

# Empowerment Of Village Communities In Forest Areas Assisted By Perum Perhutani KPH Mojokerto: Socialization Of Corn Processing Into Drinks As A Productive Business

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## Abstract

*The forest village communities assisted by Perum Perhutani KPH Mojokerto generally only sell corn in raw form, so the added value obtained is still relatively low. This encourages the need for innovation in processing corn into high-value products as an effort to empower and improve the welfare of forest village communities. This community service activity aims to increase community knowledge and skills in processing corn into an innovative drink called Corn Forest Drink as a sustainable productive business. The method used includes three stages, namely the pre-activity stage in the form of product trials and material preparation, the implementation stage in the form of socialization and demonstration of product making through video screenings, and the evaluation stage through a question-and-answer session. The activity was carried out on May 8, 2026, in Jatipandak Village, Sambeng District, Lamongan Regency with LMDH Jati Mulya assisted by Perum Perhutani KPH Mojokerto. The results of the activity showed that all participants gave a very positive response to the Corn Forest Drink product, both in terms of taste, appearance, and its economic potential. The processing process is considered simple and can be done using household equipment already owned by the community. This innovation has been proven to significantly increase the selling value of corn and open up productive business opportunities for forest village communities. This community service activity concluded that processing corn into Corn Forest Drink is an innovative and effective solution for encouraging economic empowerment of forest village communities based on local potential.*

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## 1. INTRODUCTION

Community empowerment is a series of efforts designed to increase the capacity and independence of residents to meet their own needs [1]. This is crucial for residents living around forest areas, given that they often face various obstacles, ranging from limited employment opportunities to difficult access to educational services. As a state-owned company entrusted with managing forest areas in East Java and Madura, Perum Perhutani plays a strategic role in fostering and assisting village communities surrounding forests [2]. Through various partnerships and empowerment programs, Perhutani continues to strive to realize sustainable and continuous forest management by involving local communities as active actors in the process.

Empowering forest village communities is an important strategy in improving the welfare of communities living around forest areas. Perum Perhutani, through the Mojokerto Forest Management Unit (KPH), has implemented various empowerment programs aimed at optimizing the potential of natural and human resources in the region. One approach is through the

development of an agroforestry program that positions forest village communities as partners in sustainable forest resource management. Through this program, communities are allowed to utilize land and forest products wisely so as to improve economic welfare without neglecting aspects of environmental sustainability [3].

One form of empowerment that can be implemented is the development of agricultural processing businesses cultivated around forest areas. In the area under the auspices of the Mojokerto Forest Management Unit (KPH), corn (*Zea mays* L.). Corn is a strategic agricultural commodity that has high productivity and is easy to cultivate by forest village communities, but until now, people generally only sell corn in the form of raw materials or consume it directly, so the added value obtained is still relatively low [4]. If this commodity is processed into derivative products such as corn-based drinks, it can become a new, more profitable source of income for forest village communities.

Corn contains various important nutrients such as carbohydrates, protein, fiber, vitamin B complex, and antioxidants that are beneficial for health [5]. This nutritional content makes corn very potential to be processed into various innovative beverage products. One of the corn-based beverage innovations that has great potential to be developed as a productive business is Corn Forest Drink. Corn Forest Drink is a fresh corn drink that combines two textures at once, namely a liquid corn drink made from blending milk and corn kernels served cold, and a thick-textured melted corn topping made from corn kernels cooked with water and cornstarch until thickened. The combination of these two textures produces a unique, creamy, and refreshing taste sensation, making this product different from conventional corn drinks that have been known to the public.

Corn-making process of Forest Drink. The process is relatively simple and can be done using kitchen equipment commonly found in rural households. The ingredients used are also easily accessible, including sweetcorn, full-cream milk, sweetened condensed milk, cornstarch, sugar, and additional toppings such as nata de coco and coconut jelly. With relatively affordable capital, this product can be packaged in 250 ml plastic bottles and marketed at a competitive price, thus potentially providing significant profits for home-based businesses and business groups in forest villages. Diversification of processed corn into beverage products such as corn Forest Drink is considered capable of significantly increasing the selling value of corn commodities while opening up sustainable, productive business opportunities.

Processing corn into value-added beverage products is a form of local food innovation that is environmentally friendly and has high economic potential [6]. With a relatively simple processing process and raw materials that are easily obtained from the surrounding environment, corn products of Forest Drink can be independently developed by the forest village communities under the auspices of Perum Perhutani KPH Mojokerto. This innovation not only provides a solution to the problem of low corn sales value but also can stimulate economic growth by creating productive businesses based on local potential.

## 2. SERVICE METHOD

The implementation of this community service activity took place on May 8, 2026, in Jatipandak Village, Sambeng District, Lamongan Regency, involving the Jati Mulya Forest Village Community Institution (LMDH), which is under the guidance of Perum Perhutani KPH Mojokerto. The main objective of this activity is to improve the knowledge and skills of forest village communities in processing agricultural products, especially corn, into value-added processed products in the form of corn-based drinks as a productive business. So far, corn in the area is generally only sold in raw form or consumed directly, so it has not been optimally utilized to increase its economic value. Processing corn into drinks is considered a creative, innovative solution while having quite high economic potential as a productive business opportunity for forest village communities. The series of activities is systematically designed through three main stages.

(a) Pre-Activity Phase. Includes a trial of a corn-based beverage formulation to validate the product's feasibility before its public introduction, coordination with internship mentors to

determine the optimal location and schedule for implementation, and identification of target participants for the outreach program, along with preparation of necessary extension materials and supporting equipment.

- (b) Activity Implementation Stage. This outreach activity provides a comprehensive explanation of the corn-based beverage processing process. The training covers production procedures, innovation development objectives, economic and environmental benefits, and the entrepreneurial potential of these processed products. The presentation is complemented by demonstration videos to facilitate participants' visual and practical understanding of the production process.
- (c) Evaluation Stage. Third, the evaluation stage, conducted through a question-and-answer forum held on the same day, aims to gauge participants' understanding of the material presented while also gathering input and identifying issues faced by the community in the field.

The entire series of activities received a positive response from the participating communities. This outreach is expected to catalyze the growth of new sustainable corn-processing businesses and contribute to improving the welfare of the forest village communities under the auspices of Perum Perhutani KPH Mojokerto.

### 3. RESULTS AND DISCUSSION

The Mojokerto Forest Management Unit (KPH) has significant agricultural potential, particularly for corn, which is widely distributed throughout the region. A strategic step to improve and maintain food security is to create innovative, high-value products that can be marketed at more competitive prices [7]. Perhutani partners with farmers to boost the economy while preserving forests. The LMDH serves as a community forum that helps maintain the sustainability of forest resources.

The Jati Mulya Forest Management Unit (LMDH), located in Jatipandak Village, Sambeng District, Lamongan Regency, serves as a bridge between Perhutani and local villagers in forest product management activities. The leading commodity in the Jati Mulya LMDH area is corn, which is cultivated in an intercropping system within an agroforestry system. One ongoing challenge is how to optimize corn harvests to produce competitive, value-added products in the market. Residents have tended to sell corn directly in its raw state without further processing, resulting in relatively low profits. However, if corn were developed into processed products such as innovative corn-based drinks, this commodity has the potential to become a new and much more profitable source of income for the surrounding community.

Through the Independent Learning Campus Internship (MBKM) program, students have the opportunity to directly participate in community empowerment activities through the implementation of relevant and easily applicable innovations. One such contribution is the introduction of an innovative corn processing product called Corn Forest Drink to forest village communities. This innovation is expected to be a creative solution to increase the added value of corn, a commodity that has been underutilized. Corn is typically sold raw or simply processed, yet it has the potential to be developed into high-value beverage products.

The main goal of this activity is to increase the knowledge and skills of forest village residents in processing agricultural commodities, especially corn, into derivative products with higher economic value, such as corn-based drinks, as a productive business venture. This training will be conducted through the production of corn Forest Drink, hoping that residents will master new skills that can open businesses and sustainably increase family income. Furthermore, this activity also serves as a platform for students to directly share knowledge with the community, aligning with the MBKM program's spirit of bridging the academic world with real-world needs.

The implementation process encompasses several stages, from planning and technical training to final evaluation. Residents are not only provided with theoretical knowledge but also actively involved in every step of the corn production process, Forest Drink, encompassing the raw material preparation stage, processing, and product presentation. By implementing this participatory

approach, it is hoped that residents' understanding and skills will continue to develop and be sustainable in the long term.

This initiative is a concrete form of generating added value from local commodities, while simultaneously contributing to the sustainable improvement of the economic welfare of forest village communities [8]. One of the core activities in the program is training on how to make corn Forest Drink. The following are the stages in the process of making corn *Forest Drink*:

1. Preparation of raw materials: The main ingredients used consist of 3 pieces of fresh corn, 500 ml of *full-cream milk*, 4–5 tablespoons of granulated sugar, cornstarch to taste, water to taste, and sweetened condensed milk. As a complement or topping, use nata de coco, coconut jelly, and ice cubes; food coloring and salt are optional. The corn used is sourced directly from gardens around the forest area, so the raw materials are fresh, affordable, and cost-effective.
2. Preparation of supporting materials for manufacturing *Forest Drink Corn* as follows:
  - **Main Ingredients:**
    - a. 3 fresh corn cobs
    - b. 500 ml full cream milk
    - c. 4–5 tbsp granulated sugar
    - d. Cornstarch to taste
    - e. Enough water
    - f. Sweetened condensed milk
  - **Toppings:**
    - a. Nata de coco
    - b. Coconut jelly
    - c. Es batu
    - d. Food coloring (optional)
    - e. Salt (optional)
3. Making process *Forest Drink Corn*



Figure 1. Corn Milk Making Process



Figure 2. Process of Making Corn Topping Filling

- a. Remove the corn kernels, then boil them until perfectly cooked.
- b. Divide the boiled corn into two equal parts to be processed differently.
- c. Blend half of the corn with full cream milk, then strain to get a smooth and creamy corn juice.

- d. Cook the remaining corn with water and cornstarch, stirring continuously until the texture thickens and is even.
- f. Add sugar to taste and food coloring if you want a more attractive appearance.
- g. Cool all ingredients.
- h. Serve by pouring the corn kernels into a bottle or glass, add coconut jelly and nata de coco, pour over the corn milk juice that has been made, then add ice cubes for a fresher taste.

The following presents the results of the study and discussion regarding corn products. *Forest Drink*, which is reviewed based on three main aspects, namely product quality and public response, effectiveness of the processing process, and technical obstacles encountered, as well as marketing opportunities that can be developed in the future.

### 1. Product Quality and Public Response



Figure 3. Socialization Activities: *Forest Drink Corn*

The results of processing corn into beverage products, *Forest Drink Corn*, received a fairly good response from the socialization participants when they tasted the product directly. Based on the responses obtained directly, participants assessed that this product has a refreshing natural sweet taste of corn and a creamy texture from the combination of corn juice and full cream milk, so it can compete with other contemporary drinks, even though it is a new thing and a new taste that is not commonly found in the market, even though the main raw materials come from simple local commodities. Another uniqueness of this product lies in its multi-layered appearance: the bottom layer is corn kernels, the middle layer is corn milk juice, and nata de coco and coconut jelly toppings on top, which not only add to the visual appeal but also add a unique texture and consumption sensation without reducing the pleasure when drunk. This condition proves that corn, which has only been marketed in its raw form, can actually be transformed into a beverage product that is not only suitable for consumption but also provides economic benefits while having a special taste.

- The use of corn as the main ingredient in creating innovative drinks is a concrete manifestation of efforts to develop the added value of local commodities in the agro-industry sector [9]. This breakthrough not only aims to boost community income but also plays a role in introducing new food and beverage products that have market appeal. Public response to corn products: *Forest Drink*. The results were also very encouraging. Based on observations and direct dialogue with participants during the socialization and product testing activities, all participants expressed interest in the innovation offered. Many even expressed their intention to produce this drink independently, either at home or as a small business. This high level of enthusiasm reflects the fact that *Corn Forest Drink* was successfully accepted by the community, not only in terms of appearance and economic value, but also in terms of taste and texture, which were directly felt by the participants during the socialization session.
- ### 2. Process Effectiveness and Technical Challenges

The success of processing corn into corn *Forest Drink* is greatly influenced by the extent of the knowledge and skills possessed by the implementing community. From an

implementation perspective, structured training is needed to explore the potential of corn as a raw material for products with high sales value. Socialization and training activities are considered capable of building community processing capacity with the support of easy-to-practice techniques, thus potentially increasing residents' additional income [10].

Based on the evaluation results, the series of processes for processing corn into corn *Forest Drink* can run smoothly and according to the planned stages. The process includes boiling the corn, dividing the ingredients, making corn juice through a blender and a filtering process, and cooking it using cornstarch until it reaches the desired consistency. Overall, all of these stages can be carried out using only kitchen equipment generally available in village households. However, there are several technical challenges that need to be considered, including maintaining a uniform level of consistency for the corn milk juice, which requires precision in measuring the cornstarch, and adjusting the product's sweetness, considering that the sugar content of harvested corn tends to vary depending on the season.

Field observations show that residents have responded quite well to this corn-based beverage product. They view the processing of this local commodity as a fresh innovation that offers real benefits. Utilizing local corn to create contemporary beverages is believed to increase its sales value and open up promising business opportunities [11]. This full support from all levels of society provides a strong foundation for the development of corn products, *Forest Drink*, as an effort to empower and strengthen the economy at the local level.

### 3. Market Potential

Corn *Forest Drink* holds significant market potential, especially amidst growing public awareness of the importance of adopting healthy eating habits. The product's appeal is driving strong consumer interest, given its benefits, the use of natural, preservative-free ingredients, and its hygienic production process. *Forest Drink* comes with a distinctive taste that is able to compete in the local market and has the potential to be developed as a superior souvenir product typical of forest areas.

The results of direct observations during the socialization activities showed that corn products, *Forest Drink*, have bright market prospects going forward. The high level of consumer enthusiasm during the event reflects their belief that this product is a worthy choice for a healthy drink, rich in fiber and nutrition, and easier to make than other packaged drinks on the market. The presence of corn *Forest Drinkable* presents a different value, where corn, which was previously only sold cheaply in its raw condition, now, after going through a processing process, can appear as an innovative drink with a much more competitive selling value in the local market.

The sustainability of this product's market potential also depends on consumer loyalty, which must be continuously maintained. The right marketing strategy is key to retaining customers, including developing eye-catching packaging, adding flavor variations, and utilizing digital media as a broader promotional tool [12]. Going forward, it is hoped that corn products will *Forest Drink* can explore various e-commerce platforms, collaborate with local MSMEs, and participate in various bazaar activities as a means of product promotion.

## 4. CONCLUSION

A community service activity held in Jatipandak Village, Sambeng District, Lamongan Regency, in collaboration with the Jati Mulya Community Forestry Community (LMDH) under the guidance of Perum Perhutani KPH Mojokerto, has successfully expanded the knowledge and insight of forest village residents in processing corn commodities into an innovative beverage product with high added value, namely Corn *Forest Drink*. The socialization held received a very enthusiastic response from all participants, who showed a great interest in producing the drink independently, both on a household scale and in small businesses. The processing of Corn *Forest Drink* has proven to be practical and can be carried out using simple equipment that is generally available in village households, so it has the potential to be developed into a sustainable, productive

business. This innovation is not only able to boost the selling value of corn, which was previously only marketed in its raw condition at a relatively low price, but also opens up new business opportunities for forest village communities as a concrete step in sustainably improving local economic welfare.

## 5. SUGGESTION

Based on the results of the activities that have been carried out, it is recommended that the forest village communities under the guidance of Perum Perhutani KPH Mojokerto can follow up on this socialization activity by carrying out regular direct practical training so that their processing skills can be improved, *Forest Drink Corn can be truly* mastered, and can be implemented independently. Perhutani and the Jati Mulya Forestry and Forestry Development Agency (LMDH) are expected to provide further assistance in attractive product packaging, competitive pricing, and marketing strategies through digital platforms and e-commerce to expand market reach. Furthermore, local government support is needed in the form of facilitating access to capital for communities wishing to develop their businesses. *Forest Drink Corn* on a larger scale, as well as encouraging collaboration with local MSMEs and bazaar events as a means of product promotion. Going forward, further research is needed on flavor variations, standardized ingredient measurements, and product nutritional feasibility testing to ensure *Forest Drink Corn* can develop into superior products typical of forest areas that are highly competitive in local and regional markets.

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