuser National Park
	Jambu bol	50		
	Kayu Raja	100		
	Gaharu	400		
	Tampoi	100		
August	Gaharu	50	Slang pangeran – Timbang Lawan CPOI+Tombo Sekar+Slang Punggur+Tani Mandiri+SISPALA SMAN 1 Bohorok	Riverbank and community gardens border with Gunung Leuser National Park
	Tampoi	30		
	Sirsak	30		
	Matoa	20		
	Jambu bol	20		
	Sirsak naga	20		
October	Sirsak	50	Slang pangeran – Timbang Lawan	Riverbank and community gardens border with Gunung Leuser National Park
	Jeruk obat	30		
	Sirsak naga	30		
	Matoa	50		
November	Pala	5	Demplot CPOI – Timbang Jaya	Demplot CPOI
	pete	5		

	Manggis Gaharu Tampoi	80 20 20	Slang pangeran – Timbang Lawan with Volunteers (Ms. Marisa and Ms. Jill)	Community gardens border with Gunung Leuser National Park
	Durian Mahoni	100 100	Bukit Lawang – Ecolodge	Riverbank and Ecolodge area border with Gunung Leuser National Park
	Rotan Jernang	20	Demplot CPOI with volunteer Sarka and Pavel from Cheko	Demplot CPOI
December	Rotan Jernang Lada	200 200	Demplot CPOI	Demplot CPOI
TOTAL		4430	<i>Four thousand four hundred and thirty</i>	

Then, the local communities continue this planting in the people's land which is directly bordered with Gunung Leuser National Park.

Program Monitoring

Monitoring program is a mechanism to monitor the development of the program. Mobile Education and Conservation Unit 2015 (MECU 5) carried out three steps of monitoring; 1. Documentating the report regularly 2. Monitoring the program and financial both internally and externally 3. Survey the impact of the program.

Activity and documentation report was composed every months. Each staff prepared a report for the activities implementation. This report was based on program management and finance report with the attachment of facts.

To manage and supervise the program, Mobile Education and Conservation Unit 2015 (MECU 5) got to survey of the impact of the program. This survey was performed by interviewing the community, students and teachers, while also observed the actual conditions that occurred in the field.

CHAPTER III

ACHIEVEMENT ANALYSIS AND RESULT

The long term goal of this program is to reduce the conflict between orangutan with human, especially the people who live in the villages border with Gunung Leuser National Park, the orangutan habitat and to increase knowledge of the community especially students through the education and awareness activities, sustainable agriculture training, reboitation and planting enrichment for orangutan in the district of Bahorok. There are three objectives set out in this program:

1. Strengthen the community knowledge in the agricultural sector with the patterns of the sustainable agricultural demonstration plot through discussion and training.
2. Conducted the environment education and awareness on conservation at schools in the district of Bahorok.
3. Reboitation in the border of Gunung Leuser National Park (in the community's farms); fruit trees as the orangutan feed.

CHAPTER IV

ANALISIS OF CHANCES, CHALLENGES AND RECOMMENDATION

1. Chances

In the journey of Mobile Education & Conservation Unit (MECU) since 2011-2016, the team had discussions and meetings with the community to explore the potential, opportunities, expectations and the needs of the community in the efforts of solving the conflict between orangutan and the community.

And there are some opportunities related to the efforts to solve the problem above. They are:

- a. Building the awareness, motivation and the community support in preserving the forest and orangutan.

Villagers especially farmers usually learn by copying what already exists or has been done. The development of a model becomes an option that can be applied by themselves. Besides, this model is expected to give benefit significantly.

Some models that are potentially give impact to the public, such as the sustainable agriculture demonstration plot, polyculture or agrotourism, centre of environmental education and orangutan conservation, and research camp for school or university students. These models are very potential to be developed because the district of Bahorok borders with Gunung Leuser National Park.

The existence of this forest will certainly convince the community about its function for their life. And those models can be proved so that people will be stimulated to develop the models, reduplicate the models for and by the people themselves.

- b. Motivation and the community support in preserving the forest and orangutan
Other potential is the use of forest as a buffer zone and contribute O₂ continuously if the forest remain sustainable. The program only facilitated the development of a model in a small scale, only touched a few households. But the benefits gained by the community, can be viewed directly by other community.

Development of a model is an important part and can not be separated from education and public awareness activities. The model development is a concrete manifestation of idea that can be applied and bring economic benefit. It is what will strengthen public awareness and motivation to participate in preserving forests and orangutan in a sustainable manner.

c. Building the polyculture garden

Agriculture is the main source of income for the garden in Bahorok District. Since along time ago, local people have applied mixed garden. It means that they planted various types of plants in one field. But as community developed, they began to convert a mixed garden into a monoculture garden with the commodity of rubber and palm oil. They changed the pattern because of the monoculture productivity.

For the purposes of nature conservation, the development of mixed garden is also an importance aspect in reducing the need for agricultural land. It will affect the rate of degradation of orangutan habitat. Mixed garden is also expected to offer a solution to the degradation of soil fertility and agricultural land.

The development of mixed garden can be done by facilitating the community groups. The program can provide support in the form of facilitating the preparation in making the concept and facilitating the development of converting monoculture garden into mixed garden. In the long term, with the success of mixed garden which provide greater result than monoculture plantation, it will motivate others to convert their monoculture garden into mixed garden.

d. Increasing the community revenue

Poverty is one of factors that encourage people to do activities that can threaten and destroy the sustainability of the lives of the orangutans and their habitat. Therefore, it is important to build the people awareness and motivation to rise out of the shackles of poverty based on the self-sufficiency. This is the only way to awaken community empowerment.

In this case for a program, it is important to undertake systematic efforts to build people awareness and motivation to implement models of activities that can deliver them to come out of the poverty by building self-sufficiency.

- e. Building sustainable agriculture demonstration plot
Sustainable agriculture is one of potentials that can be developed especially in efforts to support and strengthen the potential of the community. For example is to plant vegetables in their yard or garden in a small scale by applying knowledge and skill of sustainable agriculture. The development of this organic cultivation is more intended to produce vegetables that will be consumed by household at least. With this pattern of organic agriculture, the community will have real benefit directly. This is also a chance to be an agrotourism model or as the learning center or research.

- f. Build a model of the environment education and conservation of orangutan
Building the center of environmental education and conservation of orangutan is a media to realize concepts and ideas as an offer that can actually be seen and understood easily by the public. This center should show to bring more value, should be informative with a lot of knowledge and fun. So that the visitors will feel comfortable and and enthusiasm to support this activity.

This model can be developed by taking one site in Bohorok area that has a beautiful landscape. Some ideas or concepts that can be offered to the communities in managing and conserving the environment and conservation of orangutans, such as education, house of compost, seedling and plots of organic farming. But this location must be equipped with several buildings for visitors, such as lodging, camping ground, restaurant, meeting hall, and others.

2. Challenges

Management and the use of the opportunities and potential are indeed faced with challenges that need to be solved. Some of the challenges referred to in this report are:

- a. The capacity of the human resource
The capacity of the human resource includes knowledge, skills, motivation and commitment of the individuals who are involved in the model development. But these elements actually something dynamic that can grow or decline, where it relies on its management. In this case these challenges can be solved by building a good management system, allowing the birth and development of knowledge, skills, motivation and commitment among the people of all the personnel involved (CPOI team).

b. Program sustainability and promotion

The continuous support for the program sustainability in the phase of the model construction is very important. But stopping the support or unclear support often negates all that has been built painstakingly since the beginning of the program. Promotions that are not optimal will affect the consumers not to buy our program.

c. Science and technology

The model must be supported by adequate science and technology. Some models can be developed require the application of technology, for example, in determining the types of plants suitable for cultivation in the rubber plantations and oil palm plantation. The development of plant cultivation and livestock need science and technology of feed production from local materials.

d. Synergistic partnership program with the community and support parties

The construction of a model however can not be done by just a program without the support and active participation of the public and the parties. The efforts of MECU program is still lacking of promoting the development of a collaborative partnership between MECU program, the community and the parties.

3. Recommendation

Based on the exposure of opportunities, potential and challenges faced by MECU program in building the reduction of orangutan conflict with the society, this program recommend several things to be considered and carried out on programs in the future, they are:

- a. Building a model of environment services to strengthen awareness, motivation and support in the forest conservation and orangutan, such as;
 - Continuing the program of sustainable agriculture demonstration plot in Timbang Jaya Village
 - Polyculture demonstration plot in Laudamak village
 - Building center of environmental education and conservation of orangutan
 - Provide a research camp in cooperation with other institutions

- b. In the development of this model, it needs to consider few things as following:
 - Developing the capacity building of human resource; the community and CPOI team as program implementers
 - Promoting the sustainability support
 - Science and technology
 - To encourage the establishment of synergistic partnership with the community

- c. The future program is expected to implement the methodology and approaches of field school and research. These approaches are implemented by:
- Providing center of education
 - Training of orangutan conservation cadre
 - The establishment of studies and planning of orangutan conservation and the habitat
 - The establishment of the pilot model of productive business development based on ecological perspective and environmental services
 - Technical training to strengthen the community management
 - Cross visit and comparative study
- d. At the level of values, beliefs and paradigms of society, the program needs to touch these aspects in reducing conflict between orangutan and the human. These aspects can influence and determine people's behavior, besides the knowledge. Community paradigm change is only possible if they can realize that they, the environment, the economy, forests and orangutan are the system that interacts to cause-effect relationships. Efforts to intensify information, communication and this knowledge can be done by encouraging the mutual learning process between citizens who are already enlightened, for example through cross visit, comparative study and study visits between citizens and mentoring.
- e. The need to document the knowledge, local wisdom and the real efforts of the society in building the harmony pattern of life with orangutans and their habitat.
- f. Education and awareness needs to be improved, it means can reach more individuals. Another thing that is equally important is to develop the ideas, strategies and programs methodology that is more innovative and provide real and sustainable impact.
- g. Strengthening the commitment and concrete support of local government in the development of economy through ecological productive activities.
- h. Strengthening the cooperative/synergistic partnerships between government and stakeholders to minimize conflict between orangutans and the society.

CHAPTER V CLOSING

Mobile Education and Conservation Unit 2015 (MECU 5) program has been implemented as well as possible. The outcomes and achievements of the program have been achieved, which it is expected to provide a significant contribution to environmental conservation efforts through sustainable agriculture demonstration plot or organic farming and reduction the conflict between orangutan with the communities in Gunung Leuser National Park. But we must admit that there are still many things that should be done in order to build systems that support the reduction of conflict between orangutan and the communities.

To achieve this, CPOI can not work alone. CPOI needs support from various parties to continue the works in a larger scale so that providing a significant impact for the establishment of problem solving between orangutan and the forest communities.

This report has been prepared and submitted, we realized that there are many shortcomings but we never stop learning to be better.

My Regards
Bohorok, December 25th, 2016
Program Implementer of MECU Program

Herman Syahputra