

Potential for the Development of Science and Technology of Gurah Tea in Giriloyo Village, Imogiri, Bantul Regency

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Abstract.

Sirunggu (Clerodendrum serratum) is a herbal plant used as a traditional medicine in the gurah process. Gurah therapy was first known in Giriloyo Hamlet in Wukirsari Village, Imogiri Sub-district, Bantul Regency, Yogyakarta. CV. Allatief Herbal, a community service partner, is one of the producers of gurah tea products that are more delicious to consume without eliminating the health effects for traditional gurah treatment. The method of implementing the community service is identifying problems through observation and socialization, solving problems through FGD, and following up by providing recommendations based on Science and Technology (IPTEK). The results of the community service team's recommendations are Sirunggu cultivation, Sirunggu Tea Composition, Quality Control of the Gurah Tea Production Process.

Keywords: *Sirunggu, Clerodendrum serratum, Giriloyo, gurah tea*

I. INTRODUCTION

Sirunggu (*Clerodendrum serratum*) is a herbal plant used as a traditional medicine in the gurah process (Mandiri et al., 2025). Traditional gurah treatment aims to clean and remove mucus in the respiratory tract such as the nose and throat (Shrivastava & Patel, 2007). In addition to being good for the respiratory tract, this gurah therapy is also known to be very good for maintaining the vocal cords so that it is in great demand by sinden and singers (Farhana et al., 2017). The use of sirunggu as a traditional gurah medicine is because sirunggu contains saponin and flavonoid compounds (Reddy et al., 2021). Based on the results of the study, the phytochemical compounds saponin and flavonoids are found in sirunggu leaves and roots. In its use, many people use the roots because the content of these phytochemical compounds is more in the roots than in the leaves (Shrivastava & Patel, 2007).



Fig 1. dried sirunggu root (a), dried sirunggu root powder (b)

Gurah therapy was first known in Giriloyo Hamlet in Wukirsari Village, Imogiri Sub-district, Bantul Regency, Yogyakarta by a religious leader in the 1900s with the aim of clearing the voice of the Qori'. Traditional gurah treatment with sirgunggu plants using their roots has experienced many obstacles related to the bitter taste and bitter smell due to the very strong saponin content of this plant. This has become a new problem for patients/consumers of sirgunggu infusions in gurah therapy. Taking this problem as a response, one of the UMKM in Giriloyo Hamlet, Imogiri, Bantul, namely CV. Allatief Herbal developed a gurah tea product that is more delicious to consume without eliminating the health effects for traditional gurah treatment.



Fig 2. Gurah tea products CV. Allatief herba

Gurah tea from CV Allatief herbal combines black tea from pagilaran tea products mixed with sirgunggu plants. This formula is obtained from a hereditary recipe so that gurah tea lovers get the therapeutic effects of gurah with better taste and aroma. In the process of developing its products, this UMKM has collaborated with PT NASA (Natural Nusantara).

Although currently CV Allatief herbal has collaborated with PT NASA, there are still several problems that arise, including the sirgunggu plant has not been cultivated properly so that in the future it cannot guarantee the availability of the main raw material for this gurah tea. The gurah tea production process is better, but for the main raw material of sirgunggu there is no standardization so it cannot guarantee that the gurah tea product produced has the same chemical composition. With this community service activity, it is hoped that it can provide the best solutions and input for partners of this Gurah Tea UMKM so that the products produced are better.

II. METHODS

This community service activity was carried out using a participatory approach method and based on the needs of partners, namely CV Allatief herbal located in Giriloyo Village, Imogiri, Bantul. The method of implementing this community service activity consists of several stages, namely:

1. Identification of Partner Problems

The team conducted observations and socialization to CV Allatief herbal partners regarding this community service activity. This observation activity was carried out by means of online literature studies to identify trends in gurah tea products, processing processes and public interest in gurah tea products. In addition, socialization was carried out regarding the technical implementation of community service, namely through Focus Group Discussions (FGD) to solve problems faced by partners with a Science and Technology (IPTEK) approach. With this activity, the concept of activities to be carried out by the service team with CV Allatief herbal partners was agreed upon.

2. Implementation of Activities

The activity was carried out on May 20, 2025 according to the agreement between the service team and the CV Allatief herbal partner. The Service Team visited the CV Allatief herbal Gurah Tea production house and collected information related to the obstacles faced by the CV Allatief herbal Gurah partner to get the best solution from the service team. Then an FGD was conducted to solve the problems faced by the partner with a Science and Technology (IPTEK) approach.

3. Follow-up and recommendations

With the best solution recommendations from the service team, it is hoped that the quality of better Gurah Tea can be improved with a Science and Technology (IPTEK) approach.

III. RESULT AND DISCUSSION

The development of Science and Technology (IPTEK) at CV Allatief herbal is the best solution recommendation given by the community service team so that the quality of the gurah tea product produced is better. Based on the identification of partner problems and discussions during the implementation of community service activities, the community service team provides recommendations for CV Allatief herbal as follows:

1. Sirgunngu Cultivation

Based on the results of discussions with partners, partners get a supply of dried sirgunngu roots from the surrounding community whose home gardens grow wild sirgunngu plants. Based on partner information, there are no suppliers who cultivate sirgunngu plants. Sirgunngu cultivation is important to ensure the availability of sirgunngu as the main raw material in gurah tea products. Good cultivation can also guarantee the post-harvest quality of sirgunngu with the best composition for gurah therapy. Partners in this case CV Allatief herbal should cultivate sirgunngu properly. This can be done in collaboration with KWT in the Giriloyo area. To support this activity, universities (UPY) can also carry out a mentoring process on sirgunngu cultivation.

Table 1. Recommendations for cultivating Sirgunngu plants

Stage	Recommendations
Stem cutting	Semi-wood stem cuttings, 15–20cm, soaked in 400 ppm IBA (Vikaspedia)
Planting distance	50–75cm (Narareba) or 2×2m (Vikaspedia for large scale)
Media & fertilizer	Hole 60×60×60cm + manure + NPK 75:75:75 (Vikaspedia)
Irrigation	Every 10–20 days / during dry season, 30–40 days during cold season
Harvesting	Leaves at 6 months; roots at 18 months

2. Composition of Black Tea and Sirgunngu Roots

The formulation used in making this gurah tea is based on a hereditary recipe and based on instinct (habits during gurah therapy), not based on research results. It would be better if the composition of black tea and sirgunngu in gurah tea bags is based on research results so as to guarantee the same health effects in each product produced. The composition of this gurah tea bag must pay attention to the content of natural toxin compounds in sirgunngu roots such as tannins which are inhibitors of several minerals. In addition, it also pays attention to the toxicity of compounds in sirgunngu roots, for example saponin compounds which are compounds that are expected to thin mucus, at therapeutic doses can be useful for thinning mucus, but at doses that are too high will cause irritation. This must

be considered because the instructions for use on the packaging state that guruh tea should be consumed 2-3 times a day.

3. Quality Control of Guruh Tea Production Process

The raw materials for guruh tea are black tea and sirgunggu. Black tea is purchased in large quantities from the plantation company PT Pagilaran, while sirgunggu is obtained from the surrounding community. The sirgunggu may have different chemical compositions because the supplier, in this case the surrounding community, has different post-harvest handling. CV Allatief herbal has not conducted tests for quality control (QC) of raw materials. Quality control is also needed during the production process to ensure that the final product produced meets standards. This guruh tea bag product does not yet have a specific standard so that it follows the general Indonesian National Standard (SNI) tea bag quality requirements, namely SNI 3753-2014 as in table 2 below.

Table 2 Quality requirements for SNI 3753-2014 tea bags

No.	Kriteria uji	Satuan	Persyaratan
1	Keadaan air seduhan		
1.1	Warna	-	Merah kecoklatan
1.2	Bau	-	khas teh
1.3	Rasa	-	khas teh
2	Kadar air (b/b)	%	Maks. 10
3	Kadar abu total (b/b)	%	4-8
4	Kadar abu larut dalam air terhadap abu total (b/b)	%	Min. 45
5	Kadar abu tidak larut dalam asam (b/b)	%	Maks. 1,0
6	Kealkalian abu larut dalam air (b/b)	%	1,0 - 3,0
7	Serat kasar (b/b)	%	Maks. 16,5
8	Ekstrak dalam air (b/b)	%	Min. 32
9	Polifenol	%	Min. 9
10	Cemaran logam		
10.1	Kadmium (Cd)	mg/kg	Maks. 0,2
10.2	Timbal (Pb)	mg/kg	Maks. 2,0
10.3	Timah (Sn)	mg/kg	Maks. 40,0
10.4	Merkuri (Hg)	mg/kg	Maks. 0,03
11	Cemaran Arsen (As)	mg/kg	Maks. 1,0
12	Cemaran mikroba		
12.1	Angka Lempeng Total	koloni/g	Maks. 3×10^3
12.2	Kapang	koloni/g	Maks. 5×10^2

IV. CONCLUSION

CV. Allatief Herbal has a lot of potential for developing science and technology to produce standardized guruh tea products and guarantee health effects in the guruh therapy process.

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