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**ANNUAL REPORT of
COMMUNITY EDUCATION and CONSERVATION PROGRAM (CECP) - 3
JANUARY – DECEMBER 2022**

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**and
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PREFACE

We thank God Almighty who has given us health so that this report can be done and completed properly.

Thank you to the Orangutan Republic Foundation (OURF) as the single donor for the 3rd Community Education and Conservation Program (CECP) which started from January to December 2022. We also thank the Gunung Leuser National Park Center (BBTNGL), Balai Besar North Sumatra Natural Resources Conservation (BBKSDA), which has supported our activities in the field as regional stakeholders outside and within the Gunung Leuser National Park area. We also do not forget to thank the Village Head of Lau Damak, Batu Jongjong, Ujung Bandar and his staff, who have given permission to carry out activities and have supported them physically and morally. Likewise with stakeholders and the community in our assisted villages who have helped a lot so that activities in the Environmental Education, Sustainable Livelihood Development, Wildlife Conflict Mitigation, and Rehabilitation of Forest Ecosystem programs can run well in the field.

Problems and constraints certainly occur in every program that is run. However, it is our responsibility as activity executors to find the best solution with consideration of all very mature aspects. We apologize if there are still many shortcomings or weaknesses in the program being run. We hope this report can be useful and become a conceptual model that can be applied in other areas.

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I. EXECUTIVE SUMMARY

Environmental Education, Sustainable Community Development, Conflict Mitigation and Rehabilitation of Forest Ecosystem are four programs implemented by YSHL in the Bahorok District which includes the villages of Lau Damak, Batu Jongjong, Ujung Bandar, Timbang Lawan, Sampe Raya and Sei Musam.

After almost two years of absence from environmental education activities to schools due to the COVID-19 that hit almost the whole world, thank God, since last October 2022, YSHL has been allowed to start the environmental education activities to schools in Bahorok District, especially Lau Damak Village, Batu Jongjong and Ujung Bandar. We assisted 6 schools consisting of 4 elementary schools; SDN 057735 Batu Katak, SDN 056585 Biak Mampe, SDN 054895 Batu Jongjong, MIS Asmaul Husna and 2 junior high schools; MTS Asmaul Husna and SMPN 6 Satu Atap. During the fourth quarter of this year, the students we assisted were grade IV students while the number of students involved was 120 students, consisting of 52 boys and 68 girls.

The lessons given are about key species in TNGL; orangutans, tigers, elephants and their habitats. The activities are in the form of pre-tests, presentations, questions and answers, rewards, conclusions and post-tests. Pre and post-test activities were carried out to see changes in the level of knowledge before and after the lesson was given.

Assisting 1 conservation learning house in Lau Damak Village, 1 in Batu Jongjong Village and 2 in Ujung Bandar Village is also still carried out. The children involved were children aged 6 to 12 years, divided into 2 classes; a reading class and a learning class. Reading class is class for children who are still learning to read and write, usually aged 6 to 9 years, while learning class is class with environmental and conservation lessons attended by children aged 9 to 12 years. Visits were carried out 140 times involving 109 children consisting of 49 boys and 60 girls.

The main lessons delivered to children this year are tigers, elephants, rhinos and their habitats, national parks in Indonesia, about the benefits of water, the sea and its protected animals, plant anatomy, sources of oxygen on earth, natural disasters and life side by side with wildlife habitat. Meanwhile, additional learning activities include learning English, skills, conducting simple experiments, and coloring.

The environmental education program also includes Sahabat Hijau, a community of young people who have passion and concern for the environment and conservation. This year, there were 9 members who were recruited but because of their business as students, not all of them could be actively involved in every activity that was carried out. Sahabat Hijau participated in 3 events; the Orangutan Day and Jelajah Cita-Cita, collaborating with the Sahabat Alam Leuser (SALI) community, OIC, YEL, COP Medan and the Professional Mothers community as well as being a committee member for Orangutan Caring Week held by YSHL in November.

Sustainable Livelihood Development for YSHL is a challenging program. This is because we must continue to develop potentials involving human resources, natural resources, availability of capital, support from the village and the village community itself, to become an alternative business that is environmentally friendly and sustainable. Until the end of December, we assisted 110 households in utilizing their yards to grow organic vegetables, 42 farmers in making and applying liquid organic fertilizer to their agricultural crops, 13 farmers in cocoa cultivation activities, 1 group (9 housewives) who produced traditional Karo medicines, and 25 farmers in pepper cultivation activities.

Accompanying farmers in implementing organic farming and using the yard to grow organic vegetables is quite draining. Changing people's mindsets and habits is something that is difficult, requiring strong evidence to convince them that growing organically is not only healthy for

consumption but the results must be balanced with the results they get from planting using chemical fertilizers. In terms of crop yields, plants that use chemical fertilizers are larger than organic ones, but in terms of expenditure, farmers are more economical if they use organic fertilizers because they can be made by themselves. However, there are many things that farmers must pay attention to if they want to consistently use organic fertilizers. Farmers must really pay attention to the ingredients and their dosage when making organic fertilizer so that the results are also good for roots, stems, leaves and fruit. In addition, farmers also have to be more routine (more often than chemical fertilizers) in spraying fertilizer. Not to mention that the grass is getting more fertile from being sprayed with organic fertilizers so that land clearing is needed more often and there are also more pests. This is what always makes farmers overwhelmed and object to implementing an organic farming system.

Of the 42 farmers assisted by us during 2022, only 50% of farmers in the villages of Lau Damak, Batu Jongjong and Ujung Bandar will still use liquid organic fertilizer. This is because some farmers, especially Lau Damak Village, on average do not plant anymore because the land they have cultivated is not their own but belongs to other farmers. Most of the land are palm trees whereas now, the palms are getting bigger so that it is no longer possible to plant them with other crops.

YSHL also has a demonstration plot of 0.2 hectares or 5 *rante* (1 *rante* = 20x20 meters) which is divided into 2 parts, namely 2 *rante* for chili, 2 *rante* for vegetable plants, and 1 *rante* for tree seed nursery. This demonstration plot was built as a learning medium for both YSHL and the community in implementing organic farming. Indeed, the community was not involved in working on the demonstration plots but this demonstration plot is proof for the community that planting organically can also produce good yields with lower operational costs than buying expensive chemical fertilizers. The important thing is to be consistent. With this demonstration plot, the public can see directly what SHL is doing, not just talk.

In the third quarter, we are still focused on clearing the land (removing the palm trees, cutting them and trimming them to the edges), land preparation (hoeing the soil by turning it back and forth and then mixing it with manure to add nutrients), fencing around the demonstration plots to avoid community livestock. In the fourth quarter, we just started planting. Kangkung, green mustard, spinach are plants that can be harvested in about 20 days, long beans can be harvested in 45 days and cayenne pepper can be harvested in 3 months. Thus, it is hoped that the harvest can help the operational costs of the demonstration plots. Within 2 months, the harvest yielded an additional income of IDR 602,000.

Therefore, we have not invited guests to visit the demplot to share and exchange knowledge or experiences because the demonstration plot facilities are not yet completed, such as an open room for study, facilities and materials for making liquid organic fertilizer (one of the priorities that must be displayed to guests), information boards, bathroom and others.

Another activity is assisting 13 cocoa farmers in the villages of Lau Damak and Batu Jongjong. Farmers have also received training in the form of field schools facilitated by a member of an Organic Farmers Association of North Sumatra or PANSU on cocoa cultivation. Currently, almost all farmers have received training to carry out grafting stems, top grafting and side grafting independently with the help of a consultant until last October. Farmers are also taught to make natural black ant nests which function as natural enemies for fruit borer pests. The farmers who have planted cocoa before and have already harvested cocoa are taught how to do good pruning on new *jorget* so that the nutrients can focus on the fruit. Farmers are also advised to apply the method "Harvest Frequently, Pruning, Sanitation and Fertilization". Of the approximately 8,000 cocoa and 300 palm sugar monitored, the cocoa survival rate is 75 to 80 percent. SHL has also formed a cooperative facilitated by the Langkat District Cooperative Institution to accommodate their agricultural products, especially cocoa.

Apart from cocoa, we are also assisting 25 farmers in pepper cultivation. Farmers have also received training in the form of field schools facilitated by a member of an Organic Farmers Association of North Sumatra or *PANSU*. After that, 25 farmers spread across Batu Jongjong and Ujung Bandar Villages produced around 3,000 pepper cuttings which will begin planting in February 2023. Apart from the relatively stable price of pepper, pepper is also durable (can be stored for a long time). Some farmers will plant in the garden while others will plant in the yard behind the house. They will plant in the ground or polybags by making wooden stakes as tree supports later. The area of land that is planned to be planted is approximately 46.1 rante (1 rante = 20x20 meters).

Arih Ersada, a group of 9 house makers in Batu Jongjong Village who cultivate various types of medicinal plants and mix them to produce 6 types of traditional Karo medicinal products. During this one year, the group has received basic financial management training, photography and marketing training. The group has also obtained permission in the form of a Decree or *SK* from the Head of Batu Jongjong Village and *NIB* or a business actor's identity number. And currently the group is seeking permission from the Food and Drug Supervisory Agency or *B POM*.

The products that were sold during this year were 819 packs/bottles of the product which generated an additional income of IDR 27,131,500. The products that sold the most to the least were karo oil, tasaken reducer, spray for gastric, bargain mentar, spray for adults, spray for children, pratahi, and spray for adults (powder). The group also has a permanent dry house, a grinding machine for both dry and wet medicinal ingredients, and a chopping machine provided by *YSHL* and Panca Budi University.

Specifically for the conflict mitigation and tree planting programs, starting in mid-2022, we will begin to expand our working areas to other villages in the Bahorok District, which include Sampe Raya Village, Timbang Lawan, Sei Musam, which are still in the Bahorok District area. This is due to the need to achieve activity targets, as well as suggestions from the Gunung Leuser National Park to help prevent conflicts with tigers that are still rife.

From the beginning of the year to the middle of the year, there were a number of conflicts that occurred, namely an elephant conflict that destroyed many of the residents' garden crops in the enclave area in Sapu Padang Hamlet and a tiger that preyed on 2 cows in Tegapen and Simpang Empat Hamlets. Both are located in Batu Jongjong Village. In handling this elephant, a joint patrol team consisting of the Head of Batu Jongjong Village, *TNGL*, *BKSDA-SU*, *WCS*, *PKH*, *YHUA*, and *YSHL* conducted several days' patrols at the scene of the incident, giving several fireworks to residents that could be used to slay elephant if it comes back. As for tiger conflicts, apart from conducting patrols for several days, the *BKSDA-SU* also installed trapping cages to evacuate tigers. This was the result of a decision by the villagers who were very angry with the presence of tigers preying on livestock near the settlements. However, this evacuation attempt failed because the tiger did not enter the trap cage. After that, the joint team provided socialization to the residents at the incident site and the surrounding hamlets and gave fireworks to the residents that could be used to drive away the tigers if they came back. We also received reports from a resident in River Landak, Bukit Lawang, that there were 3 orangutans; 1 adult male, 1 adult female and 1 orangutan child came into Mr. Solihin's garden. *SHL* team and *TNGL* officers went to the location and found 1 orangutan nest with position 2, Class B in a durian tree. The team distributed some firecrackers and educated the land owners how to use them so that orangutans would avoid durian trees.

While monitoring potential conflict areas in the villages which is carried out almost every month, the team also distributed conflict mitigation posters containing brief information about what conflict mitigation is to 99 residents in 6 villages. There is also a contact number that can

be contacted so that residents can report if there is a conflict or potential conflict so that the handling can be carried out immediately.

Installing zinc plates is one solution that can be done by the community to prevent wild animals such as orangutans, macaques, long-tailed monkeys, Thomas leaf monkeys, and sun bears. This year, zinc plates have been attached to 45 durian trees in 6 locations spread across the villages of Lau Damak, Batu Jongjong and Ujung Bandar. We also helped the community to build 6 TPE cages spread across the villages of Lau Damak, Batu Jongjong, Sei Musam and Sampe Raya. These six stables housed 59 oxen.

This year we also assisted and monitored 3 layer to layer agroforestry demonstration plots covering an area of 8 hectares owned by 3 residents in Batu Jongjong Village. Based on monitoring in the field, we conclude that the challenge for carrying out this activity is the need for sufficient human resources because the average slope of the land reaches 30-45 degrees. Additionally, this activity needed several workers to transport the seeds to land that has a slope of 30-45 degrees. Apart from that, we also had to thin out the stands (canopiers that are connected to each other are cut down so that animals such as orangutans cannot cross from canopy to canopy and eventually enter the garden). Cutting tree stands also require a chin saw machine. Unfortunately, not all land owners own the machine, so they have to rent the machine and the person as the operator. So after YSHL has evaluated this activity, if operational costs are inadequate, then this activity is difficult to implement.

In forest ecosystem rehabilitation activities, tree planting is carried out using an agroforestry system, namely 40 percent timber plants and 60 percent fruit trees, on private land or gardens belonging to village communities. Aside from being one of the efforts to prevent conflicts with wild animals, especially primates such as orangutans, monkeys and macaques, planting these trees is also expected to provide additional income for landowners from the harvest of their fruit trees.

This year we planted 38,537 seeds consisting of 28 types of trees, including durian, jengkol, rambutan, soursop, avocado, jackfruit, mango, matoa, duku, mangosteen, guava, petai, jengkol, lime, ketapang, resin, banyan, gempol goat, meranti, sengon, trembesi, halaban, peg bumi, anok-anok, tread elephant, candlenut, pakam, forest ylang, marak ordinary, and waru. While the seeds that have been planted are 25,001 trees on 24.1 hectares of land owned by 20 residents of Lau Damak, Batu Jongjong, Ujung Bandar, Sampe Raya, Timbang Lawan, Sei Musam, Musam Pembangunan, and Pekan Bahorok.

After planting, the land is not simply abandoned but we monitor the trees to see the life and death rates of the trees. The planting location that has been monitored is an area of 21.6 hectares with 26,627 trees belonging to 16 residents. The lowest survival rate is 75 percent and the highest is 88 percent while the lowest mortality rate is 12 percent and the highest is 25 percent. The mortality is mostly caused by soil conditions, where the average soil at the planting site is a limestone area, as well as the high density of the soil so that it slightly inhibits root growth. Second, the lack of canopy cover around the planting site with a slope of the land so that when it rains, run off is very high and causes the planted seeds to be carried away by surface runoff.

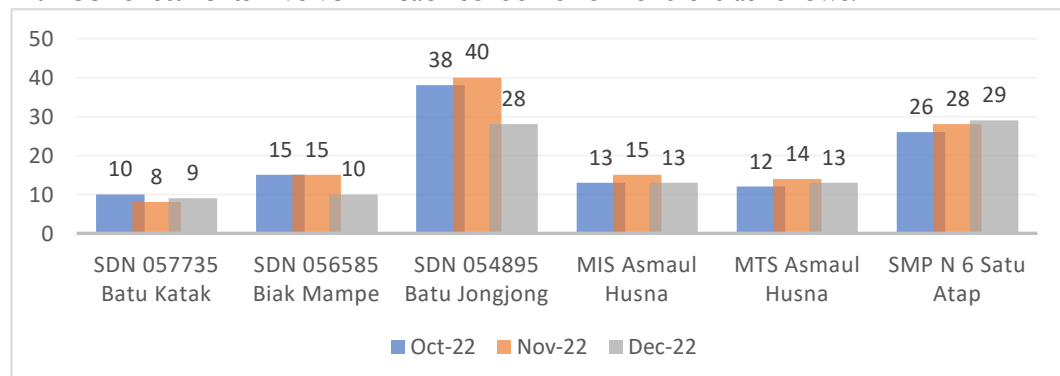
2. PROGRAM SUMMARY AND ACHIEVEMENT

2.1. Environmental Education

a. Visit to Schools

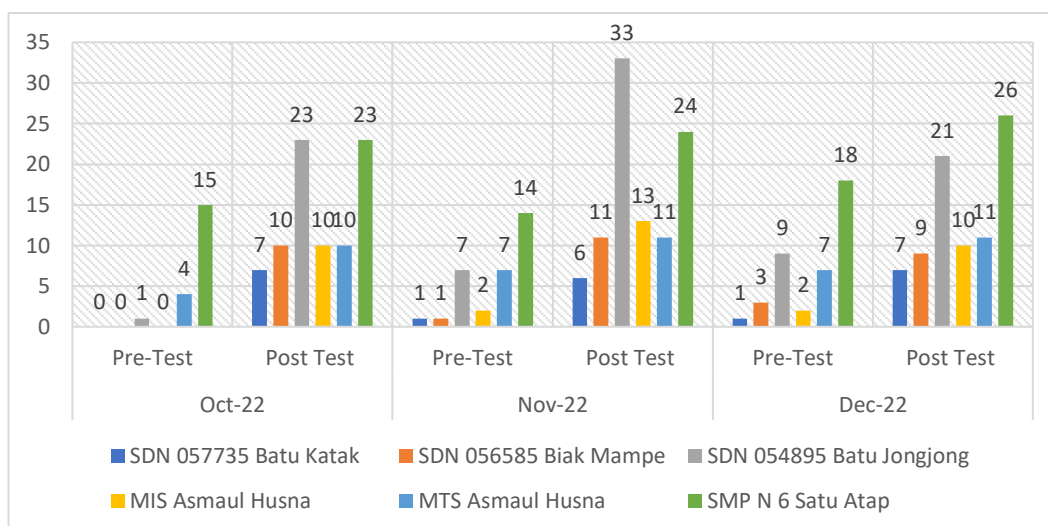
For the first time after a 2 years absence of school visits, lessons began as usual with an introduction to key species in the Gunung Leuser National Park, namely orangutan, tiger, elephant and its habitat. The lesson of orangutan and its habitat was delivered so that the students could learn about the important role of orangutans in the forest, namely as seed dispersers in the forest. The extinction of orangutans will result in the extinction of other plants and animals. The students also learned about the 3 types of orangutans that exist in Indonesia, their physical characteristics, food, the threats that lead to their extinction and conservation efforts that can be carried out. The lesson of tiger and its habitat was delivered so that the students could learn about the role of the tiger as a carnivorous animal which is one of the main predators in the food chain cycle. So tigers have an important role in maintaining the balance between herbivores and other vegetation in nature. In addition, the students also learn about the types of tigers in the world, their physical characteristics, food, threats that cause their extinction and conservation efforts that can be done to preserve them. And the last lesson on December, the elephant and its habitat was delivered so that the students could learn about the important role of elephants in the forest, namely controlling plant growth in the forest. Elephants also help disperse seeds to regenerate forests and balance forest ecosystems. The students can also find out the types of elephants in the world, namely in Asia, Africa and Indonesia, the threats to the preservation of elephants, especially in Indonesia and what efforts can be made to preserve elephants and their habitat.

Number of students involved in each school for 3 months is as follows:



From the diagram above, it can be seen that the total number of students participating in the environmental and conservation education program in 6 schools for 3 months was 120 students, consisting of 52 boys and 68 girls.

The benchmark for the success of this activity is seen from the results of the students' correct answers on the pre and post-test sheets. The pre-test is a question sheet that is given before the lesson is given and the post-test is the same question sheet and is given after the lesson is given.



From the diagram above, it can be seen that the difference between the correct answers during the pre- and post-test looks quite significant, meaning that the material presented can be understood by students.

Visits to schools only targeted children in grade 4. The target for this activity was to involve 7 schools but only 6 schools were visited. This is because 1 school, namely Lau Damak Elementary School, does not have sufficient quota, the number of children in grade 4 is only 3 students so with considerations of time efficiency, human resource and operational costs, we do not involve the school. Instead, we use the funds to increase the number of visits at the learning house.

b. Conservation Learning House

Supporting equipment is always given to each child in the 4 study houses in turn, such as writing utensils (pencils, pens, sharpeners, erasers, rollers), colored pencils, drawing books, bookshelves, and gifts as rewards for children who are diligent and active in learning and children who are active in learning and who can answer quiz. YSHL also renovated the Bunga Simalem conservation study house in Ujung Bandar Village in May. Initially this place was only a side terrace belonging to the Dusun Head which only had a roof and a dirt floor. For the convenience of children studying and there is a place to store learning equipment, YSHL decided to cement the floor and make the walls half stone and half wire.

The lessons given to children at 4 learning houses in Lau Damak, Batu Jongjong and Ujung Bandar Village during this year are as follows:

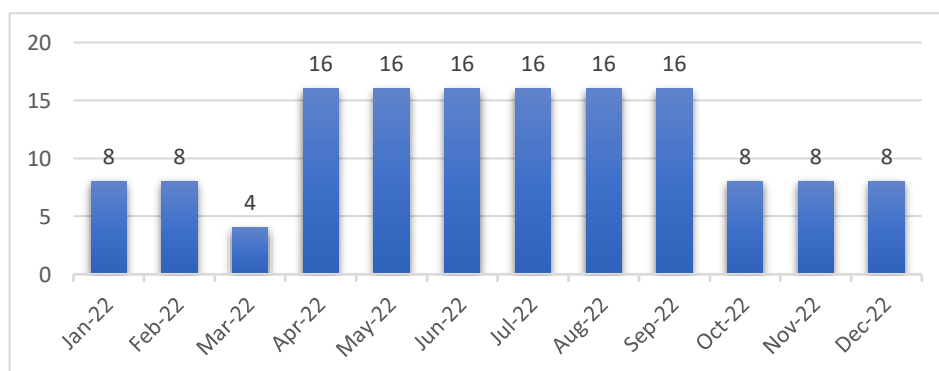
Month	Main and Additional Theme	Description
January	The main theme is about water and its benefits Additional theme is learning English about human body parts	Children learn about the color of water, the nature of water, the source of water, and the benefits of water for the life of living things so that children know that water is one of the main supports for the life of all living things. child's vocabulary increases
February	The main theme is about National Parks in	The children know several National Parks in Indonesia and the key animals in them, know their role for the balance of ecosystems in

	<p>Indonesia and protected key and rare animals</p> <p>The additional theme is to make a collage of animal heads/faces from paper plates</p>	<p>nature. The children know and recognize endemic and rare species that only come from certain National Parks, for example: Ujung Kulon National Park (Java Island) is the only habitat for key species of Javan rhinoceros, then Komodo Island National Park (East Nusa Tenggara), is the only habitat for the Javan rhinoceros, the habitat of Komodo dragons, endemic species from Komodo Island.</p> <p>Increase children's creativity by utilizing materials that are no longer used into collages in the form of various (protected) animal faces as decorations in their study room.</p>
March	The main theme is about tiger and its habitat	The children know the role of tigers and their habitats in preserving forests and the lives of other living things. Children understand that tigers are the main predator/top in the food chain cycle so they can balance the forest ecosystem.
April	<p>Elephant and the habitat</p> <p>Make a robot from used plastic bottle caps</p> <p>Play Game Card "Eat & Run"</p>	<p>Children can find out more about the world's elephants (Asian and African elephants) by learning about the different physical forms, different habitats, why elephants are protected and the laws that protect them and what we can do to protect elephants and their habitat.</p> <p>Increase children's creativity by utilizing materials that are no longer used.</p> <p>Develop children's cognitive ability to build an idea and solve a problem. This game depicts the current state of the environment and wildlife such as rivers polluted by garbage, wildlife that are threatened with extinction due to being hunted. Children must save (collect) as many animals as possible and must be able to go through events (hunting and waste) that can eliminate the animals they have saved. The child who saves the most animals is the winner</p>
May	<p>Rhaino and the habitat</p> <p>Coloring</p>	<p>Children can find out in more detail about the rhinos in the world by studying the different physical forms, habitats and causes of elephants being rare and unique things about rhinos.</p> <p>Improve children's visual abilities and increase children's creativity by pouring the ability to mix and match colors</p>
June	The Sea	Children can learn about marine life, the depths of the sea, marine ecosystems, the damage that occurs in the sea and efforts to protect and preserve it.

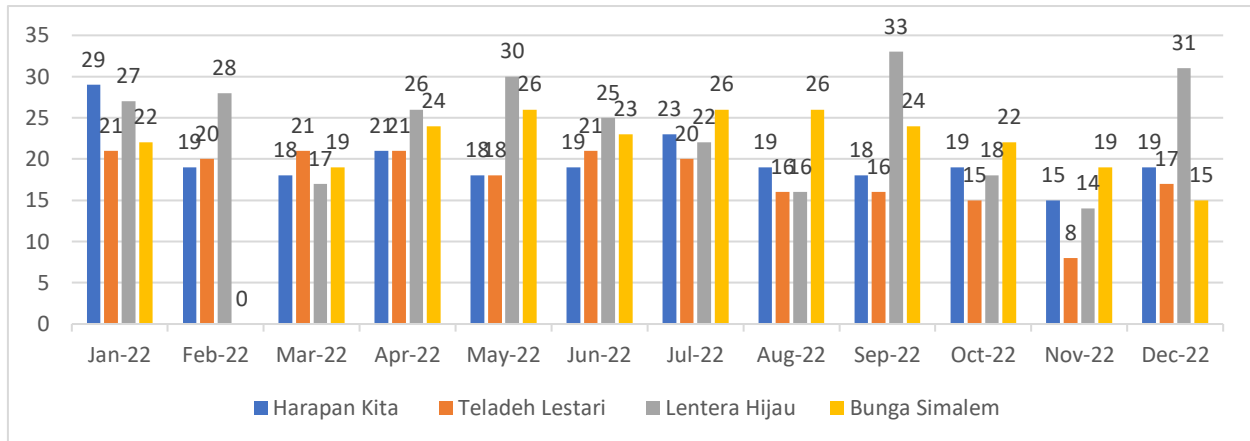
	English	Children can increase vocabulary in English
July	<p>The main lesson is about Protected Marine Animals</p> <p>Additional lessons are quizzes about sea animals, creativity from origami paper "making an octopus", and games</p>	<p>The children's knowledge increases about protected marine animals, not only on land. Children know that there are 2 categories of marine animals that are protected, namely fully protected and limited, why marine animals are protected, and efforts to preserve them.</p> <p>Quizzes can help children train their memory of what they have learned. Games are given to train children's thinking skills. Children are able to listen to instructions well and carry out the orders/commands given. In addition, it is also to train concentration and solve a problem from the games being played.</p>
August	<p>The main lesson is about Sources of Oxygen for Earth.</p> <p>Additional lessons are doing the Ingenhousz Experiment and learning English about sea animals.</p>	<p>The children's knowledge increases about the sources of oxygen for the earth. Children also understand that apart from forests, the source of oxygen also comes from the oceans which are produced by phytoplankton.</p> <p>Experiments were carried out to increase children's curiosity and critical thinking. This activity is one way to prove that plants carry out the process of photosynthesis, producing oxygen that is useful for living things on earth. Meanwhile, English is used to increase the child's vocabulary</p>
September	<p>The main lesson is about Creating Harmonious Coexistence with Wildlife.</p> <p>Additional lessons are observing biodiversity around the environment, crossword quizzes and being creative with clothespins.</p>	<p>Increase children's knowledge about how to live side by side and in harmony with wild animals. Children are given simple examples of what causes human-wildlife conflict, the impacts caused by conflict, and efforts to prevent it.</p> <p>Increase children's knowledge and curiosity about the richness of biodiversity. This can be represented by children through simple observation activities about the diversity of plants in their environment. Observations were made by matching the color of the paper with the appropriate plants found around them. The goal is for children to better understand that, not only in their environment, in the forest, especially the TNGL area, biodiversity (animals and plants) is more numerous and diverse, which we must protect and preserve so that it does not become extinct.</p> <p>Clothespins are used to make toys in the form of moving animals. This is to increase children's creativity which can be honed through the use of media and materials that are easily available around them.</p>

October	<p>The main lesson is about Natural Disasters and their Causes.</p> <p>The additional lesson is to make observations about biodiversity (color) in plants.</p>	<p>The children can find out the factors that cause natural disasters to occur. One of them is due to the human factor. Children can also learn based on natural disasters that have occurred in their area, Bahorok. Thus, children can more easily understand the impacts and losses incurred both for the environment and humans.</p> <p>The children can better understand lessons when they make simple observations of the plants around them that have a variety of colors. For example, the children can find several variations of the red color from various types of plants/plants, both parts of the leaves, flowers, stems and fruits of a plant/plant that they find.</p>
November	<p>The main lesson is about Plant Anatomy.</p> <p>The additional lesson is Story Telling about “The Struggle of Otan, The Orangutan”.</p>	<p>Plant anatomy lessons are given so that children know the parts of a plant. Each plant has a different leaf, flower, seed, fruit and stem form so that a feeling of love for the beauty and diversity of plants arises by observing a plant/plant that they find around their environment.</p> <p>Story telling about orangutans is conveyed to train children's concentration and focus by listening. Children can listen and draw conclusions about the message conveyed by the story conveyed by the storyteller.</p>
December	Evaluation	<p>Evaluation is carried out by providing question sheets, quizzes, and questions and answers to find out whether the children still remember the lessons that have been given for 11 months. Children are given time to ask questions regarding lessons they do not understand well and two-way discussions are held so that children can also express their opinions and obstacles in attending lessons for 1 year.</p>

The total visits to the 4 learning houses were 140 times from January to December, with details of visits per month in the diagram below:



While the number of children involved in the 4 learning houses was 109 children consisting of 49 boys and 60 girls. Details of children who attend each month at each learning house are in the diagram below:



c. Sahabat Hijau (Young Community)

- Recruitment

This activity was held on June, located in Batu Katak Hamlet, Batu Jongjong Village and was attended by 9 young people from Langkat Regency and Medan City who work as students from several universities. Participants were given material about the introduction of YSHL's organization and program which was delivered by the YSHL Program Manager, the introduction of Sahabat Hijau was delivered by the YSHL Environmental Education Coordinator, the basics of conservation was delivered by the YSHL Program Director and writing (Citizen Journalist) was delivered by Yusmadi Yusuf, M.Kom. I, a Founder of Aceh.satu.com, a citizen journalist program trainer for WWF Indonesia, the HAKA Foundation and Tempo, an administrator of the Indonesian Cyber Media Association - Aceh and a member of the Society of Indonesian Environmental Journalists and Green Journalists.

- Mini Projects

- ❖ Orangutan Day

Orangutan Day was held on August 21, 2022, located at Taman Cadika, Johor - Medan. The main activity implementers are Sahabat Alam Lestari (SALI) - OIC in collaboration with other conservation organizations such as YEL, SOCP, COP - Medan, and Sahabat Hijau - YSHL. World Orangutan Day 2022 carries the theme "Orangutans Live in the Forest".

The message to be conveyed is that forests are the best home for orangutans, orangutans are not pets, protect orangutan forest habitat, orangutans are protected animals, forests are for orangutans and humans, humans and animals live in harmony with nature, let orangutans live freely in nature. While the form of activity is in the form of:

- Social Experiment, Green Friends conducted an experiment, to find out the current level of knowledge of the general public about orangutans and their status. This activity has involved 100 random sources, interviewed quickly and briefly. Experimental activities were carried out in the campus environment, schools, public, and public facilities.
- Facepainting, the activity of painting one part of the face with the theme of orangutans and other animals, by participants/volunteers who want their faces painted, as a form of participation in the activity.
- Photobooth competition, a wider media campaign about orangutan conservation by involving the community through a photo contest and

- interesting messages uploaded to social media by the community/participants participating in this session.
- Participation Support Handprints and Love Letters, visitors who attend can give their support by giving their handprints on the white banner media that has been provided then also writing their love letters for Orangutans and hanging them on a wishing tree. This activity is a form of participation and proof that the community still cares about and supports the conservation of orangutans and their habitat.
 - ❖ **Orangutan Caring Week**
Orangutan Care Week was held on 27 November 2022 in Bahorok. This activity was enlivened by a poetry reading competition, coloring and doodle art contest which was attended by 98 elementary, junior high and high school students from 22 schools in Bahorok. The implementer of this activity is Sahabat Hijau. This activity was also supported by the Kampung Dongeng Community by sending one of its members to tell a story with the theme “Otan, the Orangutan” and the Moon Runner Band to entertain invited guests and contest participants
 - ❖ **Jelajah Cita-Cita**
Sahabat Hijau and YSHL contributed to the event Jelajah Cita-Cita that was carried out by Professional Mothers in order to introduce the profession to early childhood. Sahabat Hijau and YSHI had an exhibition booth to introduce the profession in the field of environment and forestry. There are 19 booths for professions such as dentist, cardiologist, robotics, noodle makers, baristas, military, storytellers, and so on. This event was held on December 18 2022 at the Office of the Governor of North Sumatra to be precise in the Tengku Rizal Nurdin Hall.

2.2. Sustainable Livelihood Development

a. Organic Agriculture Learning Center or Demplot

The demonstration plot or called demplot is land owned by a resident in Ujung Bandar Village with an area of 0,2 hectare is rented by SHL. This demonstration plot has started to be managed since the third quarter of 2022 with details of the following activities:

- Land preparation
 - 26 stalks of palm trees have been cut
 - Hoeing the soil to remove weeds and other plants as disease hosts. It also aimed to loosen the soil and made the soil hollow, so it was hoped that the aeration process would occur in the soil so that if air entered the soil cavity, nitrogen and nutrients in the soil would be increased.
 - Added animal manure to keep the soil pH neutral (6-7).
 - Digging wells for water availability
 - Electrical installations to make it easier to draw water from the well.
- Nurseries
 - 1200 chili seeds and 300 small chilies were planted in 9 beds with a length of about 40 meters
 - Kale, mustard, spinach and long beans are also planted in 8 beds
- Plant treatment
 - Making yellow trap, it was made from water mixed with food coloring, then put it in clear ice plastic. On the outside of the plastic smeared with glue to ward off insect pests that attack the plants especially the chilies.
 - Using amino acids made from raw chicken intestine as a pesticide as well as an insecticide, applied as much as 1 cap (220 ml of amino acids mixed with 15 liters of water) for 2 chili peppers, given to plants every 2 days.
 - Production of natural pesticides using ginger, garlic, cayenne pepper each ¼ kg, crushed and then extracted. It was applied to mustard and long bean plants in 3

sprayers with a dose of 130 ml mixed with 2 liters of water. This is applied to prevent leaf caterpillar pest attacks.

- **Harvesting**
In November, kale, mustard greens, spinach and long beans can only be harvested while the chilies will begin to be harvested in January 2023. The crops are usually sold to residents around the demonstration plot in Ujung Bandar Village or the village/tax office in Bahorok. The harvest yields an additional income of IDR 602,000.

In the third quarter, we still focused on clearing the land (removing the palm trees, cutting them and trimming them to the edges), land preparation (hoeing the soil by turning it back and forth and then mixing it with manure to add nutrients), fencing around the demonstration plots to avoid community livestock. In the fourth quarter, we just started planting. Therefore, we have not invited guests to visit the demonstration plot to share and exchange knowledge or experiences because the demonstration plot facilities are not yet complete, such as an open room for study, facilities and materials for making liquid organic fertilizer (one of the priorities that must be displayed to guests), information boards, bathroom and others.

b. Assistance for the farmer in applying organic fertilizer

From the monitoring results of farmers using liquid organic fertilizer from 2021 to 2022, we conclude that land rice harvests using organic fertilizers produce 44 kg per rante (1 rante = 20x20 meters), whereas using chemical fertilizers produces 53 kg of rice per rante. And the average farmer uses a dose of 220 milliliters of organic fertilizer versus 15 liters of water, with a routine fertilization frequency every week at planting age 1 week after planting to 6 weeks after planting, then 1 time in 2 weeks after entering the generative phase or at the age of rice 8 to 9 weeks after planting. Whereas paddy rice using organic fertilizers produces 42 kg per rante, while using chemical fertilizers produces 165 kg of rice per rante. And the average farmer uses a dose of 220 milliliters of organic fertilizer versus 15 liters of water, with a routine fertilization frequency every week at planting age 1 week after planting to 6 weeks after planting, then 1 time in 2 weeks after entering the generative phase or at the age of rice 8 to 9 weeks after planting. Vegetable crops such as eggplant can produce 8 kg per week, 50 bunches of basil, 40 kg of long beans per week, 3-5 kg of cayenne pepper per week. The dose used is 440 milliliters of organic fertilizer versus 15 liters of water, with a frequency of fertilizing once a week.

In terms of crop yields, plants that use chemical fertilizers are larger than organic ones, but in terms of expenditure, farmers are more economical if they use organic fertilizers because they can be made by themselves. However, there are many things that farmers must pay attention to if they want to consistently use organic fertilizers. Farmers must really pay attention to the ingredients and their dosage when making organic fertilizer so that the results are also good for roots, stems, leaves and fruit. In addition, farmers also have to be more routine (more often than chemical fertilizers) in spraying fertilizer. Meanwhile, the obstacles faced were that the grass was getting well so that land clearing was needed more often and more pests came. This is what always makes farmers overwhelmed.

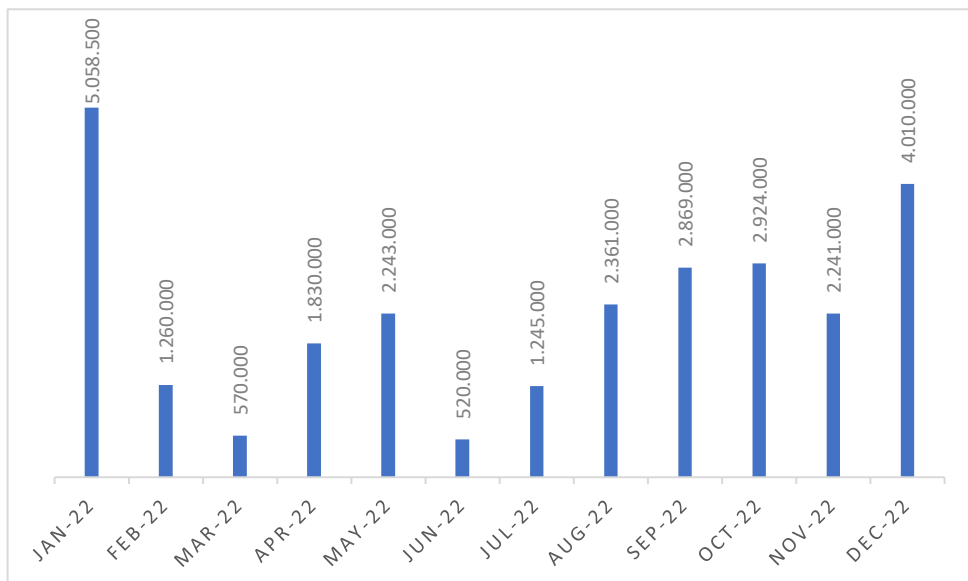
Of the 42 farmers assisted by us during 2022, only 50% of farmers in the villages of Lau Damak, Batu Jongjong and Ujung Bandar will still use liquid organic fertilizer. This is because some farmers, especially Lau Damak Village, on average do not plant anymore because the land they have cultivated is not their own but belongs to other farmers. Most of the land are palm trees whereas now, the palms are getting bigger so that it is no longer possible to plant them with other crops.

c. Assistance for the house makers in cultivating horticultural crops in the yard

Of the 110 houses we have assisted, there were only about 69% or 75 households which were still consistent in utilizing their home yards to plant organic vegetables. The reason for their reduced interest in utilizing their yards is because the vegetables they grow in their yards are also grown in their fields, so the value (side income) they get from the crops in their yards is only a little, not worth the effort and time they have to spend to take care of them. daily. However, from our observations in the field, there are also some housewives who are truly committed, so that their yards are still being used today and the results they get from the harvest are quite valuable economically. For example, Mrs. Wagirah in Batu Jongjong Village planted cauliflower, which usually grows in cold areas, but this mother managed to grow it using organic liquid fertilizer she made herself. In fact, this mother breeds herself and sometimes sells the seeds to her neighbors. So we conclude that it is the mindset of housewives that still needs to be educated.

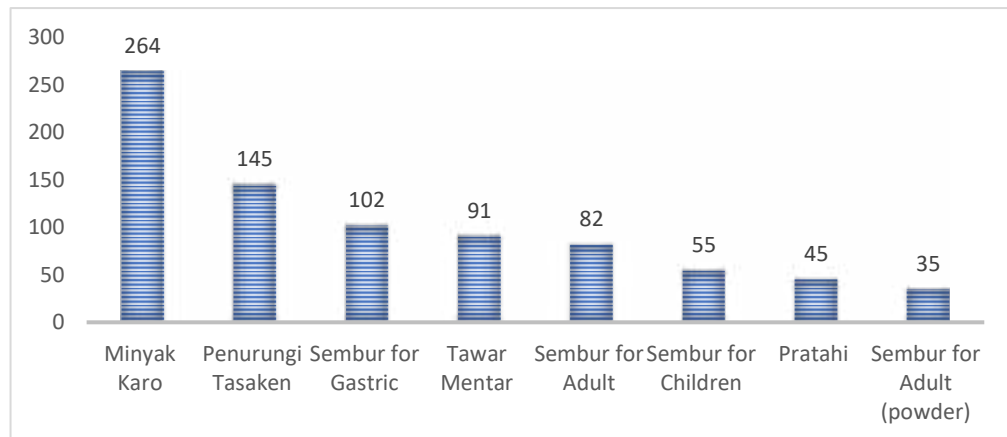
d. Assistance for the medicinal plant group

- The group has received several trainings to increase the capacity of group members such as basic financial management training, photography and marketing training.
- The permits that the group already has are SK from the Head of Batu Jongjong Village and NIB or a business actor's identity number in accordance with the business field regulated in the 2020 Indonesian Business Field Standard Classification or KLBI in Indonesia which is differentiated according to the type of economic activity that produces output alias product, both in the form of goods and services. SK PT. Arih Ersada Indonesia, a decision letter that is generally made by the holder of office (in this case the Village) to formalize his decision so that he can be accounted for before the law. And this time, we are still processing to have BPOM, based on article 2 of Presidential Regulation Number 80 of 2017 concerning the Food and Drug Supervisory Agency: BPOM has the task of carrying out government tasks in the field of Drug and Food control in accordance with statutory provisions.
- The group has generated side income of IDR 27,131,500 for one year with details of income each month as follows:



- **Products Sold**
The products that were sold during this year were 819 packs/bottles of the product, with an average sales of 68 packs/bottles per month. The products that sold the most to the least were minyak karo, penurungi tasaken, sembur for gastrich, tawar mentar,

sembur for adult, sembur for children, pratahi, and sembur for adult (powder). The detail is as follows:



Until now this group has 1 dry house, 1 dry medicinal material grinding machine, 1 product rack and 1 electric scale which were provided by YSHL. Then, 1 wet medicinal material grinding machine and 1 permanent dry house unit which were provided by Panca Budi University.

Thus, we conclude that Arih Ersada's group is already independent. YSHL will reduce the assistance that is usually carried out every month, so YSHL will only monitor the progress of the group once every three months and if there are significant obstacles or problems, the team will take the time to help find solutions if needed. In the future, YSHL will no longer be a group facilitator but a group business partner.

e. Assistance for the cocoa cultivation

- The formation of agricultural product marketing cooperatives
The formation of agricultural product marketing cooperatives was carried out on May in Lau Damak Village and Batu Jongjong Village with 30 participants with resource persons from the Langkat Cooperative Service, namely Mrs. Nurani, SP, who served as Head of the Extension Section. The management of the cooperative formed in Lau Damak Village are Metahsah Surbakti, Supriono, Sehat Kembaren, Mehamad Ginting, Minta PA and Dapet Muli Sembiring. While the management of the cooperative formed in Batu Jongjong Village are Riston PA, Riska Salpina, Siti Maria, Permanent Ukur Ginting, Kamaruddin Bangun, and Edi Herianto. The types of businesses to be implemented are cultivation and marketing of agricultural products, fertilizers and pesticides (agricultural facilities), industrial agriculture, livestock and fisheries, marketing of home industries and *Waserda (Warung Serba Ada)*.
- Training on the processing of cocoa and sugar palm derivative products
It was conducted on September involving 30 villagers from Lau Damak and Batu Jongjong Village. The trainer, Mr. Fadil Azhar has taught the participants how to make chocolate bars and *gula semut*. He also shared knowledge about good post-harvest cocoa processing techniques to obtain good quality of cocoa beans.
- 11 cocoa farmers have been trained to carry out grafting stems, top grafting and side grafting independently. Farmers are also taught to make natural black ant nests which function as natural enemies for fruit borer pests. The farmers who have planted cocoa before and have already harvested cocoa are taught how to do good pruning on new *orget* so that the nutrients can focus on the fruit. Farmers are also advised to apply the method "Harvest Frequently, Pruning, Sanitation and Fertilization". As for the sugar palm, farmers just let it grow naturally, no special treatment. Of the approximately 8,000 cocoa and 300 palm sugar monitored, the cocoa survival rate is 75 to 80 percent.

f. Assistance for pepper cultivation

- Land survey

In the second quarter, the team conducted a land survey as a potential pepper planting location in Ujung Bandar Village and only 7 residents were interested in this pepper cultivation. The average land area is oil palm and rubber plantations, some of which are no longer optimal for production. Then in the third quarter, after more people received socialization about this pepper cultivation, 12 residents in Bandar Baru Hamlet and Dusun II in Ujung Bandar Village and 13 residents of Simpang Empat Hamlet in Batu Jongjong Village wanted to get involved in this pepper cultivation activity. Some residents will plant in the garden while others will plant in the yard behind the house. They will plant in the ground or polybags by making wooden stakes as tree supports later. The area of land planned to be planted is 46.1 rante (1 rante = 20x20 meters).

- Socialization and field school

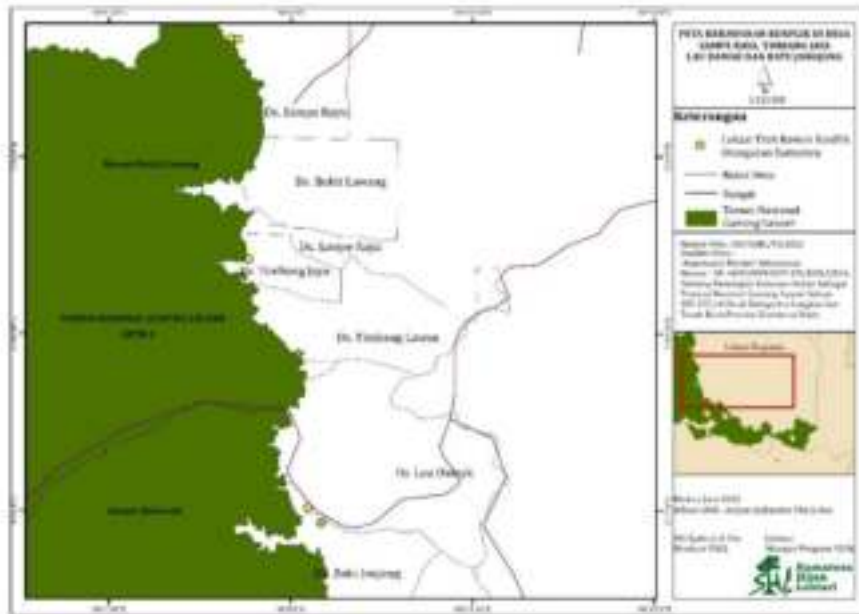
The first socialization and field school for cocoa cultivation was carried out in the second quarter to 13 residents of Bandar Baru Hamlet in Batu Jongjong Village and 10 residents of Jumalada Hamlet in Ujung Bandar Village. Then socialization and the second field school were carried out in the third quarter to 10 residents of Dusun II in Ujung Bandar Village and Simpang Empat Hamlet in Batu Jongjong Village. The resource person for this activity was Mr. M. Yunus who is a member of an Organic Farmers Association of North Sumatra or PANSU as well as an expert in the cultivation of various types of 20 perennials and the development and utilization of local microorganisms. The material provided is related to pepper cultivation, starting from the propagation of seeds that can be obtained from cuttings and seeds, nurseries, planting, to harvesting. Pepper cultivation is planned to be carried out by vegetative propagation. Pepper cuttings can be done in two ways, namely by long cuttings and short cuttings. Long cuttings are cuttings using seven segments, while for short cuttings it is enough to only use one segment. Of the two kinds of cuttings, short cuttings are the most often used because the need for plant material for cuttings is relatively less than using long cuttings. Short cuttings can save plant material and reduce plant mortality in the garden from 30% to 10%. The resource person also said that it was very important to pay attention to the irrigation system. Irrigation is mandatory, especially at the beginning of the planting season. This is to prevent the plants from becoming dehydrated, especially if the planting is done in the dry season. Then fertilization is done in an effort to increase the productivity or yield of pepper plants. Additional fertilization is also carried out to add nutrients back into the soil. Fertilization is done at intervals of 6 months. After that, the installation of vines is intended so that pepper plants can grow following the propagation, neat and can grow and develop to produce fruit. Weeding should also be done to get rid of weeds that grow around the plant. Perempelan is useful for rejuvenating branches or twigs and branches of pepper plants and the last is harvesting pepper fruit when the fruit is yellowish red.

- Nursery

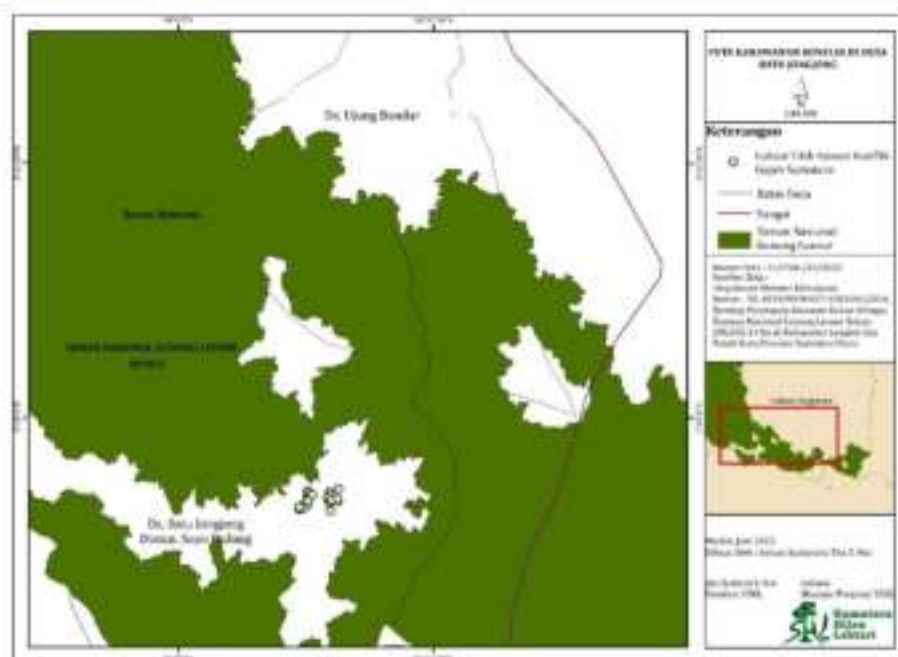
sowing 3,000 cuttings of pepper for a planned land area of 46.1 rante, with the following details; 4 residents in Bandar Baru Hamlet are seeding 1,200 pepper which will be planted in an area of 13.5 rante, 8 residents in Dusun II are seeding 1,500 pepper which will be planted in an area of 21 rante, and 13 residents in Simpang Empat Hamlet are seeding 300 pepper which will be planted in an area of 11.6 rante

2.3. Conflict Management between Human and Wildlife Especially Orangutan
a. Survey and mapping of conflict vulnerabilities of Sumatran orangutans and other animals in 3 villages

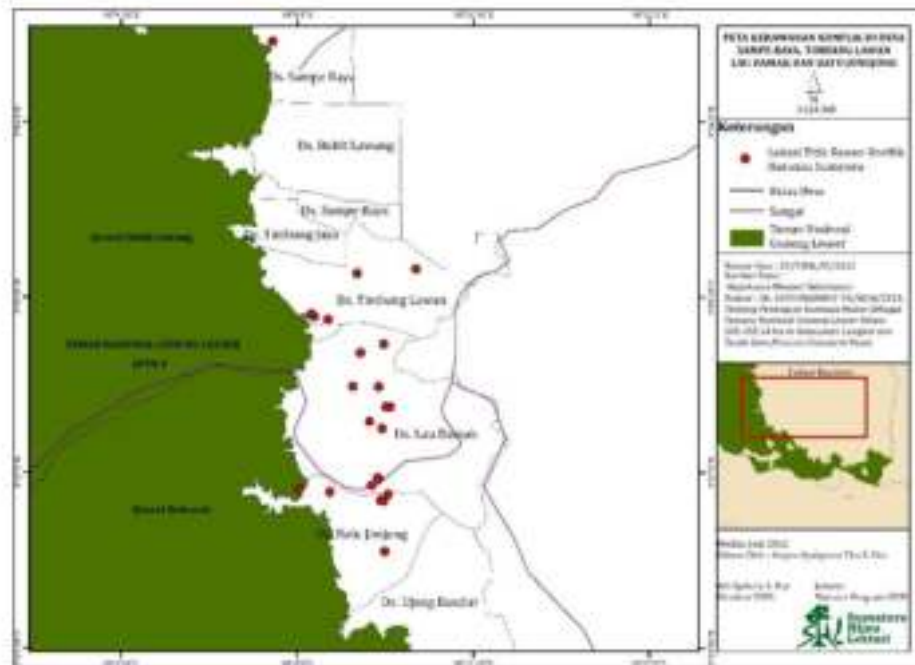
As usual, monitoring of potential conflict locations is carried out almost every month in Lau Damak Village which includes three hamlets namely Selayang, Tanjung Naman and Tusam Pinter, Batu Jongjong Village includes one hamlet namely Batu Katak. Both have potential conflicts with orangutans, tigers and sun bears. Meanwhile, Ujung Bandar Village includes Bandar Baru Hamlet which has potential conflicts with orangutans, long-tailed monkeys, kedih and sun bears. During monitoring, we mark location points that are very prone to conflict and put them on the map as shown below:



The map of conflict vulnerabilities of Sumatran orangutans



The map of conflict vulnerabilities of Sumatran elephant



The map of conflict vulnerabilities of Sumatran tiger

b. Study of community perceptions of animal conflicts, especially orangutans

This perception study was conducted using a questionnaire method filled in by 33 community representatives consisting of 29 men and 4 women from the villages of Lau Damak, Batu Jongjong, Ujung Bandar, Sampe Raya and Sei Musam. Most of the respondents only attended primary school level and worked as farmers. The number of samples taken is 10% of the number of residents in each hamlet who only have the potential for interaction with orangutans. Referring to statistical studies, the ideal sample size for each population is at least 10% if it is quantitative in nature (Kriyantono, 2008). This perception study was carried out quantitatively and combined with descriptive where respondents who were interviewed were asked for information and explanations about orangutans.

From the results of a survey study on people's perceptions of orangutans in 5 villages, we concluded important points, namely that all respondents knew the status of the forest in their village, namely a National Park, and 91% of the respondents had never entered the forest. 79% of respondents own about 2-3 hectares of agricultural land and 15 percent have a land area of 1 hectare. 94% of their farm land is between 500 meters and 1 kilometer from the forest area, as well as the distance between their garden and their house. most of these farmers said that 94% of their land is often damaged by pigs which usually come during the planting season and before harvest, to be precise at night. The part of the plant that is most frequently damaged is the tree trunk. In addition, 94% of respondents also complained that their other obstacle was the cheap selling price of their crops.

From the results of this perception study we also concluded that the presence of orangutans is no longer considered a pest or a nuisance. People are now aware that the orangutan is a protected species that must be preserved. Communities who have gardens on the edge of the area have also started to want to share their garden produce with orangutans. This was stated directly by the land owners who participated in the tree planting program with the SHL team and the conflict mitigation team. They don't mind if orangutans eat some fruit in their garden without feeling it is a problem or a loss. This

also begins with the independent planting of animal feed trees by land owners, especially in lands that are close to forest areas so that animals do not enter deeper into their gardens

c. Socialization of conflict mitigation adaptation between humans and wildlife

Socialization about the potential conflict areas, causes and efforts to prevent and handle conflicts between humans and wildlife was delivered to 75 people who live in Lau Damak, Batu Jongjong, Ujung Bandar, Sampe Raya, and Sei Musam Village. One of the prevention efforts is by planting trees with a layer to layer system. One of the efforts to prevent conflict that is emphasized is by planting agroforestry trees with a layer to layer system.

d. Handling conflicts between humans and wildlife

From the results of this year's monitoring, we summarized several important points related to the conflicts that occurred as follows:

- In January 2022, the Sumatran elephant (*Elephas maximus sumatrensis*) entered the community settlement. This conflict destroyed 2 house (no longer inhabited), 18 coconut stalks, 20 sugar palm and 20 rubber trees. According to residents who saw it, there were 4 elephants who came (3 adults and 1 elephant cub). This wildlife interaction occurred in Sapo Padang Hamlet, Batu Jong-jong Village, for 2 times, on January 16 and 23, 2022. The patrol team consisted of the community, the Head of the Sapo Padang and Batu Katak Hamlets, the Head of Batu Jongjong Village, and the Head of SPTN V-BBTNGL, BBKSDA-SU, WCS-WRU, PKH, YHUA, and YSHL, then went down to the location and conducted an assessment, many footprints, feces, and other traces of broken twigs and plants damaged by elephants were found. Coordinates point of the location is N 3°18'55.8", E 98°10'5.0". The team also searched elsewhere and found elephant shelters marked with moldy feces, estimated to be 1-2 weeks old.
- From January 16 to 20, the team carried out patrols from the afternoon until the morning and made fires in every corner of the location to prevent wild elephants from visiting the settlement areas. Night patrols were carried out by dividing the team into 3 groups and monitored every corners of the settlement areas to see if there were follow-up visits by elephants in residential areas. Patrols were also carried out by following the path passed by elephants about 3 km from Sapo Padang Hamlet. The team also surveyed the location using drones and found no new paths.
- From the results of observations and patrols in the field, it was concluded that the possibility of elephants being in the location had long and recently been reported by the community after destroying community gardens around the settlement. The patrol team distributes firecrackers to communities around conflict areas to minimize wildlife re-entering fields and community settlements. The patrol team also conducted socialization on conflict mitigation and urged the public to immediately report if the elephants came back.
- The end of January 2022 also marked the first recorded conflict between the community and the Sumatran tiger (*Panthera tigris sumatrae*) in 2022. On January 30, the team received a report from Mr. Sada Ukur, a resident of Tusam Pinter Hamlet, Lau Lamak Village that he had lost a 4 months calf. Around the location of the incident, which is close to residential areas and community gardens, traces of tigers were also found. Until now the carcass of the calf has not been found.
- On February 1st, the Sumatran tiger again preyed on a calf in Batu Frog Hamlet, Batu Jong-jong Village, owned by a resident of Tegapen Hamlet. This allegation is reinforced by the large number of Sumatran tiger footprints around the incident location where the location is already an oil palm plantation owned by residents in the middle of a settlement. This triggered tension between the community and the officers at the scene. Residents demanded that the tiger be evacuated immediately. Most of the people who work as oil palm and rubber farmers feel very worried if these animals

are still roaming around the gardens where they work. On that same day, BKSDA decided to evacuate the tiger which was troubling the residents. In addition to installing the trap cages, a joint team consisting of the community, Koramil 06 Bahorok, BBTNGL, BBKSDA-SU, WCS-WRU, YHUA, and YSHL continued to patrol and socialize the people living in the conflict area at that time and around the forest.

- On February 5, 2022, another victim was found in the form of a calf in Simpang Empat Hamlet, Batu Jong-jong Village. This really sparked public anger and sparked tensions with officers on the ground. After deliberation at the Batu Jongjong Village Office, the community was calmed and trap cages were installed. However, it turned out that at that time the community had taken action on their own by installing a wire sling net that was targeted to catch the tiger. While monitoring the trap cage, the team continued to patrol and disseminate information to the community until February 14, no sign of the tiger was found, so the trap cage was dismantled and returned to the BKSDA.
- On March, we also received reports from residents in River Landak, Bukit Lawang, that orangutan had entered Mr Solihin's durian field. There are 3 orangutans, 1 adult male, 1 adult female and 1 orangutan child. SHL team and TNGL officers went to the location and found 1 orangutan nest with position 2, Class B in a durian tree. The team distributed some firecrackers and educating the land owners how to use them so that orangutans will avoid durian trees.
- On May, there were 2 reports of tiger tracks on Mr. Ramidi's land in Tualang Gepang Hamlet, Sampe Raya Village and on the border between Batu Jongjong Village and Lau Damak. After the team verified the location, it was true that traces of the tiger were found but did not find the animal directly. The actions taken were to give understanding to the residents not to do things that could harm both parties (animals and residents) and to feel safe with the presence of TNGL officers and the team.
- On June, reports of the return of elephants to the settlement of Dusun Sapo Padang, Batu Jongjong Village. The team together with TNGL officers came to the location and found a male elephant which was about 300-400 meters from the settlement. The elephant's height is about 2.5 meters and the estimated age is 20 years. After the team conducted a sweep of about 1 km from the location of the male elephants, they found 2 female elephants and 1 calf until there were 4 in total. The action taken is to carry out night patrols and make fires at several points around the settlement so that the elephants do not come close. The team also distributed firecrackers to 8 residents in Sapo Padang Hamlet. The next day, no elephants were found but the possibility of their return still exists as this has happened several times since the beginning of 2022.

From the data above, it is known that from early to mid-2022, more conflicts occurred in Batu Jongjong Village, namely elephant conflicts occurred in Sapo Padang Hamlet and tiger conflicts occurred in Tegapen Hamlet. The elephant conflict occurred within the enclave area and caused losses to the people living and gardening there because many of their garden crops were damaged by the elephants. While the tiger conflict caused 2 cows to become victims. This had made residents angry because the location of the incident was close to a settlement. Residents asked TNGL and BKSDA-SU to catch and move the tiger to another area. From the results of discussions with residents, area stakeholders set up trap cages but after several days the tiger never entered the trap cage so the business failed. Meanwhile, reports of 3 orangutans entering the residents' gardens occurred in Bukit Lawang. The team found an orangutan nest in a durian tree in a resident's garden but did not find the orangutan directly. The team gave fireworks in anticipation of the orangutan coming back so that residents could chase them away using fireworks, without injuring them.

Meanwhile, from July to December 2022 there were no conflicts. Even if there were reports regarding orangutans entering the plantation area, especially the residents we

assisted in the villages of Lau Damak, Batu Jongjong and Ujung Bandar, they no longer considered it a problem or a loss so we did not record it as a potential conflict.

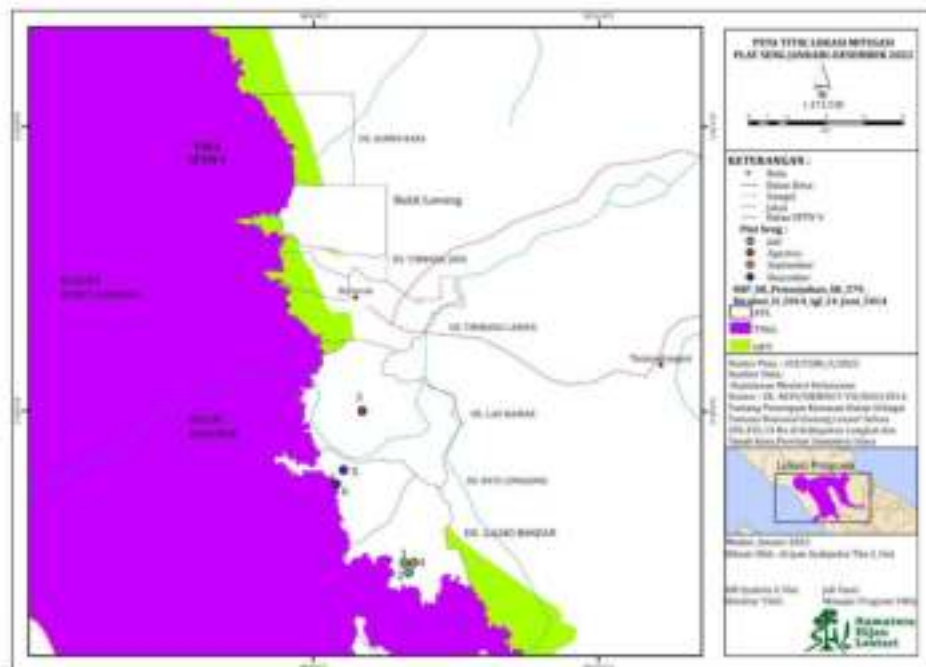
e. Creation and distribution of conflict mitigation campaign media

The conflict mitigation poster contains brief information about what conflict mitigation is and there is a contact number that can be contacted so that residents can report if there is a conflict or potential conflict so that the handling can be carried out immediately. The YSHL team that receives this report will coordinate with BBKSDA and BBTNGL as the authorities in making decisions on what steps will be taken to respond to the report. 99 posters have been distributed to residents in Lau Damak, Batu Jongjong, Ujung Bandar, Sei Musam and Sampe Raya villages.

a. Anticipating animal conflicts in community plantation areas

Installing zinc plates is one solution that can be done with the community to prevent wild animals such as orangutans, macaques, long-tailed monkeys, Thomas leaf monkeys, and sun bears. This year, zinc plates have been attached to 45 durian trees in 6 locations spread across the villages of Lau Damak, Batu Jongjong and Ujung Bandar. There are quite a lot of requests for the installation of zinc plates from garden owners, especially those who grow durian. However, the location is far away and access to the garden is very difficult, especially during the rainy season, this activity is often hampered. The rainy season also made it difficult for the team to climb trees to attach zinc to the trees because they were very slippery.

We marked 6 zinc plate installation locations on the map below:



b. Assistance in the application of adaptive agroforestry demonstration plots for conflict between humans and orangutans with a "layer to layer" system

This year we assist and monitor 3 locations for layer to layer agroforestry demonstration plots. The first is Mr. Ngalemi's garden, bordering about 1 kilometer with TNGL forest, and has planted 2 hectares of lime. This plant is expected to be a barrier between gardens and forest areas. The second is Mr. Molah's land which is about 4 kilometers from the forest but orangutans often come. He has planted trees independently and has started

planting layers to layers. His 4 hectares land is planted with rice on the land closest to the forest, then a path about 1 meter apart with a second layer planted with lime. After that, the third layer that has been planted with rubber is inserted with durian trees. He also plans to cut down his rubber tree and replace it with a durian tree. The third is Mr. Ijol's land, which is about 1 kilometer from the TNGL forest. On the land bordering the forest, he will leave it alone so that the animals can play and eat there, while the 2 hectare land has been planted with various fruit and wood trees which are also animal feed with the SHL planting team. In the middle of his land, he has started to plant various types of high quality fruit seeds.

These three areas are often visited by orangutans and sometimes even nest. In the past, landowners felt disturbed by the arrival of orangutans, but now with regular education and monitoring carried out by the SHL team, both the conflict mitigation team and tree planting, the owners no longer see orangutans as a nuisance or a problem but instead allow orangutans to come and eat the fruit that is in them. their garden. This means that slowly the community begins to realize that this is part of the risk of living or gardening on the edge of the area, they must be able to coexist harmoniously by sharing fruitful trees because some of the trees they plant are animal feed. This is also the reason why many people have started asking that their garden land be planted with trees using an agroforestry system. Meanwhile, applying layer to layer is a bit difficult.

Based on monitoring in the field, we conclude that the challenge for carrying out this activity is the need for sufficient human resources because the average slope of the land reaches 30-45 degrees. Additionally, this activity needed several workers to transport the seeds to land that has a slope of 30-45 degrees. Apart from that, we also had to thin out the stands (canopers that are connected to each other are cut down so that animals such as orangutans cannot cross from canopy to canopy and eventually enter the garden). Cutting tree stands also requires a chainsaw machine and costs money too. Not all landowners own these machines, while the rental fee reaches IDR100,000 per day and the person as the operator IDR100,000 per day, not including engine oil which must be purchased as well. So after YSHL has evaluated this activity, if operational costs are inadequate, then this activity is difficult to implement.

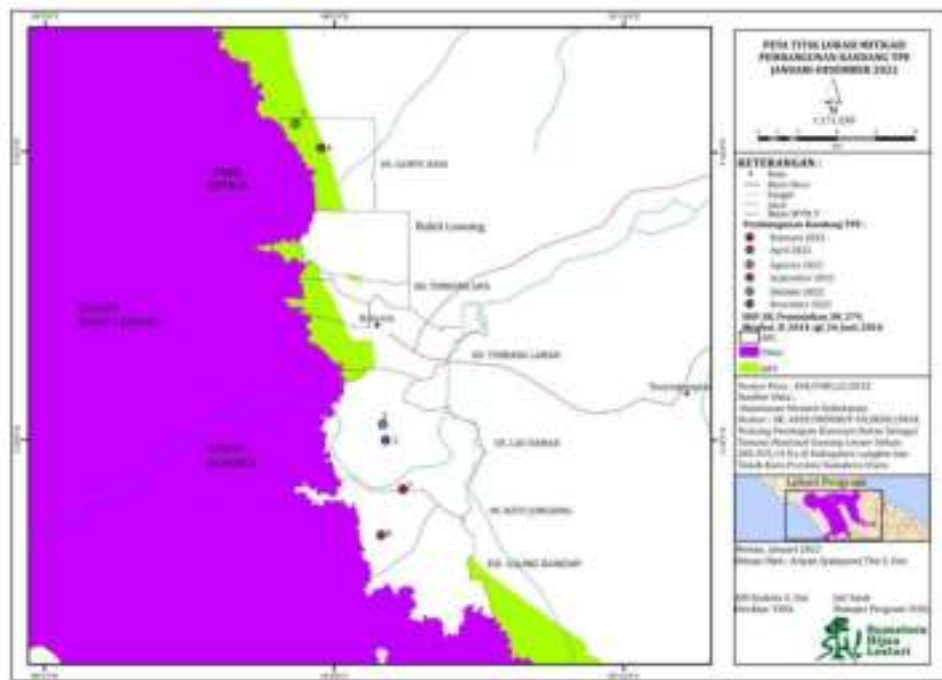
c. Construction of Tiger Proof Enclosure (TPE)

This year, 6 TPE cages have been built in the villages of Lau Damak, Batu Jongjong, Sei Musam and Sampe Raya.

These six TPEs are available for 59 cows. One of the TPE owners, Mr. Hendrik who lives in Lau Damak Village, stated that the TPE is very beneficial for the safety of the residents' livestock. He is one of the residents whose livestock (cow) was attacked by a tiger in early 2021. After that, he decided to build 1 TPE with the help of a conservation organization, Wildlife Conservation Society (WCS). Then this TPE is monitored by SHL because it is the tiger's trail. During one year, the condition of the cage poles began to get brittle and would collapse. In October 2022, Mr. Hendrik repaired the TPE with permanent poles to make it more durable and SHL provided assistance in the form of razor wire and assistance with TNGL officers.

Actually there are still many requests from livestock owners asking SHL to build the TPE but due to budget constraints, SHL can only provide 5 to 6 TPEs each year.

The 6 TPE cage locations that we have built are marked on the map as follows:



2.4. Rehabilitation Of Forest Ecosystem

a. Nursery

The nursery is located in Buluh Regen Hamlet, Ujung Bandar Village. The 2000 m² nursery house is made of wooden poles and bamboo and is covered with net.

b. Socialization and Land Survey

Socialization about the reasons, objectives and benefits of tree planting is carried out to residents in Lau Damak, Batu Jongjong, Ujung Bandar, Sampe Raya, Sei Musam, and Pekan Bahorok. The proximity of the Gunung Leuser National Park forest area to community plantation lands causes wildlife, especially primates such as orang-utans and monkeys to enter the plantations to eat/drop/break small fruit tree trunks, and others. Before a conflict occurs that can endanger both the land owner and the animals themselves, it is better to take precautions. One solution is to plant trees with an agroforestry system consisting of animal feed plants and fruit trees.

This socialization has been delivered to 37 residents but we have only surveyed 35.6 hectares of land which were owned by 26 residents.

c. Propagation of tree seeds

During 2022, we have planted 38,537 seedlings consisting of 28 types of trees, including durian, jengkol, rambutan, sirsak, avocado, jackfruit, mango, matoa, duku, mangosteen, jambu biji, petai, jengkol, lime, ketapang, damar, beringin, gempol kambing, meranti, sengon, trembesi, halaban, pasak bumi, anak-anok, tapak gajah, kemiri, pakam, kenanga hutan, marak biasa, and waru.

All of these seeds are obtained by purchasing tree seedlings that are ready to be planted to meet the planting target, partly by buying seeds and then sowing and partly from tree saplings obtained from around the previous planting location. The identification of tree species was obtained from information from local residents and a book written by Rio Ardi, Ahmad Yasin, Ari Iswandari, Alfian Fandi Nugroho in 2021 entitled Types of Original

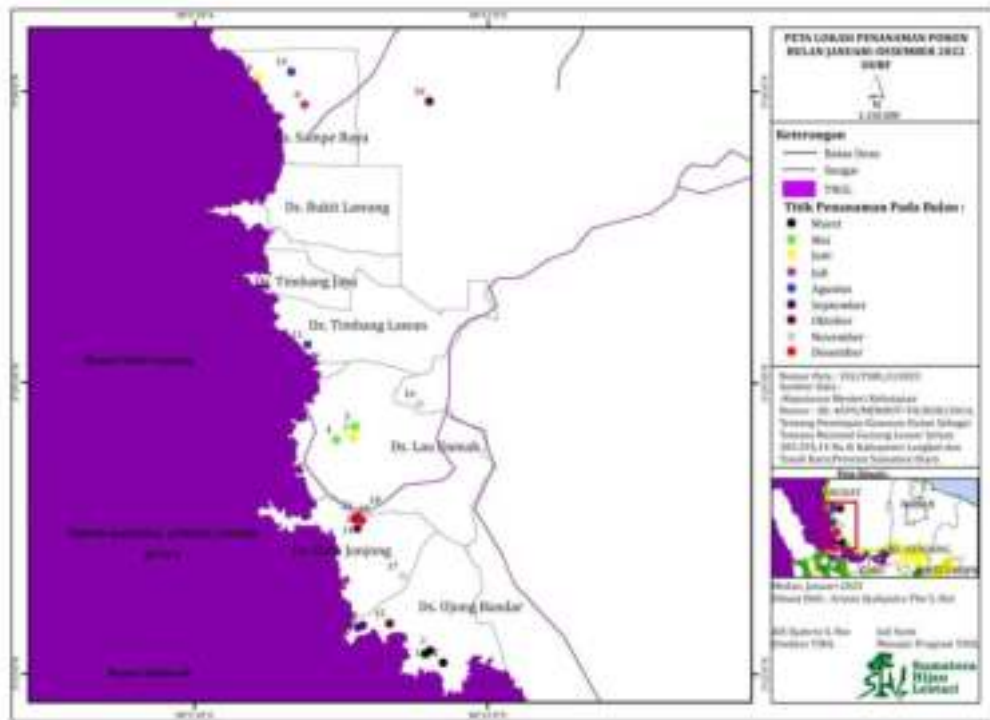
Trees in Gunung Leuser National Park. Then the number and types of plants purchased and planted, the number of life and death are recorded into the nursery data table every month. The data for the seeds sown is shown in below:

d. Plant Enrichment

We have planted 25.001 trees on 24.1 hectares of land owned by 20 residents of Lau Damak, Batu Jongjong, Ujung Bandar, Sampe Raya, Timbang Lawan, Sei Musam, Musam Pembangunan, and Pekan Bahorok. The detail of tree planting data is as follow:

No.	Name of Land Owner	Location	Area (Ha)	Number of Trees Planted
Lau Damak Village				
1	Umar Kaban	Tanjung Naman Hamlet	1	1.123
2	Hormat PA	Selayang Hamlet	1,5	1.599
3	Mariati	Tanjung Naman Hamlet	1	1.108
Batu Jongjong Village				
4	Edi Suroto	Tegapen Hamlet	1.2	1.252
5	Suwito	Teladeh Hamlet	0.5	535
6	Yusuf	Teladeh Hamlet	1.4	1.425
7	Rezeki Sinuraya	Tegapen Hamlet	0.8	843
8	Paidi	Teladeh Hamlet	1.7	1.655
9	Sampit Sembiring	Simpang Empat Hamlet	1.6	1.503
10	Kartina Tarigan	Batu Katak Hamlet	1	400
11	Amanta Sinuraya	Batu Katak Hamlet	1	1.095
12	Herwin Bangun	Batu Katak Hamlet	1	1.075
Ujung Bandar Village				
13	Herman	Bandar Baru Hamlet	1,5	1.753
14	Firman	Bandar Baru Hamlet	1,0	1,070
Sampe Raya Village				
15	Yusuf	Tualang Gepang Hamlet	2.1	2.023
16	Misno	Tualang Gepang Hamlet	1.7	1.727
Timbang Lawan Village				
17	M. Ali	Hamlet 8	0.5	523
Sei Musam Village				
18	Bono		3.3	3,517
Musam Pembangunan Village				
19	Parno	Gersih Hamlet	0.5	495
Pekan Bahorok				
20	Sakban Efendi	Pekan Bahorok	0.3	280

We marked 20 planting locations on the map below:



e. Plant Monitoring and Maintenance

We used 2 methods in monitoring, namely the Census and the Intensity Sampling (IS). Monitoring using the census method is carried out on land with an area of 1 hectare, the number of plants is not too much and the topography is quite sloping. The census was carried out as a whole to check the condition of the seeds. Our reference is Hadinoto, Suhesti E, Suwarno E. 2018. Kesesuaian Jenis Pohon Di Hutan Kota Pekanbaru. Jurnal Kehutanan Wahana Foresta 13 (2) : 118-131. Meanwhile, monitoring using the Sampling Intensity method is carried out on an area of 1 hectare or with steep topographic conditions so that it can take a long time if monitoring is carried out by means of a census. Monitoring is done by making several sample plots with a plot size of 20x20 m for each plot and in determining the number of plots it is calculated with a sampling intensity of 10%. Our references is Setiawan B, Firdaus R, Idris M H. 2020. Evaluasi Kegiatan Rehabilitasi Hutan Dan Lahan Konvensional Pasca Bencana Di Balai Kesatuan Pengelolaan Hutan Maria Donggomasa Kabupaten Bima. Jurnal Sangkareang Mataram 6 (1) : 22-28. The obstacle faced is the low commitment of land owners to replant plants that die on the grounds of being busy working, and others because the average land planted is garden land that is less or less productive and far away. Apart from that, the rainy season for the last 3 months has made it difficult for staff to come to the planting site because the river water has risen to the point where it cannot be crossed, the roads are muddy, slippery, causing vehicles to often slip so that it is a bit dangerous for staff safety. So if the road to the location is very difficult, the SHL staff will cancel the visit to that location.

The planting location that has been monitored is an area of 21.6 hectares with 26.627 trees belonging to 16 residents. The lowest survival rate is 75 percent and the highest is 88 percent while the lowest mortality rate is 12 percent and the highest is 25 percent. The mortality is mostly caused by soil conditions, where the average soil at the planting site is a limestone area, as well as the high density of the soil so that it slightly inhibits root growth. Second, the lack of canopy cover around the planting site with a slope of the land so that when it rains, run off is very high and causes the planted seeds to be carried away by surface runoff. The monitoring data is as follow:

Table 1. Monitoring using the census method

No	Land Owner	Location (Village)	Area Width (Hectare)	Month of Planting	Month of Monitoring	Number of Trees Planted	Number of Survival Trees	Number of Dead Trees	Survival Percentage (%)	Mortality Percentage (%)
1	Kelengi Sitepu	Batu Jongjong	0,1	Sep-21	Apr-22	525	422	103	80,40%	19,60%
2	Pinem	Batu Jongjong	1,1	Oct-21	Apr-22	2.298	1.836	164	79,90%	20,10%
3	Raju Sinulingga		0,8	Oct-21	May-22	2.909	1.905	1.004	73,42%	34,51%

Monitoring using the sampling intensity method

No	Land Owner	Location (Village)	Area Width (Hectare)	Month of Planting	Month of Monitoring	Number of Trees Planted	Sampling Intensity	SI (m2)	Plot Area (m2)	Number of Plot
1	Resada	Bandar Baru	1,5	Oct-21	Mar-22	1.200	0,15	1.500	400	3,75
2	Suranta	Bandar Baru	1,0	Oct-21	Mar-22	850	0,1	1.000	400	2,5
3	Bolang Tarigan	Bandar Baru	2,3	Oct-21	Mar-22	3.150	0,23	2.300	400	5,75
4	Herman	Bandar Baru	1,5	Apr-22	Jun-22	1.753	0,15	1.500	400	3,75
5	Firman	Bandar Baru	1,0	Apr-22	Jun-22	1.070	0,1	1.000	400	2,5
6	Umar Kaban	Tanjung Naman	1,0	1.123	Aug-22	0,1	1.000	1.000	400	2,5
7	Hormat PA	Bandar Setia, Selayang	1,5	1.599	Sep-22	0,15	1.500	1.500	400	3,75
8	Bono	Sei Musam	3,3	3.517	Oct-22	0,33	3.300	3.300	400	8,25
9	Yusuf	Tualang Gepang	2,1	2.023	Oct-22	0,21	2.100	2.100	400	5,25

10	Mariati	Tanjung Naman	1,0	1.108	Nov-22	0,1	1.000	1.000	400	2,5
11	Edi Suroto	Tegapen	1,2	1.252	Nov-22	0,12	1.200	1.200	400	3
12	Misno	Tualang Gepang	1,7	1.727	Nov-22	0,17	1.700	1.700	400	4,25
13	M. Ali	Dusun 8 T. Lawan	0,5	523	Dec-22	0,05	500	500	400	1,25

No	Plot 1	Plot 2	Plot 3	Plot 4	Plot 5	Plot 6	Plot 7	Plot 8	Plot 9	Number of All Plots	Number of Survival Trees	Survival Percentage (%)	Number of Dead Trees	Mortality Percentage (%)
1	14		20	17	0	0				81	1.013	84	188	16
2	18		28	0	0	0				60	706	83	144	17
3	82		48	35	42	65				329	2.402	76	748	24
4	45	35	32	42	-	-				154	1.318	75	435	25
5	35	32	25	-	-	-				92	860	80	210	20
6	38	30	33	-	-	-				101	899	80	224	20
7	33	35	30	32	-	-				130	1.200	76	379	24
8	35	30	33	35	34	32	35	34	28	296	2.777	79	740	21
9	28	29	30	29	31	25				172	1.785	88	238	12
10	32	33	28							93	839	76	269	24
11	31	34	33							98	939	75	313	25
12	30	28	29	28	27					142	1398	81	329	19
13	25	21								46	440	84	83	16

CLOSING

Not all activities can be achieved in accordance with the 2022 work plan. Each activity has its own challenges. It is difficult to change people's habits and mindsets, it is difficult to gather landowners to discuss in one place, high rainfall makes roads difficult to pass, prices of goods increase, and many other things affect whether an activity is carried out or not. However, we are still trying to find the best solution so that activities can run smoothly.

We must admit that this report still has many shortcomings and weaknesses so that many parties need to provide constructive criticism and suggestions. We hope that this report can serve as an example for anyone so that it can be applied in other areas. Thank you to all parties who cooperate and support the third Community Development and Conservation Program (CECP) in 2022.

My best regards,
Program Manager

Juli Yanti.

ANNEX

Documentation of Environmental Education

	
SDN Biak Mampe	SDN Batu Jongjong
	
SMP 6 Satu Atap	SDN Batu Katak
	
MIS Asmaul Husna	MTS Asmaul Husna
Teaching and learning activities in 6 schools	



Conservation learning house Harapan Kita in Lau Damak Village



Conservation learning house Teladeh Lestari in Batu Jongjong Village



Conservation learning house Lentera Hijau in Ujung Bandar Village



Conservation learning house Bunga Simalem in Ujung Bandar Village



Sahabat Hijau member recruitment and writing training is located in Batu Jongjong Village





Orangutan Day is celebrated with social experiment activities about orang-utans, face painting, photo booths, love letters for orang-utans and hand stamps as a symbol of concern for the preservation of orang-utans. This activity was also attended by the Head of BBKSDA-North Sumatra and the Chair of FORINA



Orangutan Caring Week was enlivened by opening a reading corner and storytelling, drawing competitions, doodle art, and reading poetry which involved 98 students from 22 elementary, middle and high schools in Bahorok District.



Documentation of Sustainable Livelihood Development





Monitoring the farmers' organic farming land that using organic liquid fertilizer in Lau Damak, Batu Jongjong and Ujung Bandar Village



Consultant and team assisted farmers in in grafting cocoa trees and carrying out proper pruning of large plants in Lau Damak and Batu Jongjong Village



Socialization, field school and seedling activities of pepper cultivation in Batu Jongjong and Ujung Bandar Village



Basic financial management training, photography and marketing training



Arih Ersada group and SHL collaborated with Medan's Panca Budi University in a community self-reliance program. In the picture the lecturer, students and groups are tidying up a demonstration plot of medicinal plants and handing over a machine for grinding medicinal ingredients specifically for wet ingredients



Visit of Postgraduate Program Students, Department of Conservation Ecology, University of North Sumatra - Medan to Arih Ersada group



Arih Ersada group has been provided with a dry house and 1 refinery machine by YSHL



Documentation of Conflict Mitigation





Socialization of conflict mitigation, providing posters containing contact numbers for conflict reporting, and monitoring potential conflict area



The handling of elephant conflicts in Batu Jongjong Village was carried out by a joint patrol team consisting of YSHL, GLNP officers, WCS, village government officers and the villagers in January 2022



The Village government with BKSDA, GLNP as the authorized institutions discussed with villagers regarding the handling of a tiger that had preyed on 2 cows in Batu Jongjong Village on February 2022.



Installing zinc plates on durian trees to avoid conflict with orangutans



Tiger Proof Enclosure (TPE) that have been built to avoid conflict with tigers.

Documentation of Forest Ecosystem Rehabilitation



Socialization about tree planting and land survey using GPS and drones.



Nursery activities





