



## SDG 2: ZERO HUNGER

Universitas Sumatera Utara (USU) is dedicated to contributing to the achievement of Sustainable Development Goal (SDG) 2—Zero Hunger. Through a range of community service and research activities, USU focuses on improving food security, promoting sustainable agricultural practices, and enhancing nutrition. These initiatives include training programs for farmers on innovative feed solutions, food processing techniques, and livestock management, as well as efforts to prevent stunting and improve maternal and child health. By empowering communities with knowledge and practical skills, USU aims to foster self-sufficiency, enhance agricultural productivity, and ensure better nutritional outcomes in North Sumatra and beyond.

No.	Title	Abstract	Outcome	Evident/Attachment
1.	<p>Pemanfaatan Tepung Cangkang Kerang Kepah Tahu (<i>Meretrix meretrix</i>) dan Kerang Bulu (<i>Anadara antiquata</i>) sebagai Sumber Pakan Ikan Nila (<i>Oreochromis niloticus</i>) di Desa Tanjung Rejo, Kecamatan Percut Sei Tuan, Kabupaten Deli Serdang</p> <p>(Utilization of Shell Flour of Tofu Clam (<i>Meretrix meretrix</i>) and Feather Clam (<i>Anadara antiquata</i>) as Feed Source for Tilapia (<i>Oreochromis niloticus</i>) in Tanjung Rejo Village, Percut Sei Tuan District, Deli Serdang Regency)</p>	<p>Tanjung Rejo Village, Percut Sei Tuan District is an area that is often known for its diversity of marine life such as fish and shellfish. Types of shellfish that are often consumed and traded are Kepah Tahu clams and feather shells, while the type of fish that is easily obtained and economically valuable is tilapia (<i>Oreochromis niloticus</i>). Tilapia which is often consumed results in higher market demand. The high market demand encourages researchers to make an innovation in the use of Kepah Tahu clam shell flour and feather clams as feed for tilapia. The reason for using clam shells as flour for tilapia feed is because people who consume shellfish meat often throw their shells carelessly so it is feared that it can cause environmental pollution. In addition, Kepah Tahu clam shells and feather clams contain calcium and phosphorus which can increase the productivity of tilapia so that the community around Tanjung Rejo village, Percut Sei Tuan District can consume quality tilapia while avoiding environmental pollution due to shells that are discarded as waste and can disturb the environment</p>	<ol style="list-style-type: none"> <li>1. Utilization of Shell Waste as Fish Feed: The program successfully converted shell waste from Tofu Kepah and feather clams into flour that is used as tilapia feed. This not only increased tilapia productivity, but also helped reduce environmental pollution due to shell waste.</li> <li>2. Increased Tilapia Production: With the calcium and phosphorus content in the clam shell meal, tilapia experience improved growth and health. This has resulted in increased production of high-quality tilapia in Tanjung Rejo Village, which can increase the community's income.</li> <li>3. Positive Response from the Community: The program has received a positive response, with more than 60% of the community understanding the benefits of using shell meal as tilapia feed, and responding to changes in feeding patterns, which are now dominated by shell meal up to 90%.</li> <li>4. Support for MBKM: This program involves students in entrepreneurial activities and field practices, supporting the achievement of the Merdeka Learning Campus Merdeka (MBKM) program by providing real experience in the application of knowledge and innovations that benefit the community.</li> </ol>	<p><a href="https://drive.google.com/open?id=1tVNpjQdG32poB7saj0CJs_cdKx1tOm3">https://drive.google.com/open?id=1tVNpjQdG32poB7saj0CJs_cdKx1tOm3</a></p>



## SDG 2: ZERO HUNGER

			5. Environmental Awareness: Through socialization, the community becomes more aware of the environmental impact of shell waste disposal and the importance of managing such waste sustainably to reduce pollution.	
2.	<p>Pemanfaatan Teknologi Pascapanen untuk Meningkatkan Nilai Ekonomis Cabai Merah di Poktan Berkah Tani, Desa Pulau Gambar, Kecamatan Serbajadi, Kabupaten Serdang Bedagai</p> <p>Utilization of Postharvest Technology to Increase the Economic Value of Red Chili in Berkah Tani Farmer Group, Pulau Gambar Village, Serbajadi District, Serdang Bedagai Regency</p>	<p>Chili is a horticultural commodity in Indonesia, especially North Sumatra, which is widely consumed by the public. The availability and demand for red chillies in society are very unstable; when production increases, the price of red chillies is relatively low, and when production decreases, the price of red chillies will increase due to commodity shortages. Therefore, one solution to overcome this problem is processing fresh chillies into chilli sauce. Processing chillies into chilli sauce, apart from extending shelf life and increasing sales value, is also practical to consume, tastes delicious and refreshing, and is also helpful in improving the taste of dishes. Community Service Activities was in the form of Training on Chili Sauce Processing Technology and Food Safety for Pulau Gambar Village Communities of Serbajadi District, Serdang Bedagai Regency. This activity aims to obtain quality chilli sauce processing technology that meets quality standards, can increase added value and is safe for consumption. The method used is counselling and assistance in processing chilli sauce. The results and outcomes achieved from the service activities that have been carried out: of the 37 participants who took part in the activities, 100% stated that the results were beneficial, 69% (15</p>	<p>1. Increasing the Economic Value of Red Chili: Through the application of post-harvest technology, farmers in Poktan Berkah Tani can process red chili into chili sauce products, which extend the shelf life and increase the selling value of red chili, overcoming the problem of price fluctuations and chili availability.</p> <p>2. Strengthening Community Skills and Knowledge: The training program succeeded in improving the community's understanding and skills in processing chili into sauce according to quality standards, introducing post-harvest technology and techniques that allow diversification of chili products.</p> <p>3. Increased Farmer Income: With product diversification and quality improvement through post-harvest technology, the income of chili farmers increased along with access to a wider market segment and a more durable product.</p> <p>4. Government Support and Collaboration: The success of the program was supported by collaboration with an enthusiastic local government as well as support from the university, which provided technical training and equipment assistance such as grinding machines and stirrers for chili sauce processing.</p> <p>5. Sustainable and Inspiring Agriculture Model: The program serves as an inspiring example for other regions in developing sustainable agriculture through the use of technology,</p>	<p><a href="https://drive.google.com/open?id=10qnXPMb_bdB3Mv1yXancnFdDGlx4cRdN">https://drive.google.com/open?id=10qnXPMb_bdB3Mv1yXancnFdDGlx4cRdN</a></p>



## SDG 2: ZERO HUNGER

		people) intended to try it themselves, and 31% did not decide yet.	thereby increasing the competitiveness of local products and contributing to food security and the region's economy.	
3.	Application of Phytobiotics and Straw Fermentation for Sheep Feed in Mulawari Village, Karo Regency	The "Subur Tani" Farmer Group has an agriculture and animal husbandry business in Mulawari Village, Karo Regency, North Sumatra Province. Livestock and crops business The livestock and crop business is developing well despite human resources and science and technology limitations. The potential in Mulawari Village is the abundant agricultural crop waste that is burned. This causes the impact of environmental pollution. In 2022, an outbreak of Foot and Mouth Disease broke out. This disease causes very high economic losses, so prevention efforts that can be applied in Mulawari Village, which has not been affected, are needed. In addition to the spread of livestock disease outbreaks, livestock productivity could not be better, and body weight averages could be low so that farmers' profits and incomes are not maximized. Farmers' skills also need to improve in disease prevention. The community service method is the practice of training and counseling on making multifunctional phytobiotics for livestock, plus the application of fermented feed processing technology based on agriculture waste. The achievements results of this community service activity are increasing skills in farmer group members with the activity of making Multifunctional Phytobiotics as an effort to prevent disease, increasing farmer group skills with appropriate technology applications based	<ol style="list-style-type: none"> <li>1. Farmer Skills Enhancement: Through training and mentoring, farmers in the Subur Tani farmer group in Mulawari Village successfully learned how to make multifunctional phytobiotics and ferment straw as animal feed. This knowledge helped them optimize the potential of agricultural waste to improve the quality of animal feed.</li> <li>2. Reduction of Antibiotic Use in Livestock: By utilizing phytobiotics made from local herbal ingredients, farmers can replace synthetic antibiotics, which reduces the risk of antibiotic resistance and is more friendly to human health.</li> <li>3. Increased Livestock Productivity: Feeding fermented straw and phytobiotics has been shown to increase body weight and endurance of livestock, particularly goats and sheep. This results in higher productivity and potential income for farmers.</li> <li>4. Economic Benefits of Agricultural Waste: The use of straw waste as feed through fermentation technology reduces feed costs which are usually quite high, thus adding efficiency and profit for farmers.</li> <li>5. Support for Sustainable Agriculture: The program demonstrates the benefits of collaborating technology and local resources to create an environmentally friendly farming ecosystem, improve livestock competitiveness, and provide an inspiring example for sustainable agriculture.</li> </ol>	<a href="https://drive.google.com/open?id=1b0pARe3OIBXYB6Q9-KlqEWQGtu9YQVou">https://drive.google.com/open?id=1b0pARe3OIBXYB6Q9-KlqEWQGtu9YQVou</a>



## SDG 2: ZERO HUNGER

		on horticultural waste to provide benefits as animal feed ingredients with fermentation technology, increasing community income and economy. Community service concludes that applying phytobiotics and fermented feed can increase livestock productivity, farmer income, and farmer skills.		
4.	<p>Skrining “GEMULEK” (Gigi, Mulut, dan KEK) pada Perempuan Usia Subur dalam Penegahan Stunting</p> <p>(Dental, Mouth, and KEK) Screening in Women of Childbearing Age to Prevent Stunting)</p>	<p>Prevention of dental and oral health problems in pregnant women can be done by increasing knowledge and changing the behavior of pregnant women. The target audience for this community service activity are women of childbearing age, pregnant women, and posyandu cadres. The partner in this community service is the head of the posyandu cadre in Ujung Rambung village. The partner's problem lies in the emergence of dental and oral health problems and KEK during pregnancy. Screening activities for women of childbearing age in Ujung Rambung village include 12 components of dental and mouth screening, as well as upper arm circumference screening as an observation of nutritional status, and also detects the average age of women of childbearing age who attend as participants. Based on the results of the screening tabulation, it was found that 61.5% of the activity participants had cavities, and 73.1% had tartar. This condition is a condition that is at risk of developing tooth and mouth infections. Apart from that, in a number of other problems, 26.9% found cases of bleeding teeth when brushing their teeth, and they often experienced food stuck in their teeth</p>	<ol style="list-style-type: none"> <li>1. Improved Knowledge of Oral Health and Nutrition of Pregnant Women: Through health education and screening, women of childbearing age and pregnant women in Ujung Rambung Village gained better knowledge about oral health and the importance of nutrition during pregnancy, especially in preventing Chronic Energy Deficiency (CED).</li> <li>2. Awareness Raising for Self-Screening: The program encourages women to routinely screen for oral health and SEZ as part of preventive measures against the risk of stunting in their children.</li> <li>3. Risk Identification and Health Monitoring: Through screening, it was found that 61.5% of participants had cavities and 73.1% had tartar, both of which increase the risk of oral infections. Upper arm circumference (LILA) monitoring was also conducted to identify the risk of SEZ, with the average LILA of participants being 30.08 cm.</li> <li>4. Empowerment of Posyandu Cadres: The program involves posyandu cadres as partners who assist in the education and monitoring process, so that the sustainability of the program can be maintained through local community support.</li> <li>5. Reduced Risk of Child Stunting: By improving oral health and nutritional fulfillment in pregnant women, this program is expected to</li> </ol>	<p><a href="https://drive.google.com/open?id=14AaydEKhTrS9l5lcEi0SsjAmOecQpEph">https://drive.google.com/open?id=14AaydEKhTrS9l5lcEi0SsjAmOecQpEph</a></p>



## SDG 2: ZERO HUNGER

		<p>(53.8%). In the study of measuring upper arm circumference (LILA) as a monitoring of nutritional status and chronic energy deficiency (KEK), the average LILA was 30.08 cm. This was also followed by monitoring of reproductive age with an average age of 32.7 years. Nutritional status and maternal health before, during and after pregnancy affect the early growth and development of children, starting from the womb. Gingivitis of pregnancy is inflammation of the gums experienced during pregnancy. Oral screening and the incidence of CED are important components that can be complied with during the early trimester of pregnancy.</p>	<p>reduce the risk of stunting in children in the future, which is influenced by maternal health conditions during pregnancy.</p>	
5.	<p>Pemanfaatan Lahan Terbatas sebagai Upaya Pemenuhan Kebutuhan Pangan dengan Cara Hidroponik di Era Pandemi Covid 19</p> <p>Utilization of Limited Land as an Effort to Fulfill Food Needs by Hydroponics in the Covid 19 Pandemic Era</p>	<p>During a pandemic like today, people are required to reduce activities outside the home, many activities are spent at home alone such as, working from home, studying from home and not a few have lost their jobs due to several companies being closed. Some of these things often make the level of community productivity decrease and the level of community stress increases, therefore one of the activities that can increase community productivity. There are many business opportunities that can be done during the Covid 19 pandemic. This community service activity will train the Mulioerejo Village PKK community group in utilizing limited land with Deep Flow Technique (DFT) hydroponics. This activity aims to be able to help the community in the economy in the community. To overcome economic problems during the pandemic, people can start a business by utilizing what</p>	<ol style="list-style-type: none"> <li>1. Improved Understanding of Hydroponics: Through training on the Deep Flow Technique (DFT) hydroponic system, Mulioerejo Village PKK members now have a better understanding of how to grow crops on limited land, which can help meet family food needs and reduce dependence on external sources.</li> <li>2. Economic Empowerment through Household Farming: With new skills in hydroponic farming, villagers have the opportunity to increase their income by selling hydroponic vegetables, such as lettuce and pakcoy, which have high market demand.</li> <li>3. Improved Local Food Security: Hydroponics allows communities to grow vegetables independently throughout the year, regardless of the season, thus improving village food security and the availability of fresh vegetables.</li> <li>4. Land and Water Use Efficiency: The DFT hydroponic system is proven to be effective in utilizing a small area of land and uses less water</li> </ol>	<p><a href="https://drive.google.com/open?id=1Gm7CfnYzofyT3c1r1IAijJ83UWU_vUD">https://drive.google.com/open?id=1Gm7CfnYzofyT3c1r1IAijJ83UWU_vUD</a></p>



## SDG 2: ZERO HUNGER

		<p>is in their environment and turning it into what is needed by their environment as well. The results achieved are that the PKK community of Muliorejo Village understands the importance of being productive in the pandemic era and utilizing limited household land so that they can meet household food needs by utilizing DFT hydroponics.</p>	<p>compared to traditional farming methods, making it suitable for application in areas with limited land and water resources.</p> <p>5. Reduced Dependence on Pesticides: Hydroponics reduces the need for chemical pesticides as plants grow in an environment that is more protected from pests, resulting in healthier and safer vegetables for the community.</p>	
6.	<p>Community Service Supports Coffee Cultivation and Post-Harvest in Hutabaringin Village, Sorik Marapi District, Madina</p>	<p>Hutabaringin Village Community, District. Sorik Merapi, Kab. Madina has sources of livelihood in the agricultural sector, namely: rice, vegetable crops, fruit, gelugor acid, and plantation crops, especially coffee. The problems identified are limited capital, seeds, tools and agricultural machinery (alsintan) as well as farmers' knowledge in managing coffee to obtain high productivity. Therefore, the Marsipature Hutanabe Mono Year Service Team carries out outreach activities, training and provides donations in the form of coffee seeds and machinery in the form of mini drying houses and coffee roasting machines to support cultivation and post-harvest to increase coffee productivity. This activity uses field survey methods, outreach, training on controlling coffee plant pests, training on post-harvest processing of coffee and focus group discussions (FGD). Next, the handover of coffee seeds, coffee drying house, coffee roasting machine and yellow trap was carried out. The activity went well and received a positive response from farmer groups in Hutabaringin Village, Puncak Sorik Marapi, Madina.</p>	<p>1. Improved Knowledge and Skills of Coffee Farmers: The program increased the knowledge of farmers in Hutabaringin Village on organic coffee cultivation and pest control, including the use of yellow traps and plant-based pesticides, which are environmentally friendly and support sustainable agricultural practices.</p> <p>2. Post-Harvest Equipment Facilitation: With the help of tools such as mini drying houses and coffee roasting machines, farmers can now carry out coffee drying and processing near their fields. This simplifies and speeds up the post-harvest process, maintains coffee quality, and increases productivity.</p> <p>3. Support for Mandailing Coffee Products: The provision of coffee seeds and post-harvest equipment helps to promote Mandailing coffee as a superior product with better quality, which has the potential to increase competitiveness in local and international markets.</p> <p>4. Additional Economic Opportunities: Post-harvest training and coffee presentation techniques in attractive small packages provide opportunities for farmers to sell value-added products, which increases the income of farmers in the village.</p> <p>5. Positive Response and Active Community Participation: The program received positive</p>	<p><a href="https://drive.google.com/open?id=1zmpb8EvzN_P_b9cPJ7jGpvC2dAC66wKS">https://drive.google.com/open?id=1zmpb8EvzN_P_b9cPJ7jGpvC2dAC66wKS</a></p>



## SDG 2: ZERO HUNGER

			reception and support from the local community, who showed enthusiasm in adopting new practices and technologies for local coffee development, creating opportunities for the sustainability of the coffee industry in the area.	
7.	<p>Pemberdayaan Masyarakat dalam Pencegahan Stunting di Desa Sungai Liti Kecamatan Kampar Kiri Kabupaten Kampar Riau</p> <p>Community Empowerment in Stunting Prevention in Sungai Liti Village, Kampar Kiri District, Kampar Regency, Riau</p>	<p>Children under five as a population at risk of health problems require serious attention, because at this age it is the golden age period, critical period, transition period in their lives, so at this age stunting often occurs. If stunting is not treated, growth and development problems will occur. This community service activity equates perceptions of how to overcome it through cross-program FGDs at Community Health Centers, carrying out training for stunting cadres, providing health education to families, empowering families and collaborating between stunting cadres and families. Community service is carried out in collaboration between the University of Riau and the University of North Sumatra. The partner in this community service is the head of Sungai Liti village, Kampar Kiri District and works together with stunting cadres and the target is families of stunted toddlers. As a result of this community service, a set of stunting prevention intervention modules were formed to be used by community health center officers, including increased knowledge, attitudes and behavior of mothers of stunted toddlers, increased knowledge of stunting cadres and increased height of stunted toddlers. Increased knowledge, attitudes</p>	<ol style="list-style-type: none"> <li>1. Improved Knowledge of Stunting Mothers and Cadres: Through training and health education, mothers and stunting cadres in Sungai Liti Village gained a better understanding of stunting, parenting, and the importance of balanced nutrition in stunting prevention.</li> <li>2. Increased Involvement of Stunting Cadres in Prevention: Stunting cadres were provided with guidebooks and trained in measurement techniques and preparation of nutritious food for children. This strengthens their role in direct family monitoring and education, which supports the sustainability of the stunting prevention program.</li> <li>3. Improving Maternal Attitudes and Behavior towards Child Health: The program encourages positive changes in mothers' attitudes and behaviors in meeting nutritional needs and implementing healthy parenting, which is expected to reduce the prevalence of stunting in the village.</li> <li>4. Cross-Sector Cooperation for Stunting Management: The program engages various stakeholders, including health workers, village government, and families, in a collaborative effort to address stunting holistically.</li> <li>5. Availability of Stunting Intervention Modules: The result of this community service is the creation of a stunting prevention intervention module that can be used by health workers at health centers and village cadres, which can be</li> </ol>	<p><a href="https://drive.google.com/open?id=1qZgq2tvjA7Ba8LuWxLNQyn9km4bPWz_c">https://drive.google.com/open?id=1qZgq2tvjA7Ba8LuWxLNQyn9km4bPWz_c</a></p>



## SDG 2: ZERO HUNGER

		and behavior are measured using questionnaires and monitoring and evaluation are measured using a checklist format and motivation is documented in a separate format column for future reference.	a guide in educating, monitoring, and evaluating stunting prevention efforts.	
8.	<p>Pelatihan Pembuatan Pupuk Organik Cair (POC) dan MOL dari Urin dan Feses Domba pada Peternak di Desa Talun Kenas Kecamatan STM Hilir</p> <p>Training on Making Liquid Organic Fertilizer (POC) and MOL from Sheep Urine and Feces for Farmers in Talun Kenas Village, STM Hilir District</p>	<p>Intensive sheep rearing system must be accompanied by livestock management, superior seeds and quality feed. Farmers usually do not have knowledge of good sheep husbandry management. Farmers do not understand the importance of cage hygiene in maintaining livestock health. This service activity aims to provide counseling on training in making liquid organic fertilizer or POC to farmers in Talun Kenas village, STM Hilir sub-district. The method used in this community service activity is counseling in the form of socialization in the form of making MOL from sheep feces and sheep urine as POC. The results of this service activity are that farmers realize the importance of implementing good livestock maintenance management. Farmers began to realize the importance of maintaining the cleanliness of the cage environment. The fermentation technology that farmers already have is expected to make it easier for farmers to process other types of livestock waste.</p>	<ol style="list-style-type: none"> <li>1. Improving Farmers' Skills in Processing Livestock Waste: Through training, farmers in Talun Kenas Village now have the skills to utilize sheep feces and urine waste into Liquid Organic Fertilizer (POC) and Local Microorganisms (MOL), which support sustainable agricultural practices.</li> <li>2. Waste Reduction and Improved Cage Hygiene: The introduced fermentation technology assists farmers in effectively treating manure waste, which contributes to improved environmental hygiene and prevents livestock diseases.</li> <li>3. Alternative to Chemical Fertilizers: By using POC from sheep urine, farmers have an alternative nitrogen-rich and safe-to-use organic fertilizer, which helps reduce dependence on chemical fertilizers.</li> <li>4. Efficiency in Cage Management: Having a pen for urine collection facilitates hygiene management and waste collection, improving farmer work efficiency and supporting overall livestock health.</li> <li>5. Application of Fermentation Technology to Other Wastes: Farmers' awareness of the benefits of fermentation encourages them to explore the application of this technology to other livestock wastes, which can expand the positive impact of the program.</li> </ol>	<p><a href="https://drive.google.com/open?id=1bELny9TwzrDyjYb2lGvX85acu-RYFORL">https://drive.google.com/open?id=1bELny9TwzrDyjYb2lGvX85acu-RYFORL</a></p>



## SDG 2: ZERO HUNGER

9.	<p>Pakan Silase Ternak Kambing di Desa Tanjung Rejo Kabupaten Deli Serdang</p> <p>Silase Feed for Goats in Tanjung Rejo Village, Deli Serdang Regency</p>	<p>The purpose of community service is to make silase goat feed from organic waste as silase animal feed whose farms are starting to have difficulty providing feed, especially forage feed, especially during the dry season. While organic waste such as straw and banana stems are not utilized, most are left as is. The solution to this problem is to utilize organic waste as an alternative feed in the form of silase animal feed which has economic value, high nutritional value and is environmentally friendly. This activity will be carried out in August - November 2023. The method used is a combined method of counseling, training, hands-on practice and work evaluation. The resulting silase animal feed products can be used for their own needs or sold. The service team will provide partners with an organic waste counter tool, to facilitate the process of making silase feed for goats.</p>	<ol style="list-style-type: none"> <li>1. Utilization of Organic Waste for Animal Feed: Through training, goat farmers in Tanjung Rejo Village are now able to process organic waste, such as straw and banana gedebok, into highly nutritious silage feed, reducing reliance on green feed which is often difficult to obtain during the dry season.</li> <li>2. Increased Livestock Productivity: The use of silage feed increases goat appetite and accelerates livestock growth, which has the potential to increase goat meat weight and quality, as well as lower cholesterol levels in the meat produced.</li> <li>3. Economic and Environmental Benefits: Silage feed from organic waste is an economical and environmentally friendly alternative, which helps farmers reduce feed costs and keep the environment clean from previously unutilized waste.</li> <li>4. Village Government Support: The program is fully supported by the village head and his officials, who play a role in granting permits and providing training facilities, encouraging program sustainability for the village community.</li> <li>5. Strengthening the Human Resource Capacity of Farmers: Through counseling and hands-on practice, farmers' knowledge and skills in producing silage feed increased, which is expected to improve their living standards and the sustainability of their livestock businesses.</li> </ol>	<p><a href="https://drive.google.com/open?id=1oDHrgNGrCmcluV3ffZzgRUTiiXd1b9hn">https://drive.google.com/open?id=1oDHrgNGrCmcluV3ffZzgRUTiiXd1b9hn</a></p>
10.	<p>Pelatihan Budidaya Ikan Lele pada Kolam Terpal dalam Rangka Meningkatkan Pendapatan Masyarakat di Desa</p>	<p>Catfish cultivation in the Pondok Miri Asri Farmers Group, Sei Semayang Village, Sunggal District, Deli Serdang Regency is carried out by the community independently. The problems that occur are the presence</p>	<ol style="list-style-type: none"> <li>1. Improved Skills and Knowledge: Training on catfish farming in tarpaulin ponds has improved the skills and knowledge of farmer groups in Sei Semayang Village on effective and efficient catfish farming methods.</li> </ol>	<p><a href="https://drive.google.com/open?id=1aDjX1lixKoBmZYxquWqByCsFYN8qRpHB">https://drive.google.com/open?id=1aDjX1lixKoBmZYxquWqByCsFYN8qRpHB</a></p>



## SDG 2: ZERO HUNGER

	<p>Sei Semayang Kecamatan Sunggal Kabupaten Deli Serdang</p> <p>Training on Catfish Cultivation in Tarpaulin Ponds in order to Increase Community Income in Sei Semayang Village, Sunggal District, Deli Serdang Regency</p>	<p>of yard land that has not been utilized optimally and the cultivation of catfish in earthen ponds. Therefore, one simple medium for cultivating catfish is to use a tarpaulin fish pond. Based on these problems, the community service team proposed efforts to empower farmers in groups, with the aim of carrying out catfish cultivation in tarpaulin ponds. The method used in this community service activity uses a descriptive qualitative method by means of discussion, counseling, training and evaluation directly with farmers. The results of the training on cultivating catfish in round tarpaulin ponds were well received by the people of Sei Semayang Village so that this activity could run smoothly and well in accordance with the expected objectives where the response and enthusiasm of the Pondok Miri Asri farmer group and community members looked very positive. Cultivating catfish using the tarpaulin pond method is the most appropriate alternative as an economic means for the community to earn additional income during their limited time, especially for the people of Sei Semayang Village to generate additional income besides working as laborers, civil servants, and others.</p>	<ol style="list-style-type: none"> <li>2. Marginal Land Utilization: The program encourages the optimal utilization of underutilized yard land, thus helping communities turn vacant land into productive use through affordable tarpaulin ponds.</li> <li>3. Increased Community Income: Catfish farming in tarpaulin ponds has become an additional source of income for the people of Sei Semayang Village, especially for those who have free time between their main jobs.</li> <li>4. Economic Independence of Farmer Groups: The training promotes economic independence by providing access to communities to develop fisheries businesses independently and produce products of economic value.</li> <li>5. Support for Local Food Security: By cultivating catfish, the program contributes to local food security, given the growing demand for catfish for consumption.</li> </ol>	
11.	<p>Utilizing Animal Feed Mixing Technology to Enhance Chicken Production in the Sido Selamat Farmer Group at Tebing Linggahara Village, Labuhanbatu</p>	<p>The Sido Selamat Farmer Group, located in Tebing Linggahara village, West Bilah sub-district, Labuhanbatu Regency, North Sumatra, Indonesia, has been running an independent business in the form of village chicken and catfish farming since 2014. With the potential for fish feed raw materials, as well as enormous marketing</p>	<ol style="list-style-type: none"> <li>1. Improved Efficiency of Animal Feed Production: With the automatic feed mixer machine provided, the Sido Selamat Farmer Group in Tebing Linggahara Village can mix feed more quickly and homogeneously, reducing production time and reliance on time-consuming manual methods.</li> </ol>	<p><a href="https://drive.google.com/open?id=1EXAFZpl5h2tPEJBvDpOg8Q1BgvFaxMU9">https://drive.google.com/open?id=1EXAFZpl5h2tPEJBvDpOg8Q1BgvFaxMU9</a></p>



## SDG 2: ZERO HUNGER

		<p>opportunities, the Sido Selamat farmer group wants to increase its production in processing animal feed to reduce feed production costs. The animal feed processing technology that has been carried out so far is constrained by the limited number of machines used to stir the feed automatically so that the production process can run quickly and efficiently. The technology that has been used so far is to use manual methods using hands so that it takes a long time in production. Therefore, a tool is needed that can stir the feed automatically and is integrated with the existing feed printing machine so that work in production becomes fast and efficient. The designed tool has diesel specifications with 7 PK power that is able to stir feed with a capacity of 100 kg in one operation to produce animal feed that has good quality and can compete in the market. For now, the production of native chicken livestock continues to increase from the number of livestock almost reaching 2000 heads, egg sales of about 100 eggs / day, production of native chicken meat as much as 100 kg / week. With the independent processing of feed, the profit value obtained is expected to increase.</p>	<ol style="list-style-type: none"> <li>2. Reduced feed costs and increased profits: The automated mixing process enables farmers to produce quality, self-sufficient animal feed at a lower cost, thereby increasing the profitability of the farmer group's native chicken and tilapia farming businesses.</li> <li>3. Increased Production and Quality of Livestock Products: With more nutritious and quality feed, the production of native chicken eggs and fish meat increases, meeting the high market demand and increasing income for farmers.</li> <li>4. Socialization of Waste Utilization for High Nutrient Feed: Farmer groups are also trained to utilize household wastes such as fish scales and taro leaves as feed ingredients, adding nutritional alternatives for livestock with an environmentally friendly approach.</li> <li>5. Strengthening Agricultural Technology Capacity in the Community: The use of Internet of Things (IoT)-based machinery introduces farmers to new technologies, improving their skills and knowledge in tool maintenance and the use of technology to increase productivity.</li> </ol>	
12.	<p>Peningkatan Keterampilan Kelompok Ibu IKBI Kebun Helvetia PTPN II melalui Pelatihan Diversifikasi Pangan Sayuran Hidroponik</p>	<p>The service partner is a group of women in Ikatan keluarga Besar Istri (IKBI) PTPN II Helvetia Garden. Partner have previously succeeded in cultivating vegetables hydroponically, starting from the seeding stage to harvesting in the greenhouse of the Helvetia garden, the harvested vegetables have not yet undergone further processing.</p>	<ol style="list-style-type: none"> <li>1. Improved Food Processing Skills for the Women's Group: Through food diversification training, the women's group in IKBI Kebun Helvetia PTPN II now has new skills to process hydroponic vegetables into various food products such as spinach chips, pakcoy mini martabak, and kale cork crackers, thus</li> </ol>	<p><a href="https://drive.google.com/open?id=1FXKvfGY1iOi6lekP5wQ2S-bFMRdGW-MZ">https://drive.google.com/open?id=1FXKvfGY1iOi6lekP5wQ2S-bFMRdGW-MZ</a></p>



## SDG 2: ZERO HUNGER

	<p>Improving the Skills of IKBI PTPN II Helvetia Garden Mothers Group through Hydroponic Vegetable Food Diversification Training</p>	<p>Therefore, partner want to have knowledge about processing hydroponic vegetables into other food products. The method of community service activities is presentation of material and product processing practices in which partner plays an active role. The service team conducted training on the diversification of hydroponic vegetable food products into spinach chips, mini bok choy martabak, and kangkung crackers. Furthermore, the service team also provides training on packaging and labeling of food products produced with the aim of improving the appearance of the products so that they look more attractive, maintaining product safety from contamination, and providing product information. The results obtained after the training activities from 20 participants were that 85% (17 participants) understood how to make these food products and 75% (15 participants) were interested in practicing it independently at home. Organoleptic test of the three food products was also carried out by the partner as panelists and it was found that the partner liked the color, aroma, taste and texture of the food products.</p>	<p>increasing the added value of the vegetables produced.</p> <ol style="list-style-type: none"> <li>2. Increased Interest and Independent Participation: Of the 20 training participants, 85% understood the process of making food products from hydroponic vegetables, and 75% were interested in trying to make them independently at home, potentially creating new business opportunities among the women.</li> <li>3. Increased Economic Value and Product Attractiveness: Training on product packaging and labeling helped improve the aesthetics and safety of the products, making them more attractive to potential buyers and allowing them to compete in the local market.</li> <li>4. Income Generation Opportunities through Processed Vegetable Products: With the skills to process and package the products independently, this group of mothers can utilize their hydroponic vegetable produce to sell as high-value processed products, opening up opportunities for increased family income.</li> <li>5. Positive Response to Products: The resulting products, namely spinach chips, kale cork crackers, and pakcoy mini martabak, were well received by the mothers' group in terms of color, aroma, taste, and texture, creating a basis to start further production and marketing of the products.</li> </ol>	
13.	<p>Percepatan Penurunan Stunting dengan Pemberdayaan Kader Posyandu dan Aparat Desa dalam Pemantauan Status Gizi dan Pemberian</p>	<p>Low nutritional status of pregnant women during pregnancy can result in various adverse impacts for the mother and baby. Insufficient nutritional status in toddlers can cause developmental problems/delays. In Dairi Regency there are 189 toddlers (0.2%) who are below the Red Line (BGM). The prevalence of stunted toddlers in Dairi</p>	<ol style="list-style-type: none"> <li>1. Improving the Skills of Posyandu Cadres and Village Officials: Through training and socialization, posyandu cadres and village officials in Sijinjo I Village, Dairi Regency now have improved skills in monitoring the nutritional status of pregnant women and children under five. They are also trained to motivate mothers to actively attend posyandu.</li> </ol>	<p><a href="https://drive.google.com/open?id=1haYc8NrRvMJ_CNS3k2ea6so1TOHFiqGD">https://drive.google.com/open?id=1haYc8NrRvMJ_CNS3k2ea6so1TOHFiqGD</a></p>



## SDG 2: ZERO HUNGER

	<p>Makanan Tambahan Ibu Hamil</p> <p>Accelerating Stunting Reduction by Empowering Posyandu Cadres and Village Officials in Monitoring Nutritional Status and Providing Supplementary Food for Pregnant Women</p>	<p>Regency in 2018 was 23.3%. For this reason, village cadres and officials are empowered to monitor nutritional status and provide additional food for pregnant women and toddlers to prevent stunting. By increasing the knowledge and skills of cadres and village officials to achieve a reduction in the incidence of stunting and improving the nutritional status of pregnant women and toddlers, this can be done through nutritional surveillance by monitoring activities: PMT recovery, provision of vitamin A, TTD, taburia, zinc, stimulation. This activity was attended by pregnant women, mothers of toddlers, cadres and village officials who were very enthusiastic about listening to the presentation by the service team about what is meant by stunting, its causes, treatment, and the role of cadres and village officials regarding the stunting problem. Discussions and questions and answers were also very interactive, showing the great attention paid to service activities. Apart from that, this service activity also provides additional food to pregnant women and toddlers. Based on this, service activities empowering the role of village cadres and officials to monitor the nutritional status of pregnant women and toddlers to prevent stunting can increase the knowledge and skills of partners in providing knowledge and skills to pregnant women and toddlers to improve their nutritional status. It is hoped that this service activity can reduce the prevalence of stunting and other malnutrition problems.</p>	<ol style="list-style-type: none"> <li>2. Strengthened Role in Stunting Prevention: Cadres and village officials have strengthened their role in preventing stunting with new knowledge about the importance of nutrition monitoring and supplementary feeding for pregnant women and children under five.</li> <li>3. Continued Commitment from Village Government: The program received support from the village government, which committed to include supplementary feeding for pregnant women and toddlers in the village assistance program, so that it is expected to be sustainable.</li> <li>4. Increased Posyandu Visits: After the implementation of the activities, there was an increase in the number of pregnant women and toddlers visiting the posyandu for weight and height monitoring. This is expected to have a positive impact on improving nutritional status and gradually reducing stunting rates.</li> <li>5. Better Nutrition Awareness among Mothers: The program increases mothers' awareness and understanding of the importance of fulfilling balanced nutrition during pregnancy and the toddler years, which will support stunting prevention efforts in the future.</li> </ol>	
--	---	---	---	--



## SDG 2: ZERO HUNGER

14.	Formation, Empowerment and Strengthening of Organic Farmer Groups, in Saran Padang Village, Simalungun District	<p>The condition of abundant agricultural products causes the price of agricultural products to be unstable and farmers often have to give in to middlemen who are those closest to them. There is no concern if people's income becomes unstable and causes stress in itself which ends in an increase in palm wine consumption among farmers. For teenagers themselves, economic problems are an incentive to play online gambling because it is considered an instant source of income. This is the main economic problem in the Saran Padang area. In helping with problems in improving agriculture in Saran Padang Village, what will be done in this empowerment is to fix these problems with community service as part of efforts to utilize village land and increase the price and added value of food crops and vegetable crops.</p>	<ol style="list-style-type: none"> <li>1. Establishment of an Organic Farmer Group: The program successfully established an organic farmer group in Saran Padang Village, which has a clear organizational structure and good communication, strengthening collaboration between members in an effort to increase organic agricultural production.</li> <li>2. Capacity Building of Farmers in Organic Farming: Through training on making organic fertilizers and pesticides, farmers gained new knowledge on chemical-free cultivation techniques, which supports sustainable agricultural practices and reduces dependence on synthetic pesticides.</li> <li>3. Increased Economic Value of Agricultural Products: By utilizing village land for organic food and horticulture cultivation, farmers can increase the economic value of crops, strengthen family income, and add value to village agricultural products.</li> <li>4. Cooperation with Marketing Institutions: The program successfully builds relationships between farmer groups and marketing institutions and NGOs, which help farmers market their products, expand market access, and increase the sales potential of organic products.</li> <li>5. Increased Community Awareness and Participation: Through the Participatory Rural Appraisal (PRA) approach, the program involves the community directly in the planning and implementation of activities, which increases community awareness and active participation in the development of sustainable organic agriculture.</li> </ol>	<a href="https://drive.google.com/open?id=1RtPLMC6Z5FgoVTI6Rk9AEcYcbF5_Thwl">https://drive.google.com/open?id=1RtPLMC6Z5FgoVTI6Rk9AEcYcbF5_Thwl</a>
15.	Organizational Strengthening,	The economy of the Batu Busuk Village community is generally classified as lower	<ol style="list-style-type: none"> <li>1. Capacity Building of Farmers in Smart Agriculture: The program successfully improved</li> </ol>	<a href="https://drive.google.com/open?id=1G-">https://drive.google.com/open?id=1G-</a>



## SDG 2: ZERO HUNGER

	<p>Economic, and Technological Benefits in the Implementation of Smart Agriculture in Nagaru Batu Busuk</p>	<p>middle level while the education level is relatively not high. The main livelihood of the community is as farmers. The commodities planted by the village farmers are sweet potatoes, corn, peanuts, rice and vegetables. The agricultural crops produced by Batu Busuk farmers are peanuts, sweet potatoes, rice and various types of vegetables. The production process starts from sowing seeds, then the seeds are transferred for cultivation and growth until the plants are ready to be harvested by farmers. The plant enlargement process is carried out by caring for and applying fertilizer according to the dosage and needs of each commodity. The stages of community service program activities in utilizing land in Batu Busuk Village to strengthen the organization and increase the economic value of the village community consist of two stages, namely the preparation and socialization stages of the program; both stages of implementation. The aim of each of these stages is to ensure that intelligent farmer groups can be independent in creating their own programs and collaborate with interconnected institutions to meet the needs of farmer group members.</p>	<p>the skills of farmers in Nagari Batu Busuk in applying smart and organic farming technologies, including the production of organic fertilizers, which helped optimize crop yields despite flood-prone land conditions.</p> <ol style="list-style-type: none"> <li>2. Strengthening Farmer Group Institutions: With the establishment of a more structured organizational structure, farmer groups in Batu Busuk have become stronger institutionally. This encourages more effective cooperation among members and the development of self-sustaining programs that can improve farmers' economic resilience.</li> <li>3. Application of Technology for Flood Mitigation: The proposed use of flood detection technology is one of the innovative solutions resulting from the collaboration with the university. This technology is expected to assist farmers in taking early preventive measures against the adverse effects of flooding on agricultural land.</li> <li>4. Collaboration with Universities and Other Institutions: Through partnerships with Andalas University and North Sumatra University, the program builds synergies that expand farmers' access to agricultural technology training, resources, and academic support for village development.</li> <li>5. Awareness Raising on Eco-Friendly Agriculture: The program instills awareness and skills for farmers to practice organic farming, which is environmentally friendly and sustainable, and reduces dependence on synthetic chemicals in the long run.</li> </ol>	<p><a href="https://drive.google.com/open?id=1E55_gUbbpJRdRJExRSVp0mSGbgaVYUcG">TbewZ62m9bFnYchwZcRYdzi6Y7Tn5j</a></p>
16.	<p>Optimization of Stunting in Communities in Bahliran Village</p>	<p>Stunting in children must receive attention. This condition can indicate that the child's nutrition is not adequately met. If left untreated, stunting can have long-term</p>	<ol style="list-style-type: none"> <li>1. Increased Public Awareness and Knowledge about Stunting: Through socialization and education in community service activities, Bahliran Village residents understand more</li> </ol>	<p><a href="https://drive.google.com/open?id=1E55_gUbbpJRdRJExRSVp0mSGbgaVYUcG">https://drive.google.com/open?id=1E55_gUbbpJRdRJExRSVp0mSGbgaVYUcG</a></p>



## SDG 2: ZERO HUNGER

	<p>Through The Application Peduli Stunting “PENTING”</p>	<p>impacts on children. The increasingly rapid development of technology affects human life, one of which is the health aspect. This makes it easier to access and disseminate information. The use of technology must be used effectively and efficiently to improve public health. The presence of E-stunting is an implementation of the digitization of child nutrition recording and reporting—an application designed with various features that provide information about stunting. One of the features found in E-stunting is Food Recall. This research aims to solve health problems in Bahliran Village by empowering the community through the stunting care application (Important) to increase community awareness of stunting and Clean and Healthy Living Behavior. This research took eight months, with a research approach method that took three research stages, namely: a) Stage 1. This stage is the initial stage carried out in community empowerment. b) Stage II. In this second stage, there is a transformation of knowledge and skills. In this case, there is a need to learn about various knowledge and skills to support the empowerment activities. c) Stage III. Increased intellectual abilities and skill proficiency. In this activity, the people of Bahliran Village can take advantage of the IMPORTANT (Stunting Care) application, which is expected to reduce stunting rates and create a healthy and empowered community.</p>	<p>about stunting, its risk factors, and its long-term impacts. This understanding encourages families to pay more attention to their children's nutritional intake.</p> <ol style="list-style-type: none"> <li>2. Utilization of the “IMPORTANT” Application for Stunting Monitoring: Communities are taught to use the “IMPORTANT” application as a tool for self-monitoring child growth. This application makes it easier for parents and health cadres to monitor children's growth data and detect the risk of stunting early.</li> <li>3. Empowerment of Health Cadres for Monitoring and Evaluation: Bahliran Village health cadres are trained to conduct routine monitoring using the “IMPORTANT” app. They are responsible for ensuring that child growth data is inputted correctly and providing interventions if children at risk of stunting are found.</li> <li>4. Promotion of Clean and Healthy Living Behavior (PHBS): The program also socializes the importance of PHBS, such as hand washing and maintaining environmental hygiene, which plays an important role in preventing stunting and improving general health.</li> <li>5. Active Participation from the Community and Support from the Local Government: The community's participation in using the app and participating in education, as well as the government's support, shows a shared commitment to reducing stunting in Bahliran Village. This application is expected to play a significant role in accelerating the achievement of national stunting reduction targets.</li> </ol>	
17.	<p>Community Empowerment Related to the</p>	<p>Per capita beef consumption in Indonesia is expected to continue to increase in the next few years. Indonesian consumers tend to</p>	<ol style="list-style-type: none"> <li>1. Improved Knowledge of Cattle Fattening Techniques: This program succeeded in increasing the understanding of the Saran</li> </ol>	<p><a href="https://drive.google.com/open?id=1SfQy0T2lPBfPVO9T9u0XXJ3r38xpVsfZ">https://drive.google.com/open?id=1SfQy0T2lPBfPVO9T9u0XXJ3r38xpVsfZ</a></p>



## SDG 2: ZERO HUNGER

	<p>Provision of Various Levels of Cattle Fattening</p>	<p>prefer local beef over imported beef. But unfortunately local beef production is still unable to meet the needs of the domestic market. For this reason, LPPM USU and LPPM UNAND collaborate with the aim of increasing the knowledge of farmers so that local beef production can be higher. The purpose of this activity is to utilize the vast land area of Saran Padang Village with good forage quality, empower the community regarding employment opportunities not only farmers but also ranchers, increase the amount of community income, and provide training and learning knowledge to the community related to feed processing and superior beef cattle farming business. The method of implementing activities is carried out by providing knowledge to the community and the practice of debriefing the realization of making animal feed. The result of this activity was the implementation of a survey on farms in Saran Padang village and the provision of knowledge to the community carried out by the service team.</p>	<p>Padang Village community on cattle fattening techniques through the provision of various levels of forage and leguminous feed, tailored to the nutritional needs of livestock.</p> <ol style="list-style-type: none"> <li>2. Capacity Building of Farmers in Feed Processing: Through feed processing training, farmers were trained to make high-quality feed using a combination of grasses and legumes. This helps them understand the importance of balanced nutrition to improve the body weight and health of livestock.</li> <li>3. Optimization of Land Utilization and Local Natural Resources: The program directs communities to utilize the vast amount of land in the village as a source of forage and legumes for livestock, increasing self-reliance in feed provision and reducing dependence on commercial feeds.</li> <li>4. Increased Income and Welfare of Farmers: By applying more efficient and economical cattle fattening techniques, this program is expected to increase the productivity and quality of beef cattle, which in turn can increase farmers' income.</li> <li>5. Cross-Sector Collaboration for Program Sustainability: Through collaboration with LPPM USU and LPPM UNAND, the program engages experts and trainers to provide ongoing support, which strengthens the skills of farmers and maintains the sustainability of cattle fattening activities in the village.</li> </ol>	
18.	<p>Education and Workshop of Healthy Food Prepared from Tilapia Fish to Prevent Stunting at Biru-Biru District, Deli Serdang</p>	<p>Tilapia is a freshwater fish with high protein content 43.76%, fat 7.01%, and ash content 6.80%. Biru- biru district at Deli Serdang Regency, North Sumatera is one of the tilapia cultivation centers. This community service was aimed to educate people at</p>	<ol style="list-style-type: none"> <li>1. Improved Community Understanding of Stunting Prevention: Through education and counseling in Biru-Biru Sub-district, the community, especially mothers, gained a deeper understanding of stunting and the importance of nutrition in preventing the</li> </ol>	<p><a href="https://drive.google.com/open?id=1T7c4QZsYdYQligfuGzR1wEgRT8yD_vu_">https://drive.google.com/open?id=1T7c4QZsYdYQligfuGzR1wEgRT8yD_vu_</a></p>



## SDG 2: ZERO HUNGER

		<p>Biru-Biru district in processing tilapia fish into healthy and useful food products as an alternative prevention of stunting in children. The method used to conduct the activity included socialization, education and facilitating to process tilapia fish as a healthy food in the form of cookies and floss. The evaluation of understanding level and interest were conducted using before and after activity quistionare. The community service activity was performed very well and the level of understanding and interest increased from the range of 70-94% become 81-100% after the activity had been conducted. The community service activity was proved to increase the interest and understanding of tilapia fish utilization to processed food product in the form of biscuit and floss. Therefore, it can be a solution to prevent stunting in children. Apart from being beneficial for health, this processed food product can be an alternative as business product with high competitive value in the future.</p>	<p>condition, by utilizing tilapia as a source of protein.</p> <ol style="list-style-type: none"> <li>2. Skill Enhancement in Tilapia Processing: The program equipped the community with skills to process tilapia into healthy food products such as biscuits and shredded fish, which are high in protein and can help prevent stunting in children.</li> <li>3. Economic Opportunities for Local Communities: Tilapia biscuits and shredded fish products have the potential to become local superior products that can be marketed, creating new business opportunities for the community and increasing family income.</li> <li>4. Positive Response and High Level of Favorability of the Product: Based on the assessment results, the biscuits and shredded tilapia products were liked by the community in terms of color, aroma, taste, and packaging, indicating good potential acceptance in the local market.</li> <li>5. Stimulus for Entrepreneurship and Program Sustainability: The program encourages the community to produce healthy food independently and consider entrepreneurial aspects, which is expected to continue and develop into independent small businesses in the future.</li> </ol>	
19.	<p>Proses Pengolahan Pakan Unggas dari Tepung Ikan di Desa Sentang Kecamatan Teluk Mengkudu Kabupaten Serdang Bedagai (Processing of Poultry Feed from Fish Flour in Sentang Village, Teluk</p>	<p>This research aims to create a poultry feed formulation that complies with SNI 01-3931-2006 standards regarding broiler poultry feed, where the process of making poultry feed includes four main ingredients, namely fish meal, corn, rice bran and vitamins. In this research there are two main processes, namely the process of making fish meal and the process of making poultry feed. Fish meal is a raw material for making</p>	<ol style="list-style-type: none"> <li>1. Improving Farmers' Knowledge of SNI Standardized Poultry Feed: Through this program, farmers in Sentang Village understand how to produce high-quality poultry feed with nutritional content that meets SNI 01-3931-2006 standards, which include protein, crude fiber, oil, and calcium requirements.</li> <li>2. Utilization of Local Marine Resources: The process of making fishmeal from the catch of local fishermen reduces feed production costs</li> </ol>	<p><a href="https://drive.google.com/open?id=1vVePKfhcCcbDF0i5z-Rm23VUORXoODIP">https://drive.google.com/open?id=1vVePKfhcCcbDF0i5z-Rm23VUORXoODIP</a></p>



## SDG 2: ZERO HUNGER

	Mengkudu District, Serdang Bedagai Regency)	poultry feed because it has high protein content. Fish meal in the process of making poultry feed is obtained from processing fish caught at sea by fishermen. This research activity was carried out in Sentang Village, Teluk Mengkudu District, Serdang Berdagai Regency. This location was chosen because it is near the sea and has abundant natural resource potential for marine products. The resulting poultry feed is then analyzed including water content, protein, oil content, ash content, crude fiber, calcium and protein. Poultry feed analysis was carried out in the Palm Oil Research Center (PPKS) laboratory. The analysis results showed water content 30.90%, protein 11.70%, oil content 3.17%, ash content 5.16%, crude fiber 17.32%, calcium 182.41 ppm and phosphorus <math>0.01</math> ppm.	<p>and supports the village economy by utilizing the abundant marine potential as the main source of protein in poultry feed.</p> <ol style="list-style-type: none"> <li>3. Use of Independent Feed Processing Technology: The use of tools such as diskmill machines and pelletizers allows farmers to produce poultry feed independently with more controlled quality, increasing efficiency and local feed food security.</li> <li>4. Reduced Dependence on Commercial Feed: With the ability to produce their own feed, farmers can reduce dependence on commercial feed, which is often high-priced and fluctuates, thus improving the sustainability of their farming business.</li> <li>5. Challenges in Meeting SNI Standards: While some parameters such as oil content and ash content have met SNI standards, there are still challenges in reducing moisture content and increasing protein and calcium content, which provide input for improving feed formulations and drying methods.</li> </ol>	
20.	Pelatihan Budidaya Jamur Tiram untuk Meningkatkan Keterampilan Santri di Pondok Pesantren Al-Fitrah, Deli Serdang, Sumatera Utara (Training on Oyster Mushroom Cultivation to Improve the Skills of Santri at Al-Fitrah Islamic Boarding School, Deli Serdang, North Sumatra)	Oyster mushroom is a nutritious food with high protein content, rich in vitamins and minerals, low in carbohydrates, fat and calories. The demand for oyster mushrooms continues to grow while oyster mushroom production has not been able to meet market needs, especially in North Sumatra. Islamic boarding schools are religious-based educational facilities, whose management is still always constrained by the problem of funds and facilities in improving the skills of students. Therefore, it is necessary to have a solution to overcome this. The solution that can be done is to create a training facility for oyster	<ol style="list-style-type: none"> <li>1. Improving Oyster Mushroom Cultivation Skills:</li> <li>2. The oyster mushroom cultivation training conducted at Al-Fitrah Islamic Boarding School succeeded in improving the skills of students in the process of baglog making, sterilization, and maintenance of oyster mushrooms. This provides santri with basic knowledge that can be used to grow mushrooms independently.</li> <li>3. Development of Entrepreneurial Interest among Santri: The program succeeded in fostering santri's interest and motivation for entrepreneurship by utilizing the skills acquired in oyster mushroom cultivation, which is expected to be an economic opportunity when they return to the community.</li> </ol>	<a href="https://drive.google.com/open?id=1Pit9SNmsjun2iK03qOHgJSfHhhpXPbsJ">https://drive.google.com/open?id=1Pit9SNmsjun2iK03qOHgJSfHhhpXPbsJ</a>



## SDG 2: ZERO HUNGER

		<p>mushroom cultivation at the Al-Fitrah Islamic boarding school, located in Cinta Rakyat Village, Namo Rambe District which has supporting land so that it has the potential to develop oyster mushrooms. Through this skill improvement activity, the entrepreneurial interest of the students can be raised, and then directed towards the development of economic business management when the students return to the community. With the aim that the output not only masters the field of religion but is equipped with various skills that are mastered. The method of implementing this service activity, namely: (1) socialization with lecture methods, (2) interactive education and hands-on practice, (3) questions and answers. The results of this service activity are able to improve the skills, interest, and motivation of santri in terms of entrepreneurship.</p>	<ol style="list-style-type: none"> <li>4. Increased Economic Value through Processed Products: In addition to mushroom cultivation, training in processing mushrooms into food products such as crispy mushrooms provides santri with skills in making value-added products that can be sold, opening up the potential for additional income for the boarding school.</li> <li>5. Knowledge on Product Packaging Techniques: The training also covers attractive and hygienic packaging techniques, increasing the attractiveness of processed mushroom products in the market and helping santri understand the importance of branding in business.</li> <li>6. Positive Response and Active Participation from Santri: The program was met with great enthusiasm by the santris and pesantren administrators, who actively participated in the training and showed interest in applying oyster mushroom cultivation and processing skills in their daily activities.</li> </ol>	
--	--	---	---	--