



Protecting future generations through sustainable agricultural practices

A growing population, increasing prosperity, declining natural resources, urbanization and the impact of climate change drive the need for sustainable agricultural practices to meet the world's demand for food.



Photos courtesy of Nestlé

Industrial activities, while important for a country's growth, bring consequences, such as the climate change we are currently facing. Inefficient energy utilization, improper waste management and deforestation are among the factors that cause the greenhouse effect, which is believed to have led to global warming.

To address these pressing sustainability issues, some companies have adopted environmentally sustainable practices, for instance through the minimization of imported raw materials and responsible energy utilization.

Switzerland-based food and drink giant PT Nestlé Indonesia is one of the companies that has shown its commitment to sustainable business practices. Nestlé believes that for the company to prosper, it needs the communities in the regions where they operate to prosper as well. Over the long term, healthy populations, healthy economies and healthy business

performances are mutually reinforcing.

Nestlé believes that it can create value for its shareholders and society by doing business in ways that specifically help address global and local issues. Nestlé calls this Creating Shared Value (CSV), where it identifies opportunities to link core business activities along the value chain to actions that help address social issues. Several examples of these activities include water efficiency in manufacturing and distribution, providing clean water access to certain communities and supporting farmer development to improve productivity and produce quality.

Empowering local dairy farmers

In 1971, Nestlé established its first factory in Waru, East Java, and started providing technical and financial assistance to the surrounding communities, particularly dairy farmers. The increasing demand for milk production required

Nestlé to relocate to Kejayan factory in Pasuruan, East Java, in 1988, where it produces brands such as DANCOW.

For over 30 years, Nestlé has been supporting farmers to increase productivity and produce quality. The technical assistance includes training on animal husbandry management, water usage for animal drink, as well as cowshed hygiene maintenance. Currently, there are a total of 35,000 farmers receiving technical and financial assistance spread across different districts, such as Malang, Pasuruan, Tulung Agung, Ponorogo, Lumajang, Probolinggo, Jember, Kediri, Blitar, Gresik and Banyuwangi.

Cutting down imported raw materials

Indonesia's dairy industry is facing the problem of limited milk supply from local breeders. The increasing

price of animal feed and beef over the last couple of years are among the factors that have caused the fresh milk supply challenge. The lucrative price of cow meat can increase the probability of farmers selling their cows rather than retaining them as dairy cows.

The limited fresh milk supply has forced companies to import 75 percent of milk requirements from the US, Australia, New Zealand and European countries to be able to secure production. To reduce this dependency on imported raw materials, Nestlé has been working to find alternatives for cattle feeding. Within the Partnership for Indonesia's Sustainable Agriculture (PISA) Dairy Working Group, the company—in a public private partnership—is working on the improvement of cattle feeding and providing information to dairy farmers on the benefits of corn silage as an alternative supply for animal feed to increase

fresh milk production. Corn silage is an excellent animal feed because it contains a lot of protein, energy and is easily digested. Since it was first launched in 2012, the project has improved animal health, as well as productivity, by an average of 25 percent.

Additionally, as part of securing local raw materials, Nestlé has also empowered farmers to own their cows, which cost an average of Rp 25 million (US\$2,058) each, by providing them with loans through cooperatives.

Waste-management methods

In partnership with Yayasan Rumah Energi (Humanist Institute for Development Cooperation – HIVOS) and Biogas Rumah (BIRU), Nestlé provides assistance to dairy farmers to manage cow manure, which can amount to 1,300 tons every day, and convert it into biogas. Through this approach, cow manure is no longer being disposed of and polluting rivers and groundwater. Instead, it is processed to become a source of renewable energy that can be utilized for cooking and lighting.

"When we burn firewood to cook food and boil water, I find it very inconvenient because of the smoke and ashes that result from the burning process," Supyah, a farmer's wife, told *The Jakarta Post* at her home. The smoke and ashes from the firewood are harmful to health and can cause eye irritation, eye infections, coughs and breathing disorders. She added that using biogas had also saved her husband from the tiring routine of carrying logs from the nearby forest all the way to their home.

The biogas program is proven to

help preserve the environment, as it replaces the use of wood for energy, reduces pollution caused by cow manure and reduces the overall cost of energy and health risk to dairy farmers. Nestlé and HIVOS have currently installed over 7,000 biogas digesters and are aiming to reach 20,000 installed units by 2017.

Under this program, the three parties are working together to help farmers procure the equipment, priced at about Rp 7.8 million per appliance. Through dairy cooperatives, Nestlé helps the dairy farmers by providing interest-free loans for 75 percent of the cost of the biogas digester construction, while the remaining 25 percent of the construction cost is provided by HIVOS and the government through a grant scheme.

BIRU also stated that the biogas process was carbon neutral and therefore contributed to the global reduction of greenhouse emissions for better environmental sustainability.

Organic fertilizer

The residue from the biogas digester, also known as bio-slurry, can be applied as organic fertilizer since it contains valuable nutrients that are beneficial to boosting agricultural production.

During a visit to the company's farm near Kejayan, East Java, *The Jakarta Post* observed that the soil fertilized by the organic fertilizers was more fertile than that nourished by chemicals. It also resulted in better grass production, as the grass grew thicker and longer.

Nestlé hopes that all of its efforts to develop sustainable business practices can encourage others to work together and take concrete action to ensure environmental sustainability.



Sudarto: Fostering prosperity through dairy farming

When Sudarto graduated from high school in 1992, he made an unusual decision to become a dairy farmer.

"I wanted to start a business that suited the rural life," said Sudarto, fondly referred to as Sudar by his friends and family members.

He started his small business with two cows and two heifers given by his parents. Now, 24 years later, he owns 48 cows and 22 heifers, and lives in a decent house he built himself.

For the past three years Sudar, who is now a member of Margo Mulyo cooperative in Wonokerto, Bantul, Malang, has been supplying fresh milk to Nestlé Kejayan factory every day.

"By becoming the company's direct supplier, I receive more benefits, both from the service provided for the

dairy farmers and from the facilities [procured by the company], such as the water *ad libitum* installation, as well as the chopper and biogas unit procurement," he said.

According to Sudar, the biogas unit is a valuable long-term investment because it helps dairy farmers cut electricity costs and reduce negative health impacts from cooking using firewood.

"Furthermore, the farmers do not need to carry the heavy firewoods used to cook their food and drinks," he told *The Jakarta Post* during a visit to his farm. Sudar also expressed his satisfaction with the slurry, organic fertilizer, as it allowed farmers to produce grass fodder for their cows in a more cost- and labor-efficient way.

The organic fertilizer improves the condition of soil, making it more fertile and doubling the production of thicker and longer grass. "On the other hand, when we used chemical fertilizer, the soil developed cracks, and the grass was shorter. The grass production was not as good as when we used slurry," he said, adding that the organic fertilizer brought an entirely different result.

According to Sudar, while they initially had to invest in procuring the organic fertilizer equipment, the investment brought long-term benefits compared to continuing with the use of chemical fertilizers, such as urea.

"The organic fertilizer is a by-product of our biogas digester, so we don't need to spend any money," he said. "Yes, we need to buy diesel to fuel our organic fertilizer disseminator, but the diesel can last for more than a month."

"On the contrary, chemical fertilizer is expensive and doesn't last very long," he added. Urea fertilizer now costs Rp 2,000 (1.8 cents) per kilogram, while a sack usually weighs 50 kilograms.

Sudar also found that using organic fertilizer had reduced physical work compared to using chemical fertilizer. Chemical fertilizer requires farmers to dig it into the soil, while liquid organic fertilizer is applied by spraying the solution onto the soil.

In addition, organic fertilizer does not emit the unpleasant stench typically found in chemical fertilizers. "This is because organic fertilizer is a residue from the biogas process,



therefore all of its foul stench-inducing methane gas has been removed," said Sudar.

Sudar further acknowledged his amazement over recent developments in farming technologies. "It just makes our work easier," he said.

Hopes for the future

When asked about the future, Sudar expressed his hope that the

partnership between Nestlé and the farmers through dairy cooperatives would be sustained and long-lasting. He also hopes that the company, through its milk procurement and dairy development (MPDD) department, will continue to create programs that help increase dairy farmers' productivity and benefit their livelihoods.

According to Sudar, the greatest

satisfaction he experienced from his farming activities is being able to open new job opportunities for the rural communities as his business grows.

"It's a pity that today's generation is rarely interested in becoming farmers. They need to know that farming can bring them prosperity and help them open job opportunities for other people," he concluded.