

# Community Empowerment Program Based on Green Economy in Preserving Herbs as Local Wisdom

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## Abstract

Rural communities have ways to maintain the health of their families, and the community environment by processing plants and herbal products during the Corona Virus Disease-2019 (Covid-19) pandemic. The study aims to design a community empowerment program base on the green economy in preserving herbs as local wisdom. The study used Participatory Learning and Action (PLA) is relevant to the design of empowerment by collecting data through interview dialogue, observation, documentation, and focus group discussions. Research informants were determined through purposive sampling, namely stakeholders in the government of Tegal Regency, Central Java Province in Indonesia, such as the head of the health department and regional technical implementing unit for the Herbal Medicine Tourism (HMT) area in Kalibakung, the Headman of the Kalibakung Village, herbal practitioners, and empowerment groups. Participatory research analysis was used to identify, and categorize problems, prepare action plans, evaluate the entire process, and implement actions. The results of the study showed: (1) The community around the HMT area has not been empowered to cultivate plants and herbal products, so mutually beneficial partnerships have not been established. (2) HMT area in Kalibakung and the surrounding community land have the potential for cultivating herbal plants that can realize health independence for families, and communities, so there need to be empowerment programs. (3) The empowerment programs for the cultivation of plants and herbal products could be started by increasing the motivation and inspiration for the benefits of herbs, knowledge, understanding, and skills of products, and the cultivation of herbal plants in a sustainable manner.

**Keywords:** community empowerment, green economy, herbs, local wisdom, partnerships

## 1. Introduction

Rural communities have potential and strategic natural resources, especially in the fields of independence and food security so that they can become the foundation of economic strength to support urban food needs. Food security and independence can also be a solution in during Corona Virus Disease-2019 (Covid-19) pandemic to maintain environmental health, self, family, and community environment by processing plants and herbal products as local wisdom. Local food security and herbs have become local wisdom as well as the economic strength of rural agricultural communities by utilizing home yards and gardens to become horticultural agricultural land in the form of vegetables and fruits to complement and meet daily needs and additional income. Including the cultivation of family medicinal plants as an alternative in maintaining health during the Covid-19 pandemic which is becoming a national and international outbreak. Rural communities, especially in Java, have a tradition of making, consuming, and marketing herbal drink products in the form of healthy and natural herbs, which are not in demand and are abandoned, especially by the millennial generation with lots of soft drinks, syrups, and instant supplements, including many modern medicines in the market. However, during the Covid-19 pandemic, plant cultivation and processing of herbal plants into healthy herbs or herbal medicines have begun to be in demand again by the public. So it is very important to carry out basic research as a continuation of the team's research

(2020 & 2021) that is relevant to the priority focus of research "Green-Economy" to design a model of empowerment and partnership for herbal plant cultivation between the Health Clinic and HMT and the surrounding community in Kalibakung of Tegal Regency, Central Java Province in Indonesia. This can be adopted in the area of treatment, tourism, and education of the Herbal Medicine Sanctification Clinic from the Center for Research and Development of Medicinal Plants and Traditional Medicines, Health Research and Development Agency, Ministry of Health in Kalisoro, Tawangmangu District, Karanganyar Regency, Central Java Province of Indonesia.

The community needs to carry out health protocols during the Covid-19 Pandemic which is still happening from 2020-2022 with the emergence of Delta and Omicron Virus variants. The community can actively participate and be productive in realizing health independence with a herbal food security program that must receive attention and support starting from the local micro-scale in the yard of the house and the macro scale in the garden with family medicinal plants. Family medicinal plants as local wisdom that has become a tradition and passed down from generation to generation, especially in rural communities, as natural herbal medicine independence for family and community health.

The phenomenon of the high cost of modern care and treatment, makes people return to natural or herbal medicine by cultivating family medicinal plants or living pharmacies in their yards to maintain health, and vitality and prevent disease by self-medicating. Family medicinal plants include Ginger, Kencur, Lempuyang, Galangal, Temulawak, Alang-alang, Blimbing Wuluh, Lime, Noni and Cardamom, Guava, Betel, orthosiphon aristatus, and Moringa Leaves (Amanah et al., 2014; Ardianto & Friska, 2019; Bakri et al., 2016; Febriansyah, 2017; Kong & Wan, 2009; Marcus, 1992; Noegroho, Sulaiman & Suryanto, 2018; Qomariasih et al., 2016; Ward, 2001)

The empowerment program of family medicinal plants is supported by the Minister of Health Regulation Number 9 of 2016 concerning efforts to develop health through independent care for the use of family medicinal plants and their cultivation and processing skills. Traditional health independence is an effort to maintain and improve health, and prevent and overcome minor health problems by utilizing family medicinal plants.

Local food security in yards and gardens, both horticultural plants and family medicinal plants around the house as local food security and is a form of local wisdom as knowledge, skills or expertise, experience, and original, natural and traditional technology that have become a distinctive and unique culture that is used and persists in rural communities for development. agricultural and economic activities that can be referred to as Indigenous Technology (Artha et al., 2017; Borrás & Mohamed, 2020; Egra et al., 2019; Fauzi, & Subositi, 2019; Mulyani et al., 2017; Nigussie, 2016).

Food security in addition to utilizing the yard and garden at home, also in hotels, cafes, and restaurants. Even the development of local food security innovations such as vegetable and fruit hydroponic technology. Including creative and innovative herbal products such as soap, shampoo, toothpaste, and hand sanitizer. Many local food security innovation concepts and herbal products have become environmentally friendly campaigns, and organic plants are interrelated such as "Save Our Earth", "Go Green", "Stop Global Warming", "Green Village" "Agrotourism", "Organic Village", "Back To Nature" and "Green-Economy".

This research was advanced as a result of competency research in 2020-2021 which has resulted in recommendations for feasibility studies to carry out further studies on empowering herbal food resilience as local wisdom and innovative products during the Covid-19 Pandemic. So it is important and interesting to conduct further research to design models and programs for community empowerment in herbal preservatives of local wisdom in rural areas. The research has the aim of designing community empowerment programs to preserve and develop plants and herbal products for the health of families and communities during the Covid-19 pandemic. Then rural communities can become partners to supply herbal ingredients and develop health clinics and herbal tourism in Kalibakung, Balapulang District, Tegal Regency, Central Java Province in Indonesia. This research is relevant to the focus of social humanities research, especially the priority on "Green-Economy", with the topic of strategies for preserving local wisdom. Included with the university's strategic plan is to become a reference for the development of prosperous independent villages, research development, social engineering, information dissemination, and technology transfer for the community.

The green-economy model in food security or agriculture consists of several important interrelated elements (1) Availability of land and agricultural processes (2) Agricultural productivity due to demand for food products (3) Challenges of land degradation, agricultural processes which are still conventional, and the population. (4) Opening jobs in agriculture and (4) Requires an organic farming policy (Sukhdev et al., 2019).

A green economy can be implemented with empowerment which in essence discusses how individuals, groups, or communities try to control their own lives and try to shape the future according to their wishes. The empowerment process that occurs at the individual, organizational, and community levels is continuous, improving the standard

of living of the community, then examining the factors that cause a community to be less empowered. Empowerment must be fully based on needs and the design of actions made by the community through a productive dialogue process so that the community can increase their abilities and actualize themselves or participate in various activities (Baxamusa, 2008; David, 2022; Kazmer, 2005; Kreisler, Snider, & Kiernan, 1997; Senbel & Church, 2011; Steiner & Farmer, 2018; Steiner, McMillan, & O'Connor, 2022; Sulaiman & Ahmadi, 2020; Sulaiman et al., 2022; Suswanto et al., 2021).

Development requires improving the welfare of the community through the implementation and development of empowerment models as a result of ideas and actions that must receive support and legitimacy from the ranks of the bureaucracy and community leaders.

## 2. Method

The research uses a qualitative Participatory Learning and Action (PLA) method that fits the design of empowerment as (1) An interactive learning process for identification and analysis between communities in the community and stakeholders. (2) Accommodating and finding solutions from sharing opinions to solving problems. (3) Focus on site-specific targets based on the priorities of the parties involved. (4) Researchers and stakeholders as facilitators/catalysts in the process of identification and analysis for decision-makers. (5) The jointly agreed decision is used as a program implemented by all parties for the better (Chakraborty et al., 2020; Stuttaford & Coe, 2007) as can be seen in the PLA research stages in figure 1.

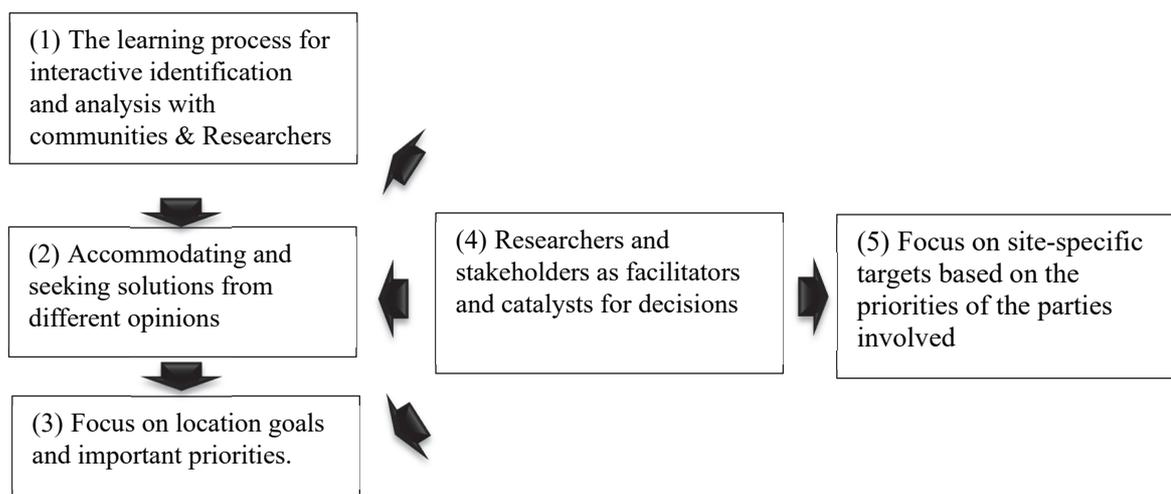


Figure 1. Stages of the PLA method

Source: Research Design Results

The research location is in Kalibakung, Balapulang District, of Tegal Regency, Central Java Province in Indonesia which has a health clinic and a unique and interesting Herbal Medicine Tourism (HMT). Research informants determined by purposive sampling are actors in the empowerment of plant cultivation and herbal products, namely administrators and members of Family Welfare Empowerment, Integrated Service Post, Farmer Women's Group, and Regional technical implementing uni to HMT. Then another informant from the Center for Research and Development of Medicinal Plants and Traditional Medicines in Tawangmangu, Karanganyar Regency, Central Java Province in Indonesia.

Data were collected through interviews, observation, Focus Group Discussion (FGD), and Participatory Decision Making (PDM). The study used an interactive model of data analysis namely: (1) Data reduction, selection process, centralization, simplification, and classification of data from written notes in the field, which took place during the study. (2) Presentation of data, an organized collection of information. (3) Conclusions and taking action (Miles, Huberman, & Saldana, 2014). Data analysis results are sharpened in community development analysis, namely identifying, categorizing problems, preparing action plans, evaluating the entire process, and implementing actions (Peace Corps, 2007), as the researcher illustrates in Figure 2.

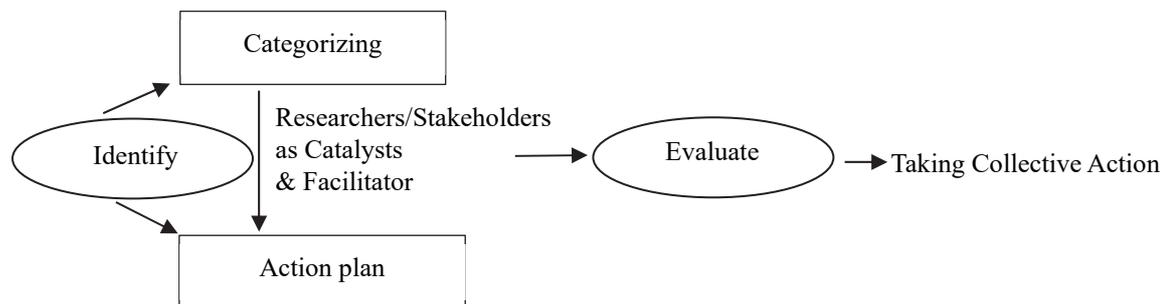


Figure 2. PLA Method &amp; Analysis

Source: Research Design Results

### 3. Results and Discussion

#### 3.1. Development of Herbal Medicine Tourism (HMT)

The HMT area is a flagship program of the government of Tegal Regency, Central Java Province in Indonesia, which was established in 2014 from the results of guidance and assistance from the Center for Research and Development of Medicinal Plants and Traditional Medicines in Tawangmangu, Karanganyar Regency, Central Java Province as an institution under the Ministry of Health of the Republic of Indonesia. The purpose of establishing HMT in the village of Kalibakung, Tegal Regency is to preserve and develop the cultivation of plants and herbal products in realizing public health as local wisdom. So that people can maintain, maintain, and be independent in health such as vitality or fitness, immunity, and treatment.

HMT was founded on idealism to preserve and develop herbal medicine as traditional medicine and local wisdom in Indonesia which has been used for generations since ancient times and has proven its efficacy, and is not inferior to imported herbal medicines that have flooded the Indonesian market due to the era of free trade. Indonesia's natural potential is also very large with the diversity of ethnobotany (medicinal plants) it has. Herb itself is a term for traditional medicine from Indonesia which is later popularly known as herbal. Through proper management and steps, herbs whose value can be developed can encourage people's economic development that supports national economic growth.

There are advantages of using herbal medicine for health, Although there have been various efforts with so many studies on herbal plant ingredients that have the effect of preventing or curing disease, and the running of several research centers that examine herbal/plant ingredients for health benefits, it seems that it still needs to be pushed towards the realization of herbal medicine that can be used by the wider community to health. This potential makes the Tegal Regency Government want to realize the concept of herbal health services that are integrated with tourism, health, and education programs through a program called "HMT in Kalibakung, Tegal Regency" with an altitude of approximately 650m above sea level and a land area of 3.2 hectares, specifically for the cultivation of herbal plants covering an area of 1.2 hectares. HMT has a motto that is friendly, informative, educative, and productive. The vision is to create a healthy, independent, and prosperous society with herbal medicine, then its mission is to (1) Introduce and invite the community to plant medicinal plants for the family. (2) Providing traditional and complementary health services that are accessible to the community. (3) Improving the welfare of the community through partnerships through the production, education, and tourism sectors. (4) Applying research and development results of medicinal plants and traditional medicines.

HMT in Kalibakung village is designed not only as a tourist location for herbal education but also as a health clinic that receives services such as consultation, examination, and medical treatment, but the drugs provided are in the form of herbal ingredients *Simplicia* means natural ingredients that are used and have been dried as medicine. There are room facilities for services, health examinations and treatment, herbal pharmacies, acupuncture rooms, meeting rooms, post-harvest processing laboratories, and garden land for the cultivation of herbal plants. So the name became a clinic and HMT which is under the authority structure of the tourism office and health department, Efforts to improve food security and family nutrition can be done through the use of available economic resources and those that can be provided in the environment. These efforts can be made through the use of yards managed by households to plant commodities that can be used to meet the daily needs of the community which aims to empower the community, especially housewives who can help increase household income and realize food independence (Boonyabanha et al., 2019; Das & Sengupta, 2016; Elum, 2021; Muhtarom, Djuharyanto, &

Sulaiman, 2021; Tacoli, 2019).

Local wisdom is a view of life and knowledge as well as various life strategies in the form of activities carried out by local communities in responding to various problems in meeting their needs. In a foreign language, it is often conceptualized as a local policy of local wisdom or local knowledge, or local genius. Local wisdom or local wisdom is a socio-cultural capital that is formed and developed in the community as a guideline, code of conduct, norms, and rules that are preserved to be trusted, obeyed, and recognized which can strengthen community cohesiveness.

Local wisdom is a reflection of the habits of people's lives that have long been going on to become customs or traditions. Local wisdom requires a time-consuming process to continue to be inherited and preserved from generation to generation in the community. Local wisdom exists in various aspects of life so it is expected to anticipate negative influences that degrade existing norms and customs. (Agatha, 2016; Cockburn, 2020; Demaio, 2011; Genilo, 2010; Khan & Shaheen, 2021; Maulidzy & Dwijayanti, 2016; Pesurnay, 2018; Sugito et al., 2019).

HMT almost only accepts patient visits that require consultation and health treatment services, as in 2021 patient data as many as 3,586 people or 299 people per month with the category of old patients 69, 91%, or 2,507 people and old patients 30,09% or 1,079 people. The category of patients aged 41-55 years was 42.61%, age >51 was 40.80%, age 15-40% was 15.03% and the rest aged 15 years were 1.56% with the female category as many as 1,979 people or 55.19 % and men as many as 1,607 people or 44.81%. The categories of origin for patients who visited consisted of 68.9% from Tegal Regency, 16.5% from Brebes Regency, 6.6% from Tegal City, 5.4% from Bekasi City, and 2.2 from Regency of Pemalang, Pekalongan and Purbalingga areas. Disease data of patients who seek treatment at clinics and tours 64,79 Kg, herbal medicine health in Kalibakung Tegal, namely diabetes as many as 597 people, dyspepsia or digestive disorders 462 people, hypertension 345 people, stroke 151 people, osteoarthritis or arthritis 151 people, also hypercholesterolemia 106 people, covid-19 many as 96 people, myalgia as many as 88 people and tuberculosis many as 63 people.

Clinics and HMT in Kalibakung, Tegal Regency need herbal *Simplicia* with an average of in a year, namely *Temulawak* (rhizome type) as much as 230.15 kg, *Turmeric* (rhizome type) 217.37 Kg, *Meniran* (herb type) 122.89 Kg, *Centella Asiatica* (herb species) 109 Kg, *Sembung* (leaf type) 101.97 Kg, *Orthosiphon Aristatus* (leaf type) 90.65 Kg, *Acalpha Indica* (herb type) 80.87 Kg, *Sambiloto* (herb type) 74.34 Kg, *Salam* (leaf type) 61.01 Kg, *Celery* (herb type) 58.68%,

This is under several types of well-known family medicinal plants such as *Ginger*, *Kencur*, *Lempuyang*, *Galangal*, *Temulawak*, *Alang-Alang*, *Blimbing Wuluh*, *Lime*, *Noni* and *Cardamom*, *Guava*, *Betel*, *Orthosiphon Aristatus*, and *Moringa Leaves*. (Andriati & Wahjudi, 2016; Bruno & Ellis, 2005; Chang et al., 2007; Naidu et al., 2005). The government stipulates a circular letter from the Ministry of Health of the Republic of Indonesia Number HK.02.02/IV.2243/2020 concerning the Use of Traditional Medicines for Health Maintenance, Disease Prevention, and Health Care. This is a form of help in preserving herbal medicine as natural (organic) and healthy herbal drinks and a heritage that needs to be preserved.

Several problems are still being faced as challenges for the development of HMT in Kalibakung, namely (1) The swimming pool is no longer active in 2017 so tourist visitors can no longer use it and can only visit a 936m<sup>2</sup> store area front garden in the form of examples of herbal plants that can be visited by tourists as herbal education tours and only herbal health services or people who seek treatment on average per month as many as 299 patients or 11 people per day. Although occasionally there are tourists who come from groups of students ranging from elementary and high school. The HMT area should be managed jointly or collaborate and synergize between the health department and the tourism office of the Tegal local government. (3) Herbal ingredients for patient treatment services can only be met by HMT in Kalibakung as much as 31%, the remaining 69% is supplied or purchased from the Center for Research and Development of Medicinal Plants and Traditional Medicines in Tawangmangu, Karanganyar Regency and the "Gede market" of Solo city in Province of Central Java. Whereas the land area that can be maximized in the HMT area for the cultivation of herbal plants is a total of 2.5 hectares, only 1.2 hectares are used for the cultivation of herbal plants. The community around the HMT area does have not empowerment programs for the cultivation of herbal plants, which can later become partners to supply the needs of herbal plants for medicine. (4) There are not many people around Kalibakung who come to HMT much as 85%. So that more visitors come to HMT from outside the Kalibakung area. HMT has not conducted periodic socialization and campaigns about the benefits of herbs has not empowered the community in cultivating herbal plants and has implemented home care programs to provide services and health checks. (5) HMT has complete facilities such as service rooms, examinations, and treatment, as well as meeting rooms, then received a donation from the Minister of Health in 2018 in the form of microbiology laboratory equipment and supplies, also in 2020 hybrid equipment

and postharvest packaging, but cannot be maximized for use in post-harvest production of herbs. HMT requires skilled and expert human resources to operate laboratories, facilities, and postharvest equipment for herbal plants, including the supply of raw material products from herbal plant cultivation. (6) HMT has not been able to receive the harvest of herbal plants from the community due to regulatory constraints, because local government agencies are not allowed to do business transactions. The anticipation is by using the media of the Cooperative institution.

### *3.2 Design of Community Empowerment Programs in Cultivation of Plants and Herbal Products*

Based on the problems found in the research, then important to create a community empowerment program for the preservation and development of plant cultivation and herbal products around the clinic and HMT in Kalibakung, Rasingulang District, Tegal Regency, Central Java Province. Empowerment is centrally about people's control of their own lives and having the power to shape their future and discusses how individuals, groups, or communities try to control their own lives (Boudreau & Donnelly, 2013; Kirkpatrick, 2021; Lawson & Kearns, 2010; Muthuri, Moon, & Idemudia, 2012; Owen & Kemp, 2012; Scally, 2012). The empowerment process occurs at the individual level, organization, and community, with continuous effort to increase power, and improve people's living standards, then by examining the factors that cause a community to be less empowered. Empowerment must be able to create needs and design community programs through a dialogue process, a community can increase their abilities and actualize themselves or participate in various activities (Boyle & Silver, 2005; Braunack-Mayer & Louise, 2008; Lawson & Kearns, 2014; Sabiq, Sulaiman & Sugito, 2020).

The results of the study on the green economy as a manifestation of food security and independence, include herbs such as (1) Empowerment includes socialization and education on the types and benefits of local food, formation, and training of food and nutrition cadres, especially increasing the role of women's groups for food security. (2) Food security and family nutrition are important to take advantage of available and available resources in the environment through the use of yards managed by households to achieve food self-sufficiency. (3) One of how family food security is to utilize the resources of the yard, which has the potential to provide family food, is to reduce household spending on food purchases and increase the household income of farmers. (4) Family food security groups or institutions can maximize the use of yards and gardens with horticultural and herbal plants to meet the daily needs of the family and sell them as additional income. (5) Food security in yards or gardens for horticulture and family medicinal plants can preserve unique, interesting, and beneficial local wisdom products, both in terms of health and economic added value for welfare without damaging the environment (ecology). (Adhikari, 2000; Forrest, 2017; Kegler, Norton, & Aronson, 2008; Mbajjorgu, 2020; Merzel et al., 2007; Widanage, 2013; Monirul., Alam., & Mushtaq, 2018; Sulaiman, Chusmeru, & Kuncoro, 2019; Yoo et al., 2021).

HMT in Kalibakung, Tegal Regency can act as a pioneer in running a green economy by carrying out socialization, campaigns, and empowerment of plant cultivation and herbal products as local wisdom. So that the community around HMT can participate and independently grow herbs at least in the yard of the house or commonly called a living pharmacy for the needs of families or groups. The long-term target is that the community can cultivate herbal plants in the garden to supply the herbal needs in the forage so that mutually beneficial cooperation is established and the economic prosperity of the community.

Local wisdom is relevant to the principles of sustainable development of an inclusive Green-Economy which consists of (1) Social development, (2) Economic growth, and (3) Environmental conservation which among others results in inclusive and green growth (Charnovitz, 2012; O'Neill & Gibbs, 2016; Wagner, 2013). Results of interviews and Focus Group Discussions (FGD) to design models and programs for the empowerment of plant cultivation and herbal products with stakeholders from local governments such as the Regent of Tegal Regency, the head of the health office, the head of the regional technical implementing unit from Herbal Medicine Tourism, the subdistrict head of racing and village heads Kalibakung. Then other informants from expert instructors from the Center for Research and Development of Medicinal Plants and Traditional Medicines in Tawangmangu, Karanganyar Regency, head of research and community service from Jenderal Soedirman University, empowerment participants from elements of Family Welfare Empowerment, Integrated Service Posts, Women Farmers Groups, and journalists.

The Tegal Regent appreciated the empowerment research team from Jenderal Soedirman University who carried out the National Competitive Basic Research with the theme of the green economy in the form of empowerment activities for the residents of Kalibakung Village, Balapulung District in the cultivation of plants and herbal products. It is hoped that the partnership between the Regional technical implementing unit at HMT located in Kalibakung, and the surrounding community will continue to be able to synergize and be independent in developing plants and herbal products. The Regent stated on behalf of the Tegal Regency Government, The Tegal Regent said thank you for the empowerment activities carried out by the National Competitive Basic

Research Team from Unsoed in Kalibakung Village.

The design and implementation of the empowerment of plants and herbal products were held from June to August 2022, in the form of theory and practice in the field, attended by 27 people, consisting of 17 people from elements of Family Welfare Empowerment, Integrated Service Posts, Women Farmers Groups and village youth from Kalibakung, then 5 people from the HMT Clinic and 5 students from Jenderal Soedirman University.

The Regent of Tegal believes that in the future herbal medicine will develop and attract public interest. This is in line with global issues and the lifestyle of returning to nature or back to nature is the current trend so that people return to using various natural ingredients, including treatment with medicinal plants or herbs. However, many people in the community do not have sufficient information about medicinal plants. This is a challenge for the Tegal Regency Government and HMT in Kalibakung as the only one in Central Java Province and is the flagship project of the Tegal Regency Government, in the future its role will be maximized to continue to socialize the benefits of medicinal plants for the community.

So far, It is acknowledged that the existence of HMT in Kalibakung is less well known by the surrounding community who have not been empowered to supply various needs for medicinal plants, such as Temulawak, Ginger, Orthosiphon Aristatus, Turmeric, Kencur, Lemongrass, Galangal, Cardamom and so on. The need for medicinal plants in HMT is 65% in the form of *Simplicia* or medicinal plants that have been dried and supplied from the Center for Research and Development of Medicinal Plants in Tawangmangu-Karanganyar, and the remaining 35% are grown by themselves. So the Regent of Tegal invited the farmers in Kalibakung in particular, to be interested in cultivating herbal plants by utilizing the land of their home or garden as agricultural land for horticulture and herbal plants. Cultivating these herbs or herbal drinks and extract or called "Empon-Empon", in addition to protecting biodiversity and preserving local wisdom, can also bring economic benefits from the sale of raw materials for herbal plants and those that are already in the form of *Simplicia*. HMT in Kalibakung can accommodate and buy crops from these fostered partners so that our dependence on the supply of herbal ingredients purchased from several traditional markets in Solo such as Pasar Gede or farmers in Karanganyar can be reduced.

The Regent of Tegal also emphasized, that if so far HMT in Kalibakung has not developed, because the existing regulations do not support it, then starting in 2023 it will be changed to a Regional Business Service Agency. With the change in status and networking with business partners, it will be possible to develop, be more advanced and provide benefits to the community, including improving the welfare of farmers who grow medicinal plants. So that the results of the plants purchased by HMT can reduce purchases from outside Tegal Regency. The research and empowerment team of Jenderal Soedirman University can continue to monitor and assist Herbal Medicine Tourism. Because the success of community empowerment can be assessed after there is no more assistance or they are independent.

Good community empowerment will have an impact on the independence of the community it supports. And this does take a long time because it covers many aspects, especially in changing the mindset, such as in terms of raising awareness, applying appropriate technology, organizing institutions, to creating sustainable economic independence. For example, mentoring the HMT business process in Kalibakung so that its existence in the field of public health is more widely known and becomes a reference for treating diseases through the use of scientifically engineered herbal ingredients.

Design and implementation of empowerment programs through counseling and providing material in theory and practice. For theory, the participants were given knowledge about types of family medicinal plants, herbal drinks, herbal *Simplicia* (dried herbal ingredients), and tips on news coverage of superior products and tourist areas as marketing promotions. Practical materials, including participants, are taught to make herbal oil products, drinks, herbal powders, hand soap, and floor soap from herbs, make herbal powder *Simplicia* products, practice photography, and make promotional videos to be published through mass media and social media such as Instagram and Facebook. The target of this empowerment activity in 2022 is to increase motivation and inspiration for participants on the benefits of minimal plants and herbal products to meet the needs of families and groups as health independence, in the future they can become partners to supply herbal ingredients to HMT in Kalibakung which can provide added value for community economic enterprise.

Then form an institutional group for cultivation and herbal products in the community that needs to be sustainable. The Head of Kalibakung Village also stated that we will continue the empowerment program for cultivation and herbal plant products in activities at Empowering Family Welfare, Integrated Service Posts, Women Farmers Groups, and the younger generation. In the future, we can become partners to supply herbal ingredients to HMT in Kalibakung which can provide added value for the community's economic business.

The instructors in research and empowerment activities for the cultivation of plants and herbal products come from parties who are competent in their fields, such as the HMT clinic in Kalibakung, Chair of the National Herbal Medicine Traditional Health Professional Association, from the Faculty of Pharmacy and the Faculty of Agriculture, Jenderal Soedirman University, Center for Research and Development of Medicinal Plants and Traditional Medicines from Tawangmangu City and mass media journalists. Thus, a model of the empowerment program for the cultivation of plants and herbal products can be made as follows:

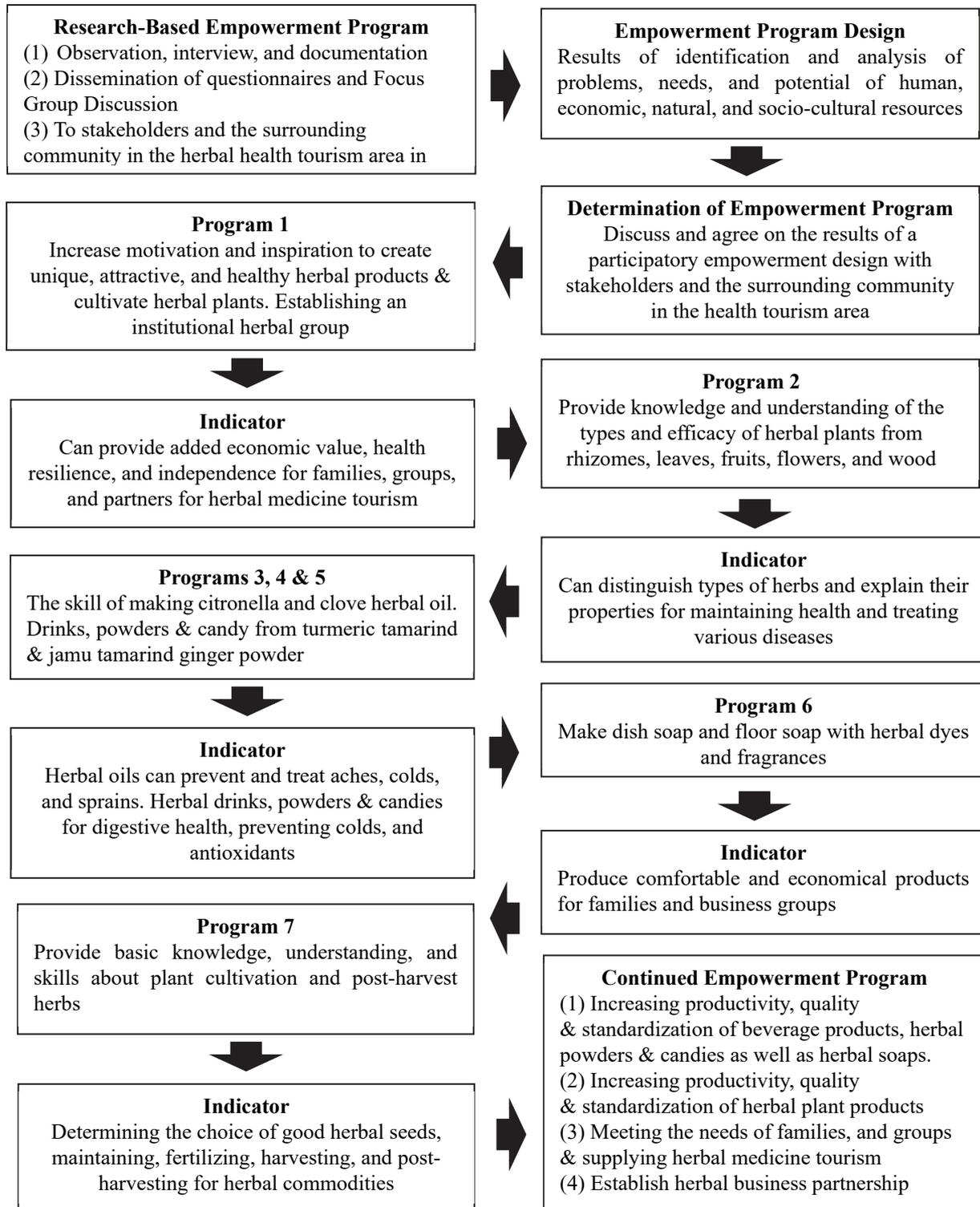


Figure 3. Empowerment Program for Cultivation of Herbal Plants & Herbal Products

Based on the results of research in figure 3 by conducting observations, interviews, Focus Group Discussions, and documentation from June to August 2022, a green economy-based community empowerment program model can be designed in preserving plants and herbal products as local wisdom, especially in the HMT area and the surrounding community in the Kalibakung area. The empowerment program aims to increase (1) Motivation and inspiration to make unique, attractive, and healthy herbal products, then cultivate herbal plants as resilience as well as health independence and minimal economic added value in the yard or garden for families and groups, maximum for the community and supplying *Simplicia* needs at HMT in Kalibakung (2) Knowledge and understanding of the types and efficacy of herbal plants that can be used to maintain health and treat various diseases. (3) Skilled to make citronella and clove herbal ointment for massaging, sprains and colds. (4) Providing skills in making herbal drinks from turmeric and tamarind, then herbal powders such as ginger and tamarind. (5) Skilled in making dish soap and floor soap with herbal dyes and fragrances. (6) Skilled to make herbal candy from ginger, tamarind, and turmeric. (7) Skilled in covering, reporting and documenting food or beverage products and tourism products on social media so that they become attractive marketing promotions.

#### 4. Conclusion

Indonesian people, especially on the island of Java, in this case in Central Java, have become hereditary in cultivating and processing plant products as local wisdom to maintain health and treat diseases traditionally by making nutritious herbal drinks.

Herbal plants of various types can grow in plantation areas and enclosures with certain elevations that have the potential to be preserved and developed by the community. Including the people of Kalibakung, Tegal Regency, at least in meeting the needs of families, and groups and supplying the herbal tourism area as well as the herbal medicine industry. So that it can increase food security, health independence, and increase economic income.

The community in Kalibakung, Tegal Regency has not yet received the empowerment of plant cultivation and processing of herbal products, so they have not been able to become partners in herbal tourism areas that require raw materials and herbal plants *Simplicia*.

Community empowerment can be carried out during the intervention stage by outsiders, namely academics who care about the development of rural communities by conducting research and assisting to design participatory empowerment programs. So that the community in Kalibakung can be empowered and partnered with the herbal health tourism area which is the flagship program of the Tegal district.

The resulting community empowerment program for the preservation and development of herbs is to increase motivation and inspiration for the benefits of plants and herbal products. Provide knowledge, understanding, and skills to make herbal products ranging from drinks, powders, *Simplicia*, massage oils, candies, and soaps made from herbs to the cultivation of herbal plants.

The next stage of empowerment is a participatory strategy by involves all parties in designing and agreeing on empowerment programs according to the problems, potentials, and needs of the community. Community empowerment requires continuous joint action between government stakeholders in this case the Tegal Regency government, the HMT area in Kalibakung with the surrounding community, and universities to develop cultivation and herbal plant products.

People in Kalibakung can become partners of HMT to supply the herbal ingredients needed so that they can become the welfare of the community. The health office and academia can partner in empowering and assisting the cultivation of plants and herbal products until independence is achieved in the community.

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