

SUSTAINABILITY PROJECTS

IMPROVE FARMER'S LIFE

PROTECT THE ENVIROMENT

ENHANCE COMPETITIVE ADVANTAGE



ABOUT THIS REPORT

We are working hard to deliver more circular solutions to our projects. From the ideas, plans, and our first approach to sustainability projects that we mentioned in the previous newsletter, through our influence over the local authority as well as the financial support from valued customers, we have taken further steps in demonstrating our commitment to sustainability



WHAT TO DO WITH CASHEW APPLE



WASTE COLLECTION PROJECT



AGROFORESTRY PROJECT



RENEWABLE ENERGY - BIOGAS



1. WHAT TO DO WITH CASHEW APPLE?



1.1. General information.

Normally, the cashew harvest season in Binh Phuoc province, Vietnam starts around the end of January to May.

Although cashew production in Binh Phuoc is extremely large, but only a small part of the apple (Cashew nut) is harvested and used, the rest of the apple is thrown away because it is not economically viable.

Black soldier flies (calcium worms) are known as beneficial organisms, they are very voracious and can decompose almost all foods containing protein. Through the process of testing and research, we are starting a project to use black soldier fly larvae to decompose discarded cashews to bring economic benefits to our farmers.



1. WHAT TO DO WITH CASHEW APPLE?

1.2 Cultivation of black soldier fly larvae

Because of the different characteristics of cashews compared to other foods. We have to grow the larvae to a certain size before using them to process cashews apple.



Black soldier fly larva



Preparing the incubator



Put fly eggs in culture medium



The process of rearing (5-6days)



Monitor during rearing to ensure required size.

1. WHAT TO DO WITH CASHEW APPLE?

1.3. Processing cashew apple

Because the current cashew season is still in the process of flowering and fruiting, the quantity of cashew apples harvested is not much.

Therefore, we will proceed at the beginning of the harvesting process, expected in mid/late February 2023.



1.4. Value brought to farmers

a) Nutritional feed for livestock:

The process of decomposing cashew apple is also the process of black soldier fly larvae growing to a larger size. When reaching certain size (12-15 days), Calcium worms will be separated with biomass to use for many different purposes.

In particular, worms is an extremely nutritious food with high protein content for livestock, poultry and fish to eat directly. In addition, it can be preliminarily processed such as puree to cook with bran for cattle and poultry to use.



b) Producing all kinds of animal feed in the form of tablets or drying:

Tablets or dried forms of calcium worms still have very high nutritional value. In addition, it has a long shelf life and use.

c) Fertilizer:

Cashew apples, after being decomposed by calcium worms, will create a biomass mixture. This mixture has very good nutritional value for use as a plant fertilizer. Especially, it is possible to reuse fertilizer for cashew trees



Use the larvae to process cashew apples

2. WASTE COLLECTION



1. Current status:

With the consent of the People's Committee of Dong Nai Commune, Target Agriculture Vietnam Co., Ltd., cooperating with Dong Nai Agricultural Cooperative, has purchased the supporting equipment, such as garbage collection trucks, garbage bins,... and human resources to collect domestic waste in the area of villages 5, 6, 7 in Dong Nai commune.

2. Existing issues:

The domestic waste problem has been basically solved but not really completed.

- It is not possible to collect garbage in the surrounding villages:
- + Due to the amount of garbage generated is more than expected
- + Due to insufficient manpower and equipment
- The waste sorting process has not been operated yet:
- + Due to lack of manpower and limited equipment
- + Due to insufficient funds to conduct training of people

3. Development orientation:

Although there were many initial shortcomings, the project was successful and followed the original direction set out. To limit such shortcomings, the cooperative and Target Agriculture Vietnam had a meeting to agree on the orientation in 2023 as follows:

- The most urgent is equipment: need to add at least 1 garbage truck, and increase the number of public trash cans.
- It is very necessary to raise people's awareness: Training for people, especially school-age students, raising people's awareness about garbage collection and waste classification.
- Supplementing human resources and equipping labor safety for cooperative employees.



Figure 1. Target's workers are collecting garbage

3. BIOGAS PROJECT UPDATE

In December 2022, based on the proposal of Target Agriculture Vietnam Co., Ltd., the cooperatives met the members and the representatives of Target Agriculture Vietnam Co., Ltd., and agreed to increase the number of pilot models.

During the period of December 2022 and January 2023, representatives of cooperatives and Field officers of Target Agriculture Co., Ltd. came and mobilized pig farmers to participate in the project.



Figure 1. Target Field Officer came to present and mobilize pig farmers to participate in the project

As of early February 2023, 10 farmer households have agreed to participate in the project, some households have started to build a biogas system as proposed by the cooperative and Target Agriculture Co., Ltd.



Figure 2. Biogas model at farmer's house Hoang Van Thang - a member of Xuan Tho cooperative

3. BIOGAS PROJECT UPDATE



Figure 3. Biogas model at farmer's house Vuong Van Cong - a member of Xuan Tho cooperative

Next plan: Completing 10 biogas projects as planned and monitoring activities, assessing waste treatment capacity and their impact on the environment.

4. AGROFORESTRY PROJECT



Aquilaria grows well in the climate conditions with temperature from 20-25°C, rainfall more than 1500mm/year and humidity more than 80%. It should be grown in moist and porous soil, lots of humus with the thickness of the soil layer is over 40cm.

With such physiological and climatic requirements, to grow Aquilaria in the best way, the project of planting will be started in the rainy season.

The project is currently in preliminary planning for:

- The expected location of the project: Dong Nai province and Binh Phuoc province.
- Number of farmer households expected to participate in the project: 34-50 farming households.
- Area of cashew field expected to be implemented: 50-100 ha.

The estimated cost to implement the project on 1ha of cashew field, how to deploy the model, cultivation techniques and disease prevention on aquilaria, selection of varieties, cultivation time will be implemented after examining the actual model.

Further information will be updated when the project starts in the rainy season 2023 (May/ June).